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DOE/EIS-0008



ENVIRONMENTAL IMPACT STATEMENT
DICKEY-LINCOLN SCHOOL LAKES TRANSMISSION PROJECT
MAINE, NEW HAMPSHIRE AND VERMONT

U.S. Department of Energy
Federal Building
Bangor, Maine 04401

September 1978

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9.0 CONSULTATION AND COORDINATION

9.01 Consultation and Coordination During Preparation of the DEIS

DOE, in developing the scope of work for the Dickey-Lincoln School Lakes transmission study, recognized the need for a great deal of consultation and coordination. Consultation, coordination, and public involvement were integral parts of the study design. As part of this effort, extent of experience in northern New England and location were important factors in selecting consultants for various portions of the study.

The System Planning Study (appendix A), DOE's first project effort, was accomplished in coordination with the electric utilities of the region, specifically NEPLAN, the planning arm of the New England Power Pool.

During the regional corridor study phase, the emphasis for coordination was with agencies and groups with regional responsibility. Contacts were established with Federal and state agencies and regional planning commissions early in this phase, and also with utilities, major paper and land management companies, and environmental groups. A large number of meetings and discussions were held with representatives of these agencies and groups.

In the spirit of "open planning" and to solicit additional input directly from the people of the region, public information meetings were held in June 1976, at Presque Isle, Bangor, and Augusta, Maine; Concord, and Berlin, New Hampshire; and Montpelier, Vermont. In December 1976, with the corridor study complete, another series of public meetings was held, this time at Presque Isle, Jackman, Bangor, and Augusta, Maine; Concord and Groveton, New Hampshire; and Montpelier, Vermont. These meetings were to present and receive comments on the proposal to proceed with detailed route studies on System Plan E, a system of corridors through western Maine, northern New Hampshire, and Vermont.

When the study effort shifted in focus from broad corridor evaluations to route studies, the coordination requirements changed in emphasis. Discussions became more technical, and, for the first time all towns along the alternative routes were contacted directly. Working with the Regional Planning Commissions, meetings involving town planners and selectmen were arranged. Usually several towns were represented at each meeting. These meetings were held in Montpelier, Essex Junction, and St. Johnsbury, Vermont; Groveton, New Hampshire, and Jackman, Maine, during the fall and winter of 1977-78.

Individual property owners were not contacted during this study. If the project is approved and funded for construction, land owners along the proposed route will be consulted during actual right-of-way location.

Throughout the project a great deal of coordination took place between DOE's study team and the U.S. Army Corps of Engineers, responsible for studies relating to the dam and reservoir. It was also necessary to coordinate closely with the U.S. Fish and Wildlife Service, which has project responsibilities under the Fish and Wildlife Coordination Act.

Staff members also briefed the Citizen's Review Committee for the Governor of Maine on several occasions, and provided relevant material on various aspects of the transmission studies.

Governmental agencies, groups and individuals who were in contact with the study team with whom some degree of consultation or coordination took place are listed as follows. Contacts by the various environmental contractors are shown in the technical reports published as appendices to this statement.

9.01.1 Contacts

ENVIRONMENTAL GROUPS

Natural Resources Council	Augusta, ME
Sunkhaze Chapter of Trout Unlimited	Bangor, ME
National Wildlife Federation	Bar Harbor, ME
Sportman's Alliance	Gardiner, ME
The Maine Association of Conservation Commissions	Kennebunkport, ME
Maine Audubon Society	Portland, ME
Land Use Foundation of New Hampshire	Concord, NH
New Hampshire Association of Conservation Commissions	Concord, NH
Society for Protection of New Hampshire Forests	Concord, NH
Statewide Program to Conserve Our Environment	Concord, NH
Nature Conservancy	Durham, NH
New Hampshire Wildlife Federation	Manchester, NH
Vermont Natural Resources Council	Montpelier, VT
Conservation Society of Vermont	Townsend, VT
Appalachian Mountain Club	Boston, MA
Friends of the St. John	Boston, MA

PLANNING COMMISSIONS

Androscoggin Valley Regional Planning Commission	Auburn, ME
South Kennebec Valley Regional Planning Commission	Augusta, ME
Penobscot Valley Regional Planning Commission	Bangor, ME
Northern Maine Regional Planning Commission	Caribou, ME
Eastern Mid-Coast Regional Planning Commission	Rockland, ME
Southern Maine Regional Planning Commission	Sanford, ME
North Kennebec Regional Planning Commission	Winslow, ME

North Country Council	Franconia, NH
Upper Valley Lake Sunapee Council	Lebanon, NH
Lakes Region Planning Commission	Meredith, NH
Chittenden County Regional Planning Commission	Essex Junction, VT
Central Vermont Regional Planning Commission	Montpelier, VT
Southern Windsor Regional Planning Commission	Springfield, VT
Northeastern Vermont Development Association	St. Johnsbury, VT

STATE AGENCIES

Maine

Department of Inland Fisheries and Wildlife	Augusta, ME
Department of Forestry	Augusta, ME
Department of Inland Fisheries and Wildlife	Bangor, ME
Land Use Regulation Commission (LURC)	Augusta, ME
Department of Conservation	Augusta, ME
Maine Bureau of Geology	Augusta, ME
Department of Parks and Recreation	Augusta, ME
Department of Agriculture, Soil and Water Conservation Commission	Augusta, ME
State Geologist	Augusta, ME
State Planning Office	Augusta, ME
State Historic Preservation Office	Augusta, ME

New Hampshire

Department of Resources and Economics	Concord, NH
Department of Inland Fisheries - Fish and Game	Concord, NH
Office of Comprehensive Planning	Concord, NH
Water Resources Board	Concord, NH
Bureau of Outdoor Recreation Planning	Concord, NH
Coordinator of Federal Funds	Concord, NH
Department of New Hampshire Energy	Concord, NH
Department of Resources and Economics	Concord, NH
State Planning Office	Concord, NH

Vermont

Division of Historic Preservation	Montpelier, VT

Department of Forest and Parks	Montpelier, VT
Environmental Conservation Agency	Montpelier, VT
Department of Fish and Game	Montpelier, VT
Planning Board	Stowe, VT
Public Service Board	Montpelier, VT
State Planning Office	Montpelier, VT
Vermont Water Resources Department	Montpelier, VT

FEDERAL AGENCIES

Department of Justice

U.S. Attorney's Office	Bangor, ME

Department of the Interior

U.S. Fish and Wildlife Service	Concord, NH
U.S. Department of the Interior, Office of Environmental Project Review	Washington, D.C.
U.S. Geological Survey	Concord, NH
Inter-agency Archeological Service, National Park Service	Atlanta, GA

Department of Agriculture

Forest Experiment Station, University of Maine	Orono, ME
White Mountain National Forest	New Hampshire

UTILITIES

Carrabasset Light & Power	North Anson, ME
Central Maine Power Co.	Augusta, ME
Union River Electric Corp.	Aurora, ME
Bangor Hydroelectric Co.	Bangor, ME
Eastern Maine Electric Corp.	Calais, ME
Maine Public Service	Presque Isle, ME
Granite State Electric Co.	Lebanon, NH
Littleton Water & Light	Littleton, NH
Public Service Co. of New Hampshire	Manchester, NH
New Hampshire Electric Corp.	Plymouth, NH
Village, Inc.	Barton, VT
Green Mountain Power Corp.	Burlington, VT
Light Commission	Hardwick, VT
Village of Hyde Park, Inc.	Hyde Park, VT
Vermont Electric Corp.	Johnson, VT
Electric Light Department	Ludlow, VT
Electric Plant	Lyndonville, VT

Washington Electric Corp., Inc.	E. Montpelier, VT
Municipal Electric Association, Morrisville Water & Light	Morrisville, VT
Citizens Utilities Co.	Newport, VT
Light Commission	Northfield, VT
Allied Power & Light Co.	Pittsford, VT
Vermont Marble Co.	Proctor, VT
Rochester Electric Light & Power	Rochester, VT
Conn. Valley Electric Co.	Rutland, VT
Vermont Electric Power Co.	Rutland, VT
Light Commission	Stowe, VT
Northeast Utilities Service Company	Berlin, VT
Northeast Public Power Association	Littleton, MA
Massachusetts Municipal Wholesale Electric Co.	Ludlow, MA
NEPLAN	West Springfield, MA
Northeast Utilities	W. Springfield, MA
Planning & Power Supply	Westborough, MA
Stony Brook Energy Center	Westover, MA

UNIVERSITIES

Cooperative Extension Service, University of Maine	Bangor, ME
Department of Anthropology, University of Maine	Orono, ME
Dartmouth College	Hanover, NH

TIMBER COMPANIES

Boise Cascade Corp.	Rumford, ME
Brown Paper Company	Berlin, NH
Dead River Company	Bangor, ME
Diamond International Corp.	Old Town, ME
Dunn Heirs	Ashland, ME
Georgia Pacific Corp.	Woodland, ME
Great Northern Paper Co.	Millinocket, ME
James W. Sewall Co.	Old Town, ME
J. M. Huber Corp.	Old Town, ME
Maine Woodlands International Paper Co.	Jay, ME
North Maine Woods	Presque Isle, ME
St. Regis Paper Co.	Bucksport, ME
Scott Paper Company	Winslow, ME
Seven Islands Land Company	Bangor, ME

OTHER CONTACTS

Citizens Advisory Committee for the Governor of Maine	Farmington, ME
Jackman Planning Board	Jackman, ME

Kennebago Camp Owners Association	Oguossoc, ME
League of Women Voters of Maine	Winthrop, ME
Berlin, Town of (Community Development Director)	Berlin, NH
International Generation and Transmission Company Inc.	Berlin, NH
Walkers Pond Water Conservation Society	Conway Center, NH
Barnet, Town of	Barnet, VT
Plainfield, Town of	Plainfield, VT
Peacham, Town of	Peacham, VT
Tenneco, Inc.	Hopkinton, MA
Social Assessment Services	Sudbury, MA

9.02 Coordination in Review of the DEIS

9.02.1 Comments Requested

Comments on the Draft EIS were requested from:

Advisory Council on Historic Preservation
Department of Agriculture
Department of Commerce
Department of Defense
Department of Health, Education & Welfare
Department of Housing & Urban Development
Department of Interior
Department of State
Department of Transportation
Environmental Protection Agency
Inland Water Directorate of the Environment, Canada
Interstate Commerce Commission
U. S. Army Corps of Engineers, New England Division

Maine State Clearinghouse Coordinator
New Hampshire Coordinator of Federal Funds
Vermont State A-95 Coordinator

NOTE: The above three State A-95 Clearinghouses forward requests for comments to all appropriate State Offices and coordinate State agency review of Draft EIS.

Maine Historic Preservation Commission
New Hampshire Division of Historic Preservation
Vermont Division of Historic Preservation

Androscoggin Regional Planning Commission, ME.
North Kennebec Regional Planning Commission, ME.
Northern Maine Regional Planning Commissions, ME.
Penobscot Valley Regional Planning Commission, ME.
North Country Council, N.H.
Central Vermont Planning Commission, VT.

Chittenden County Regional Planning Commission, VT.
Northeast Vermont Development Association, VT.

NOTE: The eight Regional Planning Commissions above act as area-wide A-95 Coordinators. As such, they forward requests for comments to appropriate towns and local agencies and coordinate Draft EIS review. All organized towns along the alternative routes are included in this review process.

Boise Cascade Corp., Rumford, ME.
Brown Paper Company, Berlin, N.H.
Dead River Company, Bangor, ME.
Diamond International Corp., Old Town, ME.
Dunn Heirs, Ashland, ME.
G. Pierce Webber, Bangor, ME.
Georgia Pacific Corp., Woodland, ME.
Great Northern Paper Co., Millinocket, ME.
J.M. Huber Corp., Old Town, ME.
International Paper Co., Jay, ME.
St. Regis Paper Co., Bucksport, ME.
Scott Paper Co., Winslow, ME.
Seven Islands Land Co., Bangor, ME.
James W. Sewall Company, Old Town, ME.

Associated General Contractors of Maine

Business & Industry Association of New Hampshire
Carpenter's Local 621, Brewer, ME.
Economic Resources Council, ME.
Industrial Development Council of Maine
International Brotherhood of Electrical Workers, MA.
Maine AFL-CIO
Maine Electric Cooperative Association
Maine Citizens for Dickey-Lincoln
Maine State Chamber of Commerce, Portland, ME.
Valley Residents Against Dickey-Lincoln, Fort Kent, ME.
Vermont State Chamber of Commerce

A-95 Coordinator, Boston, MA.
American Rivers Conservation Council, D.C.
Maine Association of Conservation Commissions
Maine Forest Products Council, ME.
Massachusetts Water Pollution Control
New England Governor's Conference, MA.
New England Regional Commission, MA.
New England River Basins Commission, MA.
New Hampshire Association of Conservation Commissions
Office of Legislative Research, Hartford, Conn.
Society of American Foresters, ME.

American Association of University Women, ME.
Audubon Society of Maine
Audubon Society of New Hampshire
Appalachian Mountain Club, MA.
Bates Outing Club, ME.
Colby Environmental Council, ME.
Connecticut River Watershed Council
Conservation Law Foundation of New England, MA
Conservation Society of Vermont
Friends of the St. John, MA.
Institute of Natural and Environmental Resources,
Univ. of N.H., Durham, N.H.
Garden Club Federation, ME.

Green Mountain Club, VT.
Land Use Foundation of New Hampshire
Land and Waters Resources Institute, University of Maine, Orono, ME.
League of Women Voters, ME.
Midcoast Audubon Society, ME.
National Audubon Society, Inc., Washington, D.C.
National Wildlife Federation, Bar Harbor, ME.
Nature Conservancy, MA.
Nature Conservancy, N.H.
Natural Resources Council of Maine
Natural Resources Council of Vermont
New England Natural Resources Center, MA.
New Hampshire Wildlife Federation, N.H.
Penobscot Paddle & Chowder Society, ME.
Sierra Club, MA
Society for Protection of New Hampshire Forests
SPACE: Statewide Program to Conserve Our Environment, N.H.
Sportsman Alliance, Gardiner, ME.
Sunkhaze Chapter of Trout Unlimited, Bangor, ME.

Bangor Hydroelectric Company
Boston Edison Company, MA.
Central Maine Power Company
Eastern Maine Electric Coop.
Eastern Utilities Associates Service Corporation, MA.
Fitchburg Gas and Electric Light Co., MA.
Green Mountain Power Corp., VT.
Maine Public Service Company
Massachusetts Municipal Wholesale Electric Company, MA.
Municipal Electric Association of Vermont
New England Electric Gas and Electric Associates, MA.
New England Electric Service, MA. (NEES)
New England Power Planning, MA.
Newport Electric Corporation, R.I.
Northeast Public Power Association, MA.
Northeast Utilities Service Co., CT. (NESCO)
Public Service Co. of New Hampshire
United Illuminating Company, New Haven, CT. (EUA)
Vermont Electric Power Company

9.02.2 Public Comments and Responses

The Draft EIS was filed with the Environmental Protection Agency on April 6, 1978. The Notice of Availability of the Draft was published in the Federal Register, April 7, 1978, page 14715. The notice also announced a 60-day public review and comment period, and included a schedule of formal public hearings on the Draft EIS to be held at eight locations throughout New England.

After publication of the Notice of Availability, over 700 copies of the Draft EIS were mailed to Federal, state, local government agencies, nongovernmental groups, and interested individuals. All supporting appendices were made available to those requested to comment on the Draft.

Copies of the statement and appendices were made available to the public at the following repositories:

Connecticut

Hartford	State Library
Storrs	University of Connecticut

Maine

Allagash	Town Hall
Ashland	Town Council
Auburn	Androscoggin Regional Planning Commission
Augusta	Natural Resources Council
Augusta	State House Law and Legislative Library
Bangor	Department of Energy - Federal Office Building
Bangor	Penobscot Valley Regional Planning Comm.
Bangor	Public Library
Biddeford	McArthur Public Library
Brunswick	Bowdoin College - Longfellow Library
Caribou	Northern Maine Regional Planning Commission
Castine	Maine Maritime Academy - Nutting Memorial Library
Farmington	University of Maine
Fort Kent	Chamber of Commerce
Fort Kent	University of Maine
Jackman	Town Hall
Lewiston	Bates College
Machias	University of Maine -Merrill Library
Madawaska	First Selectman
Orono	University of Maine - Raymond H. Fogle Library
Portland	Portland Public Library
Portland	University of Maine - Documents Department
Portland	University of Maine - Law Library
Portland	University of Maine - Acquistions Librarian
Portland	University of Maine - Center of Research - Advanced Study
Presque Isle	University of Maine
Springvale	Nasson College - Anderson Learning Center Library

St. Francis	First Selectman
Unity	Unity College
Waterville	Colby College - Miller Library
Waterville	Public Library
Winslow	North Kennebec Regional Planning Commission

Massachusetts

Amherst	University of Massachusetts
Boston	Boston Public Library
Boston	Department of Energy
Boston	State Library - Fingold Library
Cambridge	Harvard Graduate School of Design - Gund Hall
Cambridge	Harvard - Widener Library
Cambridge	Massachusetts Institute of Technology
Chestnut Hill	Boston College, Babst Library
Lowell	University of Lowell - Alumni Memorial Library
Waltham	Brandeis University - Goldfarb Library
Waltham	U.S. Army Corps of Engineers
Worcester	Worcester Polytechnical Institute - Gordon Library

New Hampshire

Concord	State Library
Durham	University of New Hampshire - Ezekiel W. Dimond Library
Franconia	North Country Council
Groveton	Public Library
Hanover	Dartmouth College - Baker Library
Hudson	Hills Memorial Library
Manchester	City Library

Rhode Island

Kingston	University of Rhode Island
Providence	Brown University
Providence	State Library

Vermont

Burlington	University of Vermont - Guy W. Bailey Memorial Library
Essex Junction	Chittenden County Regional Planning Commission
Montpelier	Central Vermont Regional Planning Commission
Montpelier	State Library
Montpelier	Vermont Free Library
South Royalton	Vermont Law School
St. Johnsbury	Northeast Vermont Development Association
St. Johnsbury	St. Johnsbury Athenaem

Also a news release was made on April 6 and April 13, 1978, from the DOE office in Boston to 62 newspapers, 32 radio and TV stations, 2 news services, and over 300 agencies and special interest groups in New England. Included in this news release was information prepared by the U.S. Army Corps of Engineers on the total project in terms of an informational brochure.

9.02.3 Public Meetings

DOE held eight public meetings to receive questions and presentations on the Draft EIS during the first 2 weeks of May 1978. The Dickey-Lincoln School Transmission Team Project Manager presided over the meetings, which were recorded verbatim by a professional court recorder. Copies of the full hearing transcripts were made available for public review at DOE's office in the Federal Building, Bangor, Maine. The hearings were announced both in the Federal Register notice of April 7, 1978, and through 31 paid advertisements in newspapers throughout the northern New England area, and by several news releases.

The meeting locations, dates, attendance, and the number of people who gave testimony are summarized as follows:

Meeting Place	Date and Time	Attendance	Number Testifying
Fort Kent	May 1, 1978 - 6:30 p.m.	65	9
Jackman, Maine	May 3, 1978 - 6:30 p.m.	150	14
Augusta, Maine	May 4, 1978 - 6:30 p.m.	70	22
Groveton, New Hampshire	May 8, 1978 - 6:30 p.m.	55	7
St. Johnsbury, Vermont	May 9, 1978 - 6:30 p.m.	40	8
Montpelier, Vermont	May 10, 1978 - 6:30 p.m.	100	26
Concord, New Hampshire	May 11, 1978 - 6:30 p.m.	25	3
Cambridge	May 15, 1978 - 1:30 p.m.	24	5

The purpose of the public meetings was to afford the public an opportunity to comment and ask questions and for DOE to receive comments on the work that has been done and the decisions that have been reached related to the transmission facilities for the overall project. The meeting also gave the public a chance to comment on the total project, including the dam, reservoirs, and generation facilities, as well as the transmission facilities. The Corps reopened their comment period to coincide with the comment period for DOE to give the public a chance to comment on the combined aspects and combined impacts on the total project. Therefore, representatives of the Corps of Engineers attended all public meetings to answer any questions related to their areas of responsibility.

Each meeting followed the same format, beginning with about three-fourths to one hour of presentation by the project managers about the transmission studies undertaken and the major findings and conclusions of all studies. Following the presentations was a general question-and-answer period. After this, prepared statements and testimony were read into the verbatim transcript.

9.02.4 Review Procedures for Comment

To be considered in preparation of the Final EIS, comments had to be submitted in writing and be received by the DOE office in Bangor, Maine, by June 6, 1978, the close of the announced 60-day review period.

Statements read into the record at a public meeting were considered for response if they were also submitted in writing.

All comment letters received were reviewed and considered. Comments considered to be substantial and related to the Draft EIS were used in revising the text or were responded to individually. To qualify as being substantial, a comment basically had to present new data or information, to question facts and/or contexts of analyses performed, or to review, or raise general questions on alternatives or overall environmental effects.

All letters were reviewed. Individual portion(s) thereof were identified as specific comments and assigned specific comment numbers. A general classification of comments that grouped sets of similar comments into a specific type or category was then performed. The final comment type categories are listed on pages 9-18 to 9-19.

Comments were then assigned to DOE personnel or contractors for response and to suggest required changes in the Final EIS.

9.03 Comment Responses

9.03.1 Individuals Testifying at Public Hearings

Speaker	Representing	Location
Ezra James Briggs	Self	Fort Kent
Karen Cathey	Northern Maine Regional Planning Commission	Fort Kent
Gale L. Flagg	Self	Fort Kent
Stanley R. Flagg	Self	Fort Kent
John Martin	Self	Fort Kent
Kathy Olson	Self	Fort Kent

John O. Olson	Valley Residents Against Dickey-Lincoln	Fort Kent
George C. Sawyer	Dunn Heirs	Fort Kent
Dr. Ogden E. Small	Self	Fort Kent
David Ault	Congressman William Cohen	Jackman
Carole Coley	Jackman Planning Board	Jackman
Norman E. Drew	Senator William H. Hathaway	Jackman
Joan Ferland	Town of Jackman	Jackman
Reginald O. Fournier	Self	Jackman
Robert Gramigna	North Kennebec Regional Planning Commission	Jackman
Howard J. Hagen	Town of Moose River	Jackman
Harvey A. Smith	Democratic Candidate State Legislative District 96	Jackman
A.E. Brower	Garden Club Federation of Maine	Augusta
Robert V. Clark	Eastern Maine Electric Cooperative, Inc.	Augusta
Philip R. Davis	Kennebank Light and Power District	Augusta
Elizabeth H. Doak	Self	Augusta
John R. Goodwin	Maine Citizens for Dickey-Lincoln	Augusta
Jonathon Gorham	Maine Audubon Society	Augusta
Robert Gramigna	North Kennebec Regional Planning Commission	Augusta
Mary M. Grow	Self	Augusta
David E. Honey	Union River Electric Cooperative	Augusta

Joseph M. Lupsha	Maine Forests Products Council	Augusta
J. David Madigan	Independent Candidate Congress, 1st District	Augusta
Louis Marstaller	Self	Augusta
Brooks B. Mills	Maine Woodsman's Association	Augusta
Louis F. Parent	Van Buren Light and Power District	Augusta
Edward Lee Rogers	Natural Resources Council of Maine	Augusta
M. Tieche Shelton, Jr.	Sportsman's Alliance of Maine	Augusta
Kenneth Shinchette	Chianbro Corporation	Augusta
Roger F. French	Advanced Energy and Technology Associates	Groveton
Fred King	Self	Groveton
Guy L. Krapp	Wolfeboro Municipal Electric	Groveton
Robert C. Learned	Trout Unlimited	Groveton
Robert Petrofsky	Self	Groveton
Charles Willey	Self	Groveton
Jim Ashley	Self	St. Johnsbury
Bill Nichols	Self	St. Johnsbury
Richard H. Saudeck	Vermont Public Service Board	St. Johnsbury
Harland G. Titemore	Self	St. Johnsbury
John Warshow	Self	St. Johnsbury
Brendan Whittaker	Vermont State Energy Office	St. Johnsbury
Ray Zirblis	Self	St. Johnsbury

Robert Barasch	Plainfield Vt. Board of Selectmen	Montpelier
John Bohn	Vermont Electric Cooperative	Montpelier
Mr. Paul Cate	Central Vermont Audubon Society	Montpelier
William D. Countryman	New England Botanical Club	Montpelier
Douglas R. Fitzpatrick	Berlin, Vt. Planning Commission	Montpelier
Diane Geerken	Sierra Club	Montpelier
Gordon Gianninoto	Self	Montpelier
Norman Grearson	Barre Fish and Game Club	Montpelier
Glenn Hawkes	Self	Montpelier
Arnold Koss	Self	Montpelier
Mildred P. Menard	Self	Montpelier
Eldon Morrison	Vermont Agency of Environmental Conservation	Montpelier
Nancy Floyd Morsbach	Vermont Energy Office	Montpelier
Leigh Seddon	Vermont Public Interest Research Group	Montpelier
Warner Shedd	National WIldlife Federation	Montpelier
Jeff Squires	Central Vermont Regional Planning Commission	Montpelier
Seward Weber	Vermont Natural Resources Council	Montpelier
Jan P. Wells	Self	Montpelier
Jay W. Wisner	Self	Montpelier
Prof. Joseph C. Ezyk	New Hampshire Wildlife Federation	Concord

Cathy Hood	Appalachian Mountain Club	Concord
Cleve Kapala	New Hampshire Environmental Coalition	Concord
John Pillsbury	Self	Concord
Statement Read into Record	Meldrim Thompson Jr.	Concord
Robert W. Bacon	Massachusetts Municipal Wholesale Electric Company	Cambridge
Hal Clifford	Self	Cambridge
Raymond Cristell	Northeast Public Power	Cambridge
Girard G. McDuff	Peabody Municipal Light and Power	Cambridge
Sally Surgenor	Appalachian Mountain Club	Cambridge

9.03.2 Comment Letters Received

1. Nuclear Regulatory Commission
2. Penobscot Valley Regional Planning Commission
3. State of Vermont Agency of Transportation
4. James Leonard Elsman
5. Town of Northumberland, New Hamphsire
6. Jesse Z. Mase
7. Central Vermont Regional Planning Commission
8. Berlin Planning Commission
9. Jackman Planning Board
10. Union River Electric Cooperative, Inc.
11. Mary M. Grow
12. Maine Citizens For Dickey-Lincoln
13. Valley Residents Against Dickey-Lincoln
14. Eberhard Thiele
15. Land and Water Resources Institute - University of Maine, Orono
16. State of Vermont Agency of Transportation
17. U.S. Department of Health, Education and Welfare
18. Senator William H. Hathaway
19. Harvey A. Smith
20. Brooks B. Mills
21. Eastern Maine Electric Cooperative, Inc.
22. Dean P. Monosed
23. Auburn E. Brower
24. Elizabeth H. Doak
25. Sportsman's Alliance of Maine

26. Van Buren Light & Power District
27. National Wildlife Federation
28. The Association of Aroostook Indians, Inc.
29. Meldrim Thomson, Jr., Governor of New Hampshire
30. Guy L. Krapp
31. Massachusetts Municipal Wholesale Electric Company
32. Carleton Schaller, Jr.
33. Ad hoc Committee on EIS Research of Environmental Law Group, Vermont Law School
34. Henry S. Bissex
35. Town of Moose River
36. Moretown (VT) Planning Commission
37. Maine Audubon Society
38. Marshfield Planning Commission
39. Vermont Electric Cooperative, Inc.
40. Vermont Group of Sierra Club
41. Jan Wells
42. Vermont National Resources Council
43. Central Vermont Audubon Society
44. Vermont Public Interest Research Group, Inc.
45. Vermont State Energy Office
46. Society for the Protection of New Hampshire Forests
47. Harland J. Cantin
48. Wildlife Management Institute
49. Garden Club Federation of Maine
50. Mr. & Mrs. John F. Portelance
51. Hal Clifford
52. Appalachian Mountain Club
53. Peabody Municipal Light Plant
54. Northeast Public Power Association
55. Trout Unlimited, Sunkhaze Stream Chapter
56. Irene M. Storks
57. Natural Resources Council of Maine
58. Elva Reeg
59. Environmental Defense Fund
60. State of Vermont Division for Historic Preservation
61. State of Vermont Agency of Environmental Conservation
62. North Kennebec Regional Planning Commission
63. E. Martin Kaufman
64. Vermont Public Power Supply System, Inc.
65. Dartmouth College
66. Mark F. Norton
67. State of Vermont Agency of Environmental Conservation
68. Vermont Public Service Board
69. State of Vermont Pesticide Advisory Council
70. New Hampshire Wildlife Federation
71. State of New Hampshire Office of Comprehensive Planning
72. U.S. Department of Agriculture
73. State of Maine Department of Inland Fisheries and Wildlife
74. Department of Transportation - FAA
75. U.S. Environmental Protection Agency, Region 1
76. Carole Coley

77. Harvard Environmental Law Society
78. State of Vermont Department of Health
79. Trout Unlimited, Manchester Chapter
80. U.S. Department of the Interior
81. U.S. Army Corps of Engineers
82. North Country Council, Inc.
83. Tennessee Valley Authority

9.03.3 DOE Comment Response Assumption

Consideration of the environmental impacts of construction, operation, and maintenance of transmission facilities for the Dickey-Lincoln School Lakes Project, and preparation of an Environmental Impact Statement for the project and transmission facilities results from the requirements of the National Environmental Policy Act of 1969. This act requires these actions when a Federal agency proposes a "significant action." Studies for the transmission facilities were also made with the requirements of the Fish and Wildlife Coordination Act in mind. The results are intended to comply with the requirements of both statutes.

The contents of the Department of Energy (DOE) documents relating to the project will apply if:

1. The decision is made to construct the project; and

2. Subsequent discussion and negotiation with the existing utilities results in the decision that DOE will construct the transmission facilities.

There are several possible deviations of Item 2 above. The decision might be that other utilities in the region would build all the transmission facilities and "wheel" the power to their markets for DOE. It is also possible that some of the facilities would be built by DOE and the remainder by the utilities.

If the transmission facilities are built by DOE, it may contract maintenance work to local utilities, or it could to the work with its own staff. In either case, it could specify the governing criteria of maintenance plans for the right-of-way.

If the facilities are constructed by the utilities in the area, DOE could not specify maintenance practices.

The responses to the comments received are based on the assumption that the DOE will construct, operate, and maintain the transmission facilities.

9.03.4 Comment Types

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9.03.5 Comments and Responses

STUDY METHODS

1. COMMENT: 11-1

BY: Mary M. Grow

Both draft statements have, in my opinion, two serious faults, which must somehow be corrected if the final environmental impact statements are to be useful to the people who decide whether to build. The first fault is that the statements try to provide mathematical proof for things which cannot be proven mathematically--they assign numerical ratings to abstract values like scenery which cannot be quantified. The second fault is the appalling lack of information about the land which would be affected by the dams and transmission line. Despite weeks of study and volumes of documents, the Army Engineers and the Department of Energy seem to have only the vaguest notions of the quality and quantity of soils, plants, and animals in the parts of Maine, New Hampshire, and Vermont that they plan to alter irretrievably.

RESPONSE:

DOE and its contractors recognize that the issues, analyses, and decisions which must be made in a study such as this do not lend

themselves to precise mathematical solutions. The multi-disciplinary teams used in the procedure have included engineers and others who have significant amount of training and practical experience in the use of mathematics. They recognize the weaknesses as well as the strengths of applications of numeric concepts. Such applications are not presented as exact solutions to a finite problem, but are used to develop comparison information between the alternatives available. State of the art procedures that have been developed over the past several years were thus employed.

DOE feels that the extensive studies provide a good information base about the existing environment that will be affected by the transmission line. The commentor is encouraged to review carefully Appendices B through J of the DEIS and the related map volumes to understand fully the information and knowledge that has been compiled in this area. The data base prepared is consistent with the level of information necessary to describe the general impacts that would occur if transmission line facilities were to be built.

2. COMMENT: 11-3

BY: Mary M. Grow

The clearest illustration of inappropriate quantification in the transmission line DEIS is in the assessment of the environmental impacts of various possible routes. Appendix B, the three volumes prepared by VTN Consolidated, is an extended exercise in the misuse of mathematics. VTN ends up with a numerical ranking for each proposed transmission corridor (Appendix B, Vol. 1, p. 168, and DEIS, Tables 8.03-3 and 8.03-4), and, despite the caveats on page 84 of Appendix B, Volume 1, the DEIS accepts these numbers as the justification, environmentally speaking, for the recommended corridor. The numbers are derived by assigning a numerical value to each degree of impact the proposed line might have on each of the resources studied. Even if quality could be reduced to meaningful, uniformly-accepted numbers--which it cannot--, VTN's judgment of impacts could easily be challenged. For example, they decided a transmission line would have only a moderate impact on a national scenic trail, like the Appalachian Trail, but a high impact on an intensive recreation area, like a golf course. Most of the golfers I know wouldn't even notice a transmission line unless it went into its crackling and hissing act while they were putting.

RESPONSE:

Also see response to comment 11-1.

DOE feels that the methods used were appropriate for this study. Different types of measures were made so as to perform a check on one another.

Different persons perceive impacts differently. The decisions made in arriving at the proposed location relied heavily upon the recommendations of the several consultants and upon the many comments and criticisms received from people in the region.

The consultants were all from the New England region. DOE feels they all brought to the job an impressive amount of dedication and level of expertise and professionalism.

At critical decision points in the process, multidisciplinary teams were brought together to advise the decisionmakers.

3. COMMENT: 68-5

BY: Vermont Public Service Board

We have attached an analysis, in the "Vermont manner," of the significance of the Dickey-Lincoln transmission line from Guildhall to the Moore station. The analysis compares the findings in the Draft E.I.S. with the findings as they would be made according to our procedures. The comparative maps and tables are followed by a summary of the impact.

RESPONSE:

DOE has received the information that the commenter provided comparing the Vermont impact method with DOE's. It is difficult from the information presented to determine any real significant differences in the methods' conclusions. Obviously, both methods considered the same types of resources and land use impacts and made relative judgments of transmission line impacts. Differences noted could be caused by an incomplete data base used by Vermont Public Service Board. However, without information as to source, data, and accuracy, it is difficult to tell. DOE feels that the methods used by all consultants with expertise in each topical area studied are sound and were based on information gathered from all reasonable sources including field observation, current color aerial photography at a scale 1 inch equals 2,000 feet, and other published reports and maps. DOE feels that the analysis it performed did consider all factors deemed significant by the State of Vermont.

4. COMMENT: 72-17

BY: U.S. Department of Agriculture

We believe that a strong effort should be made to give appropriate consideration to such unquantified amenities as deer yards and scenic views.

RESPONSE:

Both of these topics have been considered in detail in both the Corridor Assessment Study, Appendix B, and the detailed route studies, Appendix E and I. In addition, DOE made arrangements with the States of Maine and Vermont to undertake a current survey of deer wintering areas along the proposed route during winter 1978. The information gathered during this recent survey has been incorporated into the FEIS.

5. COMMENT: 52-1

BY: Appalachian Mountain Club

We have serious reservations concerning the "Assessment of Alternative Power Transmission Corridors" conducted by VTN Consolidated, Inc., for the U.S.D.I. in 1976. We object to the poor data base upon which this study was founded and to the quasi-scientific methodology used to allocate and rank alternative transmission corridors. While the VTN study was only a preliminary investigation, it formed the basis for recommending the western route, at both the authorized and ultimate levels of electrical service, for future study. Since the time this recommendation was made, detailed studies have been confined solely to the western route. The issues involved in selecting a corridor were not reconsidered in the DEIS. We feel that the VTN assessment is a weak foundation for such an important decision.

RESPONSE:

It is the feeling of DOE and its contractors that the data bases developed and used in the decisionmaking process are adequate for the needs of these studies and the EIS. Environmental inventory information made available by the studies for the three states in the study area is a significant extension of what was previously available.

It is the belief of DOE that the methods and procedures used are sound, that they represent the state-of-the-art in resolving these types of questions in today's society, and thus, that the decision to use the western route is correct.

The eastern vs western route issue is the sort of issue that people can have honest differences of opinion about. DOE's methodology was designed with much opportunity for testing the procedures and decisions against public opinion, individuals, and organizations.

The second series of public meetings in the region in December 1976, presented the studies made as of that date and the decisions made as a result of them. The selection of the western corridor

was the most important decision presented at that time for the information and comment of the participants. The question of choosing the eastern vs western corridor was discussed in several instances in that series of meetings as well as the most recent series of meetings held in May, 1978 in the region.

DOE encountered some comments which suggested the eastern route might be best but a substantially larger number that looked at the documentation and agreed that the western route resulted in substantially less total impact.

Had a large majority of comments been from people in the region expressing the idea that the eastern corridor was best, DOE probably would have been inclined to review that decision. Since that has not been the case, DOE feels confident that the procedures and the decisions are sound.

6. COMMENT: 52-2a

BY: Appalachian Mountain Club

Second - Methodology. The most serious flaw in the VTN methodology is the deceptive appearance of quantitative rigor. For example, although the data analysis matrix is a useful way of visualizing the realtionships between data elements and location determinants, it does not lend itself to arithmetic manipulation. Any data element which has been classified under more than one A-level concern is afforded multiple importance, not reflecting the real importance of that data element.

The ranking scheme goes several steps beyond the data analysis matrix in its inappropriate and misleading use of simple arithmetic operations.

RESPONSE:

Pages 82 through 90 (Appendix B) discuss the manner in which numerical value were incorporated into the primarily qualitative analysis process. All 'C' level analyses were performed without need for any arithmetic manipulation. As stated (Appendix B, page 84), "Scoring was provided only for convenient reference, to simplify the analyst's complex task." Arithmetic manipulation was only performed when applying impact factors to the location determinants in order to enable the individual location criteria to exert varying degrees of influence on the selection of "least impact" corridors. However, all such "manipulations" were monitored qualitatively, and in no instance were numerical values regarded as significant entities in the performance of the analyses (A, B and C levels). Rather, the qualitative phenomena analogous to numerical combinations were understood and used as the basis for decisionmaking. The principal

function of numerical scores was the ultimate comparison of values measured along the length of a corridor; however, qualitative analysis predominantly was employed in the study, with arithmetic values primarily providing a mechanism for comparative evaluation.

The analysis and decisionmaking processes were undertaken with great care by DOE to prevent an arithmetic "black box" solution. The overwhelming significance of this early component of the overall transmission studies was recognized. DOE is confident that the methodology employed led to the identification of the corridor with least total impact, as viewed from an objective perspective.

7. COMMENT: 52-2b

BY: Appalachian Mountain Club

The same inappropriate methodology was applied to the choice and evaluation of the route within the preferred transmission corridor. A numerical system was imposed on subjective, non-quantifiable values thereby imparting a misleading rigor to the conclusions of the EIS and deflecting appropriate criticism and discussion of the Report's assumptions. For example, the consultants assigned a number to each link of the proposed route according to site attractiveness. This simple quantification masked a number of somewhat capricious assumptions, such as the attribution of high attractiveness to marshes, sap extraction, and abandoned fields, while swamps, mature spruce-fir timberlands, and forest plantations were only rated as moderately attractive. One criterion of visual landscape quality was the variety and contrast of an area (a measurement based on the relative extents of wood and open lands). This type of evaluation potentially biases the route choice towards large unbroken tracts of mature woodland. Finally, the evaluation standards were frequently ambiguous. For example, the basis upon which point values of 1, 2, 4, or 6 were assigned to water and wetlands interest and topographic interest was never explained. This type of an evaluation procedure not only biases the choice of transmission routes, but works to prevent criticism and discussion of the route once chosen.

RESPONSE:

First, the methodology used for impact assessment is not the same as that used for the corridor assessment. Second, criteria for the determination of relative site attractiveness values are not subjective. They are based upon a significant body of literature (see bibliography pages E-1 through E-4, Appendix 1) on aesthetic judgments and visual preference. Third, there was no attempt made to deflect "appropriate criticism and discussion of the report's assumptions." That is why the methodology used is explained in as explicit terms as it is (pages 1-1 through 1-25, in Appendix I).

In particular, Table 1.5-Visual Site Attractiveness Categories and Components is evidence of no desire to "mask" assumptions. Fourth, regarding the variety and contrast criterion for visual quality, a substantial quantity of research will verify the significance of this variable to increased landscape quality (most specifically, Jones and Jones, 1976 (Second reference); Olin and Boyle: Research Planning and Design Associates, Inc., 1972 (second reference); Sargent 1967; Shafer 1969; Steinitz, Frederick and Blair, 1973; USDA, 1976; and Zube, 1973). Therefore, no bias was intended. This is only one of the factors used to define visual landscape quality. Considering its operational function in the overall determination of landscape quality impacts and the research findings, its importance and the appropriateness of its use become obvious.

DOE regrets failing to explain "the basis upon which point values of 1, 2, 4, or 6 were assigned." First, these values were determined relative to the importance of values assigned to other criteria for visual landscape quality. Second, a finite number of different landscape settings were selected from within the study area according to their correlation with landscape types and their relative quality values, as discussed in the literature. A trial and error procedure was then used to assign point values. The point values were totaled to produce total landscape quality scores, which allowed the landscapes to be correctly ordered according to the quality of the landscape. When this was accomplished, the point values for each criterion were considered to have been established. The validity of the results of this process was also discussed in the text (Appendix 1, pages 1-18, 20, 21, 22, and 23):

> "The validity of this description of the existing environment and the reliability of the system were verified to some extent. Verification involved reference to scenic resources identified by the recreational resources data inventory and can be performed quite readily. The Recreational Resource and Visual Landscape Quality Maps (Map Volume) were overlayed and cross referenced to determine spatial correlation between known scenic resources and the landscape quality ratings derived for this study. This process was aided by reference to Table 1.8, which lists the scenic resources shown on the maps by map number and quadrangle name. Some of the most striking correlations may be found on maps 45, 52, 53, 54, 61, and 62. Although verification was limited to quality ratings at the high end of the scale, these were regarded as indicative of the method's success. The method is most viable, particularly considering that using these known scenic resources was not part of the procedure for rating existing landscape quality."

DOE does not feel that this omission of explanation would serve to bias "the choice of transmission routes", nor that criticism and discussion of the routes were prevented.

DESCRIPTION OF THE PROPOSAL

1. COMMENT: 13-10

BY: Valley Residents Against Dickey-Lincoln

p 1-18, #4 Who determines what types of equipment to use and where sensitive areas are? Who monitors them?

RESPONSE:

The construction contract specifications, prepared by the construction agency, will specify equipment size/weight limitations or other constraints placed on the construction contractor for certain areas. The contractor's activities are monitored by contracting officer's representatives and inspectors to insure compliance with the specifications.

2. COMMENT: 13-12

BY: Valley Residents Against Dickey-Lincoln

p 1-21, #1 What happens if permission to survey is not granted?

RESPONSE:

If efforts to obtain permission to survey from the property owner are unseccessful, the legal right to survey is obtained through court action.

3. COMMENT: 68-4

BY: Vermont Public Service Board

Furthermore, we note that the Draft E.I.S. proposes the use of double circuit steel structures along the 20-mile corridor between Dickey and Moore substations. Although the double circuit steel structures may reduce the corridor width, their size and aesthetic appearance have made them generally unacceptable in Vermont. Instead of these steel structures, we would normally use two parallel wood pole H-frame structure circuits.

RESPONSE:

A portion of the proposed transmission corridor between Dickey and Moore Substations traverses landscapes generally more remote than those of Vermont. The number of viewers which would be exposed to the double-circuit steel transmission structures along this portion of the transmission line would be considerably less than along that portion of the line between Granite and Essex within the state of Vermont. As the comment indicates, two parallel wood-pole circuits would have less esthetic impact. However, a double-circuit steel structure would have considerably less impact upon the forest industry and upon existing wildlife habitat. Given the nature of landscapes between Dickey and Moore, in DOE's judgement the double-circuit steel design appeared to be the least-impact option.

4. COMMENT: 71-2

BY: New Hampshire Office of Comprehensive Planning

It appears to be a foregone conclusion that the transmission tower designs are to be as shown in Figures 1.03-1 and 1.03-2. There may be alternatives to these designs and materials which would be more esthetically acceptable than those shown.

RESPONSE:

DOE will consider alternative transmission structure designs beyond those shown in Figures 1.03-1 and 1.03-2. As indicated, alternative designs are in some instances more agreeable to viewers. This is particularly true in developed areas, such as near Groveton, N.H. and Barnet, VT. Tubular steel poles have been utilized at the Connecticut River crossing and in the area of Barnet, VT. Although somewhat greater in cost, DOE is willing to utilize such structures selectively if considered desirable by the state and local governments involved.

5. COMMENT: 72-14

BY: U.S. Department of Agriculture

Because route turns of up to 5 degrees can be made without using "dead end" towers, some curvature can be incorporated into the routing to avoid straight lines extending for several miles. This curvature together with "feathering" of the borders of the right-of-way, will approach the appearance of natural openings.

RESPONSE:

Even small angles of less than 5 degrees require heavier suspension towers. However, angles are often introduced to satisfy aesthetic needs. This will be done as appropriate when locating the precise centerline.

6. COMMENT: 72-15

BY: U.S. Department of Agriculture

(Page 127) Sites for substations are cleared of trees in preparation for construction. Some trees could be left standing when they do not interfere with construction, to form part of the landscaping for the finished building site.

RESPONSE:

This is an important consideration in substation site selection and development. DOE has stated its intentions in this regard on page 4-1 and 4-2 of the DEIS.

COMMENT: 80-1a

BY: U.S. Department of Interior

According to the Bureau of Mines Minerals Availability System, the western branch of the transmission corridor crosses the Kibby prospect at longitude 45°20'46"N. and latitude 70°32'44"W. This gold and silver prospect was field checked in 1958.

RESPONSE:

The Kibby prospect is located on the north side of Kibby Range in Kibby Township, Maine (45°20'46"N and 70°32'44"W). The prospect is more than two miles southeast of the proposed transmission line. In a search of literature only two references about the prospect could be found. Rand (1968) listed the prospect in a table of prospects. His miscellaneous notes on the prospect stated:

> "Gold, silver in bedrock exposures. Talc, scheelite in general area."

Wing (1959) discussed the gold in the Kibby and western Maine area:

> "Placer gold is known to occur in Gold Brook in the northern part of the map and also in Kibby and Spencer Streams a few miles to the northeast. It has also been reported from some of the other streams within the area. Panning was tried in some of the more promising localities with poor results. Nearly all of the streams show considerable magnetite of "black sand" in the concentrates. A pan from Tim Brook near Eustis showed one small grain of gold. It is believed that any placer deposits are too small and lean for successful exploration."

From the information found on the Kibby prospect no evaluation of its potential can be made. A more complete search of the literature and an on-site evaluation would be needed.

COMMENT: 80-1b

BY: U.S. Department of Interior

Our greatest concern is with possible conflicts with potential mineral deposits in the area of northern Franklin and Oxford Counties where transmission corridor would cross a belt of sulfide mineralization. This belt extends from the New Hampshire border and Parmachenee Lake in Oxford County northeasterly to Van Buren in northeastern Arrostook County.

RESPONSE:

One of the areas of greatest concern for potential mineral development along the proposed transmission line is in the area of northern Oxford County, northern Franklin County and northern New Hampshire. From approximately the southern part of segments 12 and 13 west to approximately the Connecticut River (segments 37 and 38), the line crosses units favorable for base metal mineralization. Mineralization has been found associated with the sediments and meta-volcanics of the Dixville Fm. (New Hampshire and Maine), Frontenac Fm. (Quebec), and the Ammonoosuc Volcanics (New Hampshire).

In this belt numerous occurrences of mineralization have been found. None of the following occurrences are found on the proposed transmission lines, but represent the types of deposits which may be contained in some of the lithologic rock units in the area. In the Thrasher Peaks area of Parmachenee Township, Maine pyrite-chalcopyrite-sphalerite mineralization have been found (Fournier, 1970). This mineralization has been examined by at least three different companies. Also in Parmachenee Township, a few million ton massive sulphide containing zinc-copper-lead has been located by J. S. Cummings, Inc. for a joint venture consisting of the Superior Oil Co. and the Louisiana Land and Development Co. This discovery is reported to be non-economic at the present time (Cummings).

In Quebec, approximately seven miles north of the Maine-Quebec border near Clinton Lake, five small pods of massive sulphide have been found (Marleu, 1968). These sulphide pods contain significant amounts of zinc, copper, lead, gold, and silver. One of the pods has been mined.

In the border area of northern New Hampshire and Quebec native gold has been found in placer occurrences. Near the town of La Partie, Quebec a placer gold mine produced in the last century.

Through the volcanic belt in New Hampshire numerous shows and prospects occur. One mine was operated near Milan, New Hampshire (Chapman, 1949).

Two other minerals of possible economic importance have been found in this area: asbestos and chromite. Asbestos has been reported associated with some of the ultramafic bodies in the western Maine area (Wing, 1949). Harwood (1973) notes disseminated grains of chromite in an amphibolite of the Dixville Fm. near Arnold Pond in the Arnold Pond quadrangle.

To better evaluate the potential for mineral development along the transmission line, a complete study regarding published and unpublished material would be needed.

COMMENT: 80-1c

BY: U.S. Department of Interior

Some of the most useful techniques for finding hidden massive sulfide bodies involve electromagnetic (EM) geophysical methods. Prospecting by reconnaissance, airborne, or ground EM methods are at best hindered and commonly are useless in areas of power transmission lines. Thus, the construction of the Dickey-Lincoln Lakes transmission system could conceivable eliminate the chance for discovery of buried massive sulfide deposits. This issue should be addressed more fully by the final EIS.

RESPONSE:

Geophysical surveys, such as electromagnetic (E-M) induced polarization (IP), resistivity, and magnetics are common tools of the exploration geologist. The construction of the proposed Dickey-Lincoln power transmission line would hinder the use of these tools in the area of the line.

A common exploration approach would be an airborne E-M survey with follow-up ground E-M or IP and magnetics over the anomolies located by the airborne survey. These surveys are generally done in conjunction with geochemical and geological surveys which would not be affected by the transmission line.

Discussions with Bill Finney (Geotrix Ltd., personal communication) and Paul Wessler (Scentrex Ltd., personal communication) indicated that airborne (E-M would be affected up to 600-1000 feet on either side of the transmission line. The effect of the transmission line on ground E-M surveys may be less, 300-600 feet. Mr. Wessler noted that certain specialized E-M units may be used upon power lines but that their depth of penetration is not as great as the standard equipment used. Also, the cost and inconvenience of the special equipment may deter follow-up of anomolies and possible ore bodies.

To evaluate the area along the transmission line by electromagnetic methods an airborne E-M survey with follow-up ground E-M would be needed before the initiation of power along the transmission line.

Since E-M surveys are most effective in the detection of massive sulphide deposits, the cost of the survey can be reduced by only covering areas underlain by lithologic units favorable to the formation of massive sulphides. Analysis of published and unpublished geologic information along with reconnaissance geologic mapping can be used to determine the area of highest potential to be surveyed by airborne E-M.

If the survey were completed early enough and the data released to the public, private industry may test the anomolies before the final construction of the power line.

COMMENT: 80-1d

BY: U.S. Department of Interior

Considerable mineral exploration has taken place in this area in the last few years and a significant zinc-copper discovery was recently made in Aroostook County about 15 miles northwest of Ashland. Because of the potential for additional deposits in this area of Maine, a detailed mineral survey by a competent consulting mining engineer should be made of the areas of this sulfide belt intersected by the proposed transmission line corridors.

RESPONSE:

From available data, [Hall (1970, Horodski (1968) and Boone (1958)], it seems that the belt of volcanics which contains the zinc-copper deposit (T12, R8) northwest of Ashland lies southeast of the proposed transmission line. The closest that the belt comes to the transmission line is approximately fifteen miles. Since the strike of the favorable units and the trend of the transmission line are approximately parallel, it appears that they will not intersect.

The extension of the favorable volcanic rock units southwest of the Allagash Waterway is uncertain. The Ordovician volcanic sequence appears to end near the Allagash Waterway in the vicinity of Chamberlain Lake (Hall, 1970).

SOILS AND TOPOGRAPHY

1. COMMENT: 72-2

BY: U.S. Department of Agriculture

(3) Provisions for soil and water conservation management measures on project lands, rights-of-way, access roads, and borrow areas. Comments --

a. Reestablishment of vegetation on disturbed areas (i.e., roads, tower areas, excavated gravel areas) should be carried out as follows:

1. Planned site-by-site to account for variable soils, slopes, etc.

2. Plant species selected must be tolerant to herbicides and useful for management purposes.

3. Maine Soil and Water Conservation Districts and the State Soil & Water Conservation Commission should be consulted in the planning process. Similar entities in New Hampshire and Vermont would be available for assistance.

4. The Soil Conservation Service's Technical Guides are adequate for planning revegetation of disturbed areas.

RESPONSE:

The environmental protection and management plan discussed in Chapter 4 of the DEIS would include provisions for soil and water conservation management measures. These measures would be site-specific and would be prepared in consultation with the landowner and the appropriate Federal and state Soil and Water Conservation Agencies.

2. COMMENT: 72-10

BY: U.S. Department of Agriculture

Clarification of Section 2.0 - DESCRIPTION OF THE ENVIRONMENT WITHOUT THE PROPOSAL.

Page 2-1, 5th paragraph - rewrite to read: "Pleistocene glaciers shaped the main features in the region's landscape. These glaciers

stripped way part of the rock mantle and early soils and left behind till sheets of unconsolidated, unweathered, rocky materials in which thin, infertile soils formed. Some may not support agricultural or commercial forest crops!"

Page 2-5, 1st paragraph, 7th line - change "till" to glacial drift."
2nd paragraph, 3rd line - strike the work "any."
3rd paragraph, 4th line - strike the words, "and moraine." Moraine is a land form, not a till.
5th paragraph, 4th line - add "glacio" to read "glacio-lacustrine deposits."
5th line - add "glacio" to read "glacio-marine sediments."

Page 2-10, 6th paragraph - Rewrite to read:

"The Stetson-Allagash association consists of soils formed in outwash plains and terraces. They are composed of water-deposited sands and gravels and some silts. Soils of this association are found in most stream valleys along the route. Most of the soils in the association are well drained. The well-drained Allagash and Salmon soils and the moderately well-drained Madawaska and Nicholville soils are found on the lower terraces. These soils are mostly sandy and generally have medium erodibility. In wetter areas their erodibility is high. Stetson and Machias soils are found in the higher terraces and are usually more gravelly. These soils have low to medium erodibility."

RESPONSE:

The above suggested changes have been made in the text.

ATMOSPHERE

1. COMMENT: 75-13

BY: U.S. Environmental Protection Agency

AIR QUALITY

The DEIS discusses the potential impact of open burning of slash and unmerchantable timber and mentions that such operations by construction contractors would be subject to local, State, and Federal air pollution regulations. DOE should be aware that some of these authorities may prohibit open burning or subject such operations to permits which, due to the extent of the impacts, may be denied. As a result of recent amendments to the Clean Air Act, all actions of the Federal Government are subject to State air pollution regulations. There is a very good possibility that burning of slash and unmerchantable timber may not be a viable option for certain sections of the project. In order to avoid localized air quality problems associated with the burning of this material, the final EIS should consider alternative disposal methods including chipping for use in erosion control as well as on site disposal which would possibly improve wildlife habitat.

RESPONSE:

DOE appreciates receiving this information and will follow up as required--if the facilities are built by the Federal government. DOE team members working on this project have had experience in a wide variety of disposal methods: open burning, tub burning, forced draft burning, lop and scatter, chip and scatter, chip and pile on right-of-way, chip and bury, etc. The environmental impacts of each method are different from the others, but they do all have some impact.

The transmission corridors cross areas of diverse land use, settlement patterns, etc. Different solid waste disposal methods will probably be identified as best in different areas. DOE would plan to work with local agencies to identify mutually acceptable methods, and would, of course, comply with those statutes which apply to DOE's activities.

AQUATIC ECOSYSTEM

1. COMMENT: 15-4

BY: Land and Water Resources Institute - University of Maine, Orono

A significant feature of Maine's landscape is its water, and naturally the proposed transmission route will cross many streams and rivers; perhaps as many as 150 crossings will be required in Maine alone. It is not clear in the draft EIS how the crossings will be made. One would assume that access roads will be constructed to circumvent some crossings, but certainly not all of them can be avoided with only 200 miles of access roads. Thus it seems probable that some stream crossings with light and heavy equipment will be made. The questions remaining are "how many?" and "how?" Will streams simply be forded? temporary bridges installed? permanent bridges? If access roads are lacking, one would assume that some type of permanent structure would be required for maintenance purposes, and thus permanent bridges would likely be installed. Again, these questions must be addressed before rational comment can be made.

RESPONSE:

There is no question that, if the project is constructed, a number of stream and river crossings by access roads will be required. However, at this stage of planning, where these crossings will be cannot be predicted. Stream and river crossings are designed as a part of the access road system, which cannot be determined until the transmission facilities have been precisely located. The manner in which a stream is to be crossed will be determined on a site-by-site basis and will be based on such factors as: stream flow, stream gradient, soil erodibility, fishing value, and type and frequency of road traffic. In some situations a ford will be adequate, in others a culvert will suffice, and occasionally a bridge will be required. Temporary bridges are seldom installed.

2. COMMENT: 73-7

BY: State of Maine Department of Inland Fisheries and Wildlife

The reports are accurate in stating that siltation, herbicide spraying, and water temperature alteration are the three major potential problems for aquatic organisms, especially fish. The consultants have done an adequate job of evaluating impacts on fish and other aquatics, considering the admittedly scanty data for many of the waters involved. Obviously a much more detailed study will be needed if the project is to be implemented. Recommended measures to mitigate impact on aquatic resources are sound.

RESPONSE:

Studies made in conjunction with this effort have identified many areas of concern from a fisheries point of view. Early centerline reconnaissance work will further define these areas and possibly identify others. Special consideration will be given these areas in developing the clearing and construction contracts and the right-of-way management plans.

The mitigation measure discussed in the DEIS Section 4.04 will be used where possible in activities associated with the transmission portion of the project.

3. COMMENT: 73-8

BY: State of Maine Department of Inland Fisheries and Wildlife

The following errors or omissions are noted:

1. Draft EIS Sec. 2.06, page 2-31 and App. E., page 3-110 (line 1c)

   It should be mentioned that Fish River between Eagle Lake and Fort Kent also supports significant populations of landlocked salmon (juveniles and adults) as well as brook trout.

RESPONSE:

The EIS has been changed to reflect this additional information.

4. COMMENT: 73-9

BY: State of Maine Department of Inland Fisheries and Wildlife

2. Appl E., page 3-214, fourth line from bottom of page. Pond name was omitted.

RESPONSE:

The name of the pond is Jim Pond.

5. COMMENT: 75-2

BY: U.S. Environmental Protection Agency

Despite mitigation, portions of some streams containing high quality fisheries will be lowered in quality; these should be clearly identified in the Final EIS.

RESPONSE:

Streams for which impact is rated "severe" in the DEIS tables are expected to be degraded despite mitigation measures. That such degradation of water quality will occur despite mitigation is recognized in Section 5 on Unavoidable Adverse Effects.

6. COMMENT: 75-8

BY: U.S. Environmental Protection Agency

The waters involved are primarily Class A and B and may support excellent fisheries. We are pleased to note that the DEIS presents a thorough discussion of the nature and mechanism of erosion and sedimentation.

It is not clear, however, that DOE will adopt the maximum possible mitigation measures which are identified in the Ecological Resources Impact Study, Appendix E to the DEIS.

RESPONSE:

See response to comment 73-7.

VEGETATION

1. COMMENT: 23-3

BY: Auburn E. Brower

The statements on the transmission line record a large number of wet areas, cedar swamps, ledges and cliffs, particular rock outcrops all of which are of potential importance as habitats for rare or endangered plants; but not one species of rare or endangered plant did I find named as being found. Such species undoubtedly exist on but a small number of such areas; therefore their preservation should be provided for. It is quite possible one shrub, Shepherdia canadensis, Buffalo Berry, occurs up there. Certainly rare herbaceous plants do occur there as well as in the impoundment areas.

RESPONSE:

As noted in Appendix E, page 2-2, some 15 sites with these habitats were searched for rare plants. As indicated by Appendix E, p. 3-25, Shepherdia canadensis was among the rare plants that were searched for but not found. Further inventories for rare plants will be conducted once the exact alignment of the right-of-way is decided upon (see response to comment 41-2).

2. COMMENT: 51-5

BY: Hal Clifford

Other information is contradictory. Despite detailed reports on the impacts to Endangered and Threatened Species, Section 8.03 explicitly states that flora and fauna in these categories will experience no impact from the proposed transmission facilities.

RESPONSE:

DOE sees no contradiction. As indicated in Appendix E, p. 3-51, the only officially-designated threatened or endangered animals in the region crossed are the bald eagle, peregrine falcon, eastern cougar, and the Indiana bat. Table 2.08-13 indicates that the probability of these occurring on the right-of-way is very low, and none were found during the field studies. Thus, no impact is expected.

3. COMMENT: 56-1

BY: Irene M. Storks

As a New Hampshire resident having an interest in the state's flora, I am concerned about the impact of the transmission corridor on certain rare plant species which occur within the proposed areas. I have noted in Appendix B of the Transmission Studies EIS, map 16.1, an indication of endangered and threatened plant species and their occurrence throughout the state, but there seems to have been little effort to determine what rare species occur along the proposed corridor itself. In Dartmouth College Grant, for example, grow several extremely rare plants found from a single site in New Hampshire. Draba lanceolata, Hackelia americana, and Hieracium robinsonii are known from cliffs and ledges of Diamond Peaks and Diamond Gorge, and are found nowhere else in the state. One of the proposed corridor routes passes right through this unique botanical area and clearly poses a threat to their continued existence in the state. The designation of a portion of the area as a "Dickey Natural Area" as indicated for the region in Appendix E does not appear to me as an adequate means of protecting the area. Activity generated by construction alone would be sufficient to cause damage to an unstable ledge system. Rerouting of the corridor is the only viable alternative for protecting this important area.

This is but one example of the botanical significance of ledge systems, evident in other parts of the state as well. The proposed transmission corridors pass directly through several other ledges in this state. Again there is no indication of field investigation conducted in these botanically rich areas, or in other areas designated as botanically significant by the transmission EIS.

Overall, there is no evidence of any effort to locate endangered, threatened, and rare plants along these avenues, and it is apparent that field work in this respect is lacking. Considering the importance of endangered plant species to the Dickey-Lincoln facility as a Federally financed project, it is most disturbing that rare plants have been so lightly considered in the Transmission EIS.

In conclusion, I would like to state my opposition to the proposed transmission corridors on the basis of an incomplete environmental impact statement with regard to endangered, threatened, and rare vascular plant species. The corridors pose a definite threat to at least several rare plants in the state, and due to a lack of field studies, severes as a potential threat to Federal candidate endangered and threatened plant species which may occur there.

RESPONSE:

The DEIS notes the botanical sensitivity of the Dartmouth Second College Grant area in Appendix E, p. 3-314. Also noted by the

DEIS, this route is not the preferred route for the right-of-way, but only an alternate choice. Field investigations of botanically rich areas are noted on page 3-25 in Appendix E. Further inventories of rare plants will be conducted once the exact right-of-way is decided upon (see response to comment 41-2).

4. COMMENT: 80-8

BY: U.S. Department of the Interior

Section 2.07.4 - Should be changed to read, ". . . New Hampshire have been proposed for designation as threatened or endangered plants and thus in the future may be legally protected."

RESPONSE:

The EIS has been changed accordingly.

5. COMMENT: 57-4

BY: Natural Resources Council of Maine

C. Inventorying Of Flora and Fauna and Mitigation Procedures. As already noted, there was not adequate time to do a thorough inventorying of all impacted flora and fauna, both within and outside of the right-of-way (where access roads may be located), a matter of particular concern for rare and/or endangered species, both nationally and within the states involved. We note that Appendix E recommends further inventorying of these resources before the project is constructed and also just before construction occurs. Appendix E recommends a full seasonal cycle survey; for example, raptor nests are best inventoried in the late fall to avoid leaf camouflage problems, whereas rare plants hould be looked for from spring through fall. It is not clear from the DEIS itself that this inventorying will be carried out in the manner and to the extent proposed in Appendix E. It is all together possible that the more complete inventorying of these resources proposed could call for at least minor realignments to the routing to avoid adverse impacts on recently discovered sensitive sites or habitats. We are concerned that if inventorying is done too late, after substantial planning and design expenses have been incurred, the temptation will exist to compromise the environmental resource. One of the fundamental purposes of the DEIS is to assure that the optimum routing is chosen from these perspectives. The more thorough inventorying of these resources is essential to accomplishing that objective, even if a finer tuned inventorying must be shortly carried out before construction begins. In that connection, it is also possible that

the routing of the right-of-way may also affect the highly important question as to whether or not access roads will impact critical sites or habitats. This is another reason for locating the access roads now.

RESPONSE:

If it is decided to construct this project, early transmission facility activities would consist of further centerline location studies, tower location studies, access road locations, and surveying work.

Studies made in conjunction with the DEIS have established and set forth certain criteria that help identify areas of special concern--water courses, possible locations for rare plants, deer yards, possible habitat for endangered species, etc.

Persons charged with the responsibility for the above activities will be expected to be familiar with these criteria. Centerline, tower, and road locations will be chosen to minimize conflict with these areas. Where locations must be chosen which cross these sensitive areas, special study and consideration will be given to developing methods of mitigating impacts. Minor relocations of the facility are still possible at this stage of the process.

DOE will not "compromise the environmental resource." However, it seems appropriate to clarify our understanding of the intent of the National Environmental Policy Act (NEPA). A "fundamental purpose of the DEIS" may or may not be "to assure that the optimum routing is chosen from these perspectives."

More specifically, DOE's understanding of NEPA is that it is necessary to carefully consider and react to environmental impacts resulting from any major Federal action. The decisionmaker is not always presented with an alternative that is "best" from environmental, economic, and engineering considerations. A compromise of one or more of these factors is often necessary to chose the alternative which is most acceptable from a total perspective.

WILDLIFE

1. COMMENT: 13-18

BY: Valley Residents Against Dickey-Lincoln

p 3-33, #1 Why are only deer used as an indicator of wildlife use? A misleading picture of effects of transmission lines on all wildlife may emerge if only deer are considered in measuring wildlife use, since what favors deer may not be beneficial to other equally valuable wildlife (from an ecological point of view!)

RESPONSE:

Table 3.08-1 indicates that impacts on all wildlife, not just deer, were considered. The sentence on p. 3-33, #1, cited above, represents information from one study that emphasized deer. This study is only one of several considered in arriving at conclusions about wildlife generally.

2. COMMENT: 13-21

BY: Valley Residents Against Dickey-Lincoln

Deer yards could be positively or negatively impacted depending on how they are crossed. Who determines how they are crossed and that they are crossed with least damage to deer yards?

RESPONSE:

A cleared right-of-way through the softwood shelter portion of a deer yard would be harmful whereas a right-of-way along the fringes could actually benefit deer by providing additional food species. This important factor would be considered by DOE transmission line location specialists in determining the exact final alignment.

3. COMMENT: 13-29

BY: Valley Residents Against Dickey-Lincoln

p 5-2, #1 The continued disturbance after construction is barely mentioned in the DEIS. Such activities as helicopter flyovers to check lines and travel on maintenance roads by both authorized and recreational vehicles will certainly result in a negative impact on wildlife. Was this continuing disturbance factor considered in the

postulation of effects on wildlife? (p 3-66) Note: "Continued human access disturbs most wildlife." (p 6-1)

RESPONSE:

The disturbance which would occur, while extended over a longer time period than, say, logging, would nonetheless usually be rather slight in its intensity. Table 3.08-1, columns 4 and 5 from the right (upper) margin indicate that disturbance was evaluated for each species. Although continued human access disturbs most wildlife, apparently few species suffer significant population losses because of it.

4. COMMENT: 23-1

BY: Auburn E. Brower

Transmission lines which have been cut and maintained in Maine have very little woody vegetation high enough to provide deer browse and in this study a series of measures were suggested for lessening the amount of herbicides carried into streams and lakes; elsewhere high claims are made for the amount of deer browse the right-of-way will produce. Then at the May 4 meeting in Augusta, we were told that probably nothing would be done until the taller trees began to reach the transmission lines (carried by 165-foot-tall towers) when these would be cut. Where do the deer browse?

RESPONSE:

The comment appears to relate to the vegatation which would exist within the rights-of-way after construction of the line and its ability to provide browse for deer and other wildlife species. One cannot assume that towers of 165 feet in height would allow fairly large trees to become established within the right-of-way. If natural revegetation is allowed, the controlling factor in determining the permissible height of vegetation within the right-of-way would be the distance between the electrical conductors and the ground. For the lines, the minimum distance proposed between the ground and the conductors is 32 1/2 feet. This would usually occur at approximately midpoint between two transmission line structures. At this point, vegetation exceeding approximately 20 feet in height would have to be removed. Permissible vegetation heights would then increase in the direction of the structures. Where landowner's wishes would be satisfied, DOE would propose to allow natural revegetation of the right-of-way until such vegetation approaches a height which would begin to jeopardize the transmission line. At this time, selective removal of taller tree species would be required over a period of years. It is hoped that such a maintenance program

would encourage the establishment of low-growing species within the right-of-way. Such habitats tend to be highly productive with respect to creating deer browse.

5. COMMENT: 23-4

BY: Auburn E. Brower

By far the largest group of life, both in number of species and numbers of individuals in the area - the Arthropoda (insects and their allies) comprise over 90% of all animal life in the area. All these receive no mention, except the spruce budworm in its incidental effect on timber resources, game, fish, and birds. (Records of two rare insects on Boundary Bald Mountain are mentioned but this is off the right-of-way.)

RESPONSE:

Alteration of the vegetation community structure by the right-of-way clearing will cause a corresponding change in the structure of the insect community. This change is not expected to be significant.

6. COMMENT: 41-2

BY: Jan Wells

That more time was not available for a much more thorough study of ecological impacts.

RESPONSE:

The time spent studing ecological impacts is considered adequate for this phase of the project. Additional inventories of rare plants and animals will be carried out once the exact alignment of the power line is specified.

7. COMMENT: 46-1

BY: Society for the Protection of New Hampshire Forests

In trying to get a feel for the projected impacts on wildlife from the creation of 365 miles of "edge effects," I learned basically that the corridor poses serious unanswered impacts with regard to both techniques of maintenance of the corridor and possible creation

of biogeographic islands. Whether the corridors are maintained mechanically, with herbicides or by combined uses, obviously affects habitat values. Discussion with representatives of utility companies experienced in right-of-way maintenance indicated that a hypothesis for maintenance might logically include Tordon herbicide applied aerially on a cycle of from 4 - 7 years. Once again, this is hyphothetical, but given the location and length of the preferred corridor, it was viewed by my contacts as "unlikely" that much mechanical maintenance would be undertaken. Th point is: aerially applied herbicides are often unlikely habitat "enhancers" for most species of wildlife.

Further, as the DEIS points out, - relatively little is known about biogeographic islands and the exact conditions creating them, but the potential for such creation does exist in the proposed transmission project. Forest Service studies done in the last dozen or so years draw careful distinctions between so-called "hard" and "soft" edge effects and claim much of the prime ecotone value is inherent in "soft" and "feathered" edges permitting wide successional differences. This issue appears not to be addressed at all in the DEIS and the conclusion I must draw is that the corridor represents 365 miles of "hard" edges, maintained in unspecified ways, and capable of creating serious biogeographic islands. Nevertheless, and in spite of very serious questions about general ecotone quality, the DEIS concludes wildlife impacts will be overwhelmingly positive on all species with the exception of 24.2 miles of the total corridor (6.6%) where impacts will be only slightly negative (-1).

RESPONSE:

The DEIS repeatedly states that benefits to wildlife will depend upon the particular methods of vegetation maintenance which are chosen (see, for example, p. 3-46). The vegetation maintenance procedures described on pp. 1-18, 1-21, and 1-24, 25 imply the creation of "soft" or "feathered" edges under manual-clearing conditions.

8. COMMENT: 51-3

BY: Hal Clifford

Better-than-average ratings of "Terrestrial Habitat Value" are found on 27% of the route for Species of Special Concern, 14% for Game Species, and 27% for All Species. According to the EIS, Disturbance to Wildlife Impact breaks down with 35% suffering high or worse disturbance impacts. Yet only 19.3% of the Special Concern Species, 4.5% of the Game Species and 7.1% of All species are listed as having negative Habitat Impacts. In fact, 1.5% of the route is listed as having no impact whatsoever. I impugn these

findings, especially since they come after a detailed discussion of impacts on animals that include physiological and metabolical stresses, lack of reprodution, habitat overcrowding, snowmobile harassment, and so on.

RESPONSE:

The 1.5% of the route which will have "no impact" represents existing powerline rights-of-way through fields. Placing a new, parallel line in such an environment will create no significant impact. The habitat and disturbance impacts expressed in the report are only relative measures intended to compare alternate routes, as explained on page 4-1 of Appendix E. They are not absolute measures of impact (no one has ever established any such standards for wildlife in the region). The impacts shown in Table 3.08-1 should be considered the closest expression of absolute impact.

9. COMMENT: 57-3

BY: Natural Resources Council of Maine

B. Impacts On Deer. Favorable coyote habitat will be created on the right-of-way (see Appendix E, pp. 4-33). As a consequence, particularly if trails are packed in the snow by snowmobiles, there may be substantially increased access to deer yards by coyotes and domestic dogs, resulting in substantially increased predation on deer in the area. Obviously, this is an impact of substantial concern to sportsmen, among others, and should have been fully evaluated in the DEIS.

RESPONSE:

Coyotes and wild dogs do prey upon deer, especially under winter yarding conditions. The magnitude and significance of this impact is variable, however, as noted on p. 4-33 of Appendix E. In certain situations, losses to deer population could be substantial. Whether this impact is "significant" in a social sense depends on whether one values coyotes or deer more highly. If requested by individual landowners, the rights-of-way near deer yards could be posted or fenced against snowmobiles.

10. COMMENT: 67-1

BY: State of Vermont Agency of Environmental Conservation

Each of the wetlands areas, deer winter yarding areas, flowages, streams, and ponds of all sizes on both public and private lands to be impacted by the transmission line should be thoroughly studied. This is to ensure no loss of significant natural areas, endangered species of wildlife or vegetation, or loss of water holding capacity will result. Loss of basic cover may significantly alter the natural habitat.

RESPONSE:

DOE's studies of alternate transmission routes and identification of a proposed route have been designed to consider the engineering, economic and environmental impacts on a wide variety of concerns, including those mentioned here.

It is not possible to assure "no loss" of any particular environmental value. Consideration has been given and adjustments made to minimize impacts. Opportunities for further minimizing impacts will become available and be developed during centerline locations, design construction, and maintenance phases of the transmission project.

11. COMMENT: 67-3

BY: State of Vermont Agency of Environmental Conservation

The transmission line poses potential impacts on wildlife habitat, particularly the potential for destruction of deer yards, which are highly significant to the winter yarding of the deer. Until such time that the total inventory and review of critical wildlife habitats along all likely corridors is made, on an individual basis, an objective analysis of environmental impacts cannot be made.

RESPONSE:

The level of effort expended on this phase of the analysis is considered adequate to meet the basic objectives of an EIS. Further detailed studies of some resources will be conducted as work continues and as the exact alignment of the right-of-way is chosen.

12. COMMENT: 73-3

BY: U.S. Department of Agriculture

Pages 2-66 and 2-67 - This section, dealing with remoteness, seems ambiguous, with many value judgments that may not be factual (i.e., does remoteness protect individuals from "severe stress" or does remoteness make wildlife "a significant esthetic resource to man"). These concepts can be argued both for and against remoteness.

RESPONSE:

There is no objective answer to the issue of remoteness. As noted, remoteness enhances the wilderness experience and an area's value to wildlife but too many people "enjoying" such an experience can eventually ruin the wilderness character and severely stress some species of wildlife.

13. COMMENT: 73-4

BY: U.S. Department of Agriculture

Page 2-69 - Under the section "Dickey-Moose River" the statement that "beaver, waterfowl and marten are probably more common here than in any other area in Maine" is open to question. The reference should be cited.

RESPONSE:

This statement is confirmed by preliminary information in the Department of Inland Fisheries and Wildlife's Species Plans as summarized and credited in Table 3-4 of Appendix E.

14. COMMENT: 73-6

BY: U.S. Department of Agriculture

Page 3-48, Paragraph 1, Line 1 - Although deer wintering areas may vary somewhat from year to year, the general sites can be quite traditional and a great deal of consistency exists. This point should be noted.

RESPONSE:

The EIS has been changed to reflect this information.

15. COMMENT: 80-7

BY: U.S. Department of the Interior

This section also notes deer wintering areas and potential rare plant sites should be inventoried at a time as close to construction as possible. This information should be provided in the draft statement itself.

RESPONSE:

The change has been made in the FEIS.

16. COMMENT: 80-9

BY: U.S. Department of the Interior

Table 2.07.6 - This table should be changed in the EIS in accordance with Appendix E.

RESPONSE:

The change has been made in the FEIS.

17. COMMENT: 80-10

BY: U.S. Department of the Interior

Table 2.08.13 - The following should be deleted from the table under US Recognition:

Round whitefish
Pine grosbeak

The New England cottontail should be listed for Vermont also. The mountain lion should be listed as Eastern cougar. The timber wolf should be Eastern timber wolf. The yellow-nosed vole is listed as concerns to New Hampshire and Maine; delete Maine and add Vermont.

RESPONSE:

The changes have been made in the FEIS, except for the yellow-nosed vole, which is correct as it now stands.

18. COMMENT: 80-11

BY: U.S. Department of the Interior

Section 5.03 - The final statement should describe the measures being considered to mitigate the unavoidable losses; e.g., traversing a control portion of a deer yard, of placing an access road through a deer yard or a wetland.

RESPONSE:

Means for mitigating damage to deer yards crossed are detailed on p. 6-1 and 6-2 of Appendix E. In addition, a team of Federal and state wildlife biologists will recommend mitigation techniques for specific yards.

SOCIOECONOMIC

1. COMMENT: 9-1

BY: Jackman Planning Board

Unemployment -- listed at a rate of 12.6% -- 5-year old statistic.

RESPONSE:

The 12.6% unemployment figure is a 1976 statistic for the Skowhegan labor market, the closest recorded significant labor market to Jackman in Somerset County.

2. COMMENT: 9-2

BY: Jackman Planning Board

Working force cannot possibly be 778 persons. We have over 200 students in school and over 200 Senior Citizens. An estimate would be closer at 400-500 for a working force, including women and teenagers.

RESPONSE:

As shown on Appendix H, p. 45, the estimated work force in Jackman is 400.

3. COMMENT: 9-3

BY: Jackman Planning Board

Local Labor -- EIS estimates 206. Impossible for Jackman. (Stated at the May 3 hearing that this number encompasses the State of Maine for "Local Labor." Why wasn't this pointed out within the EIS?) This number of imported labor would still create the imported labor to be increased to over 300 persons. If local workers leave their present employment for corridor work (at high inflated wages) the local business, and Woods contractors, plus the economy, would suffer.

RESPONSE:

In Appendix H, p. 3, the term "local labor" is defined to include statewide labor and material sources, and is not limited to corridor area communities. The DEIS, p. 3-69, also provides a definition of "local labor" used in this study. Because of the step and segment nature of transmission line construction, the maximum number of workers in an area at any one time will relate to the task at hand. The original estimate - a 60-person work crew with the possibility that two crews would use Jackman as a base simultaneously - continues to be the most realistic estimate of the maximum labor force using Jackman. Appendix H, p. 138, indicates that while some shifting of employed labor may occur, it is not expected to be significant because of the short term nature of the construction work. The most competitive area is expected to be for top cutting crews.

4. COMMENT: 9-4

BY: Jackman Planning Board

The projected salaries for cutting corridors of $10 per hour would drastically inflate the local labor market. The projected costs of gravel at $5 per cubic year would demolish the base that local gravel dealers now maintain. The average price for a cubic year of gravel now is 50 cents.

RESPONSE:

The wage and salary level is the estimate of the average for the project based on Davis-Bacon quidelines for all required skills. The $5 per cubic yard price for gravel relates to the average cost in Maine of delivered and spread gravel, not the at-pit price.

5. COMMENT: 9-5

BY: Jackman Planning Board

Motels-Hotels -- Nine are available but are run on a vacation-tourist basis. Rooms are acquired in advance and many have a returning yearly clientele. There is a small margin of rooms available daily during the vacation-hunting season but they would not be great enough to supply the needs of the imported labor.

RESPONSE:

Appendix H, p. 144, notes potential housing shortages in Jackman and on p. 175, mitigation through scheduling of work crews is suggested. Also the use of labor camps away from the towns would alleviate potential housing shortages.

6. COMMENT: 9-6

BY: Jackman Planning Board

If working camps are created, as stated in the EIS, there would be social impacts to the residents of the area, with Jackman offering the only social "night life" on a limited basis. Possible problems could erupt at local bars and hotels and with policing. We do not have a police force, the town is served by a constable and one deputy sheriff.

RESPONSE:

Appendix H, p. 145, indicates labor camps are generally remote from town. Therefore the impact associated with after-work socializing will be minimized. Beyond a thirty-mile radius of Jackman, access will be directed more to other areas. Appendix H, p. 146, indicates potential need for police services for evenings and weekends.

7. COMMENT: 9-7

BY: Jackman Planning Board

Also listed are hazards to the local roads during transportation of supplies and equipment. Estimates within the EIS state that repairs could cost $1,000 per mile. Who is going to pay for this?

RESPONSE:

Contractors will be required to repair to previously existing conditions all roadways damaged due to the transportation of materials or actual construction work associated with the project. The ultimate cost will be considered a cost of the project and the responsibility of the Federal government.

8. COMMENT: 9-8

BY: Jackman Planning Board

The EIS lists Jackman as a possible center hub for workers and shipment of equipment and supplies. It also lists the utilization of the Canadian Pacific Railroad for shipment of supplies and equipment. The town now experiences times where 10-minute trains divide the town and prohibit medical care and fire protection to residents. If the trains are utilized you would create longer divisions of the town, creating a greater health-safety hazard. Where would supplies be stored?

RESPONSE:

Long train stops in Jackman, by blocking the main highway, could cause difficulties because of the locations of fire and medical facilities to the populated area. A yard storage site has not been identified as of yet. DOE and construction contractors will work closely with the town of Jackman to locate an off-track storage site which might avoid trains blocking the main highway. As practical, materials deliveries should be scheduled to minimize the length of any single train stop.

9. COMMENT: 9-9

BY: Jackman Planning Board

Municipal services are at a strained point now. Our schools are on the verge of overcrowding. Our water supply system is antiquated, and our only means of sewage disposal is direct discharge to the Moose River and Big Wood Lake. None of these services could be greatly expanded or taxed for service to any group of temporary homes or housing clusters that could develop from this project.

RESPONSE:

The estimated population increase due to construction crews is not expected to create any significant demand on municipal sewer and water services. Assuming a maximum increase of 120 workers, the increase over current population levels would be approximately 13 percent. Jackman currently experiences significantly larger increases due to its tourist trade. Current plans for new sewer treatment facilities indicate planned capacity will accommodate the anticipated temporary population increase.

10. COMMENT: 35-1

BY: Town of Moose River

Neither town has a police force. We rely upon the Somerset County Sheriff's Office and the Maine State Police for our law enforcement. The area assigned to the Trooper is so vast it precludes his being available at a moments notice. Our deputies are part-time and because of other employment, are not available on a full-time basis. These conditions cause serious deficiencies in our law enforcement. Any increase of transients over a protracted period would add further hardships.

RESPONSE:

See response to comment 9-6.

11. COMMENT: 35-2

BY: Town of Moose River

If you will refer to page 3-69, the terminology used is workers. If this terminology, which has not been sufficiently defined means, "those who get their hands dirty," then I suggest to you there would have to be additional personnel such as administrative and staff. This would increase the total personnel in our area.

Increases by the Canadian Pacific Railroad to handle traffic flow, increase by the Government to handle Border flow, increases in any or all ancillary services would increase personnel in our area.

RESPONSE:

The estimate for field administrative personnel operating from base camp is generally 2 people per site. The amount of equipment and increased traffic into the area is unlikely to require additional personnel with the railroad or along the border. Border patrols and customs are already well-staffed because of existing activity.

12. COMMENT: 35-3

BY: Town of Moose River

The Board of Selectmen of Moose River on behalf of its residents rejects the Impact Statement as not properly reflecting the feelings of the community nor the true picture of the community. As a

result, the report contains many inaccuracies. The serious consequences to our environment, both human and animal, would be catastrophic. For these reasons, we cannot support the Dickey-Lincoln School Project and sincerely request that more viable alternatives be considered.

RESPONSE:

In an attempt to correct any inaccuracies in the DEIS, a team from DOE and the consultant responsible for the socioeconomic study met with political and administrative officials in Jackman and Moose River to identify and resolve questioned sections of the report (see Appendix C, Section 9.0). To the extent that inaccuracies could be identified by these extra discussions, they have been modified in the FEIS and spoken to in the specific comment responses.

13. COMMENT: 52-3

BY: Appalachian Mountain Club

In its Appendix H, the Department of Energy identifies 17 categories of potential economic and social impact caused by the introduction of the transmission corridor. Out of these 17, only 4 (employment, income, tax revenues, and recreation relocation) are projected by the consultants to constitute positive effects on the region.

Three of these "positive effects" are easily quantified, in numbers of persons employed, dollars earned, and tax revenues collected. Many of the negative impacts are unquantified, or unquantifiable. We are concerned that once again, the maximum quantifiable benefits to the project are being estimated and discussed, while the very real, but unquantifiable negative impacts (on housing, public and private services, community and community values, public health and safety, land values, residential relocation, aesthetics, and wilderness character) are buried in the prose of voluminous appendices. Yet these unquantifiable values are of great significance to local towns and social values.

The treatment of economic impacts of the transmission facilities leaves us in some confusion. We are uncertain which of these so-called benefits and costs (positive impacts and negative) which are outlined in Appendix H are included in the Benefit/Cost Analysis which was released last September by the Corps of Engineers. We have combed a collective 4 horizontal feet of bookshelf to find a reference to the benefit/cost contributions of the transmission corridor, and find only inconsistency. In September of 1977, the Construction Costs of the Transmission Line, with interest, were $167,220,000 at 6 3/8%. In the April DEIS we are now discussing, the costs are reported to be $167,260,000. We wonder if the benefit/-cost will be recalculated for the August 1978 final EIS?

We are also confused whether the tax, wages, and secondary employment benefits were already reflected in the Septebmer 1977 figures. We feel that the so-called secondary employment benefits (calculated as 35% of the net instate and out-of-state wages) should be omitted from the benefits schedule, as it is based, in the Department's own works, on "insufficient specific information" (H-141) and is considered to be "an absolute maximum."

Our experiences in critiquing the DEIS for the dam project lead us to suspect that the nearly 12,000,000 dollars in loss of timber resources may not be included on the cost side of the ledger, although again we are unable to find clear reference to its inclusion.

Generally, we are dissatisfied with the treatment of economic impacts and with the lack of clarity in relating these figures back to the project benefit/cost.

RESPONSE:

Appendix H, p. 11, indicates the limitations of using a quantitative rating system for the majority of socioeconomic impacts. All impact discussions attempt to stress the importance or severity of each impact.

Secondary employment benefits were not quantitatively calculated. Although secondary income was calculated using an estimated retail spending level, there is sufficient empirical evidence to validate the value used. The implied caution was included because an average value was used. There was insufficient information about each separate set of conditions.

14. COMMENT: 62-3

BY: North Kennebec Regional Planning Commission

The assumption that minimal impact to municipal services will occur is based on other transmission line studies of more populous areas. This does not relate well to the character of the Jackman region which is a remote, wilderness area, with limited municipal services available.

RESPONSE:

Appendix H, p. 163, discusses the more unique situation in the Jackman-Moose River area because of its isolated nature and the possibility of two crews in the area at the same time if mitigation is not exercised in scheduling crews. The potential need for additional police services has been noted in the report. Further

investigation of available municipal services in Jackman indicates the increased demands are not expected to create more than a slight to moderate impact.

15. COMMENT: 62-4

BY: North Kennebec Regional Planning Commission

The potential increase in crime and other social problems is seen to be a significant problem.

RESPONSE:

The degree of social impact on the community will relate, in part, to the number of workers in the area of any one time. DOE will use all caution in scheduling work crews so as to minimize the required number of workers in the area. Section 3.09.16 of the DEIS notes the potential need for additional police services in the area.

16. COMMENT: 62-5

BY: North Kennebec Regional Planning Commission

An adverse impact on scenic and wilderness type recreational resources is expected to have a long term negative impact on the region's economy.

RESPONSE:

Sections 3.09.1.16 and 3.09.2 of the DEIS note the anticipated negative impact on the aesthetic and social value of the wilderness area. Overall, recreation activities are not expected to decrease within the area due to the introduction of transmission lines. There is no evidence to suggest that there will be a long-term reduction in recreation revenues due to construction of transmission lines unless specific recreation activities are permanently displaced and have no alternative sites in the area.

During the construction process some shifting of recreation activities may be anticipated; however, total recreation activity should maintain levels of use in the general area. Fishing is expected to be the most site-specific recreational activity disrupted in areas where construction causes disturbances of stream flow and siltation.

Unless there are no alternative recreation sites in the general area, recreation users are likely to utilize available nearby alternatives. With proper supervision of mitigation techniques,

such as erosion control practices, preconstruction and construction activities will often be less disruptive than current wood harvesting activities.

17. COMMENT: 74-1

BY: U.S. Department of Transportation - FAA

We have reviewed the Draft Environmental Impact Statement for the Dickey-Lincoln School Lakes Transmission Project (March 1978) and are concerned with the potential for impact of the proposed lines on several airports. To determine whether the proposed lines obstruct air navigation an accurate measurement of their distance from adjacent airports and their elevation relative to the airports is needed. The draft does not adequately provide this information. Instructions on the cover sheet of the enclosed copies of FAA Form 7460-1 should assist you in planning the routing of the lines near airports. After your plan is developed an FAA Form 7460-1 should be executed for each situation falling in the criteria given in the instructions. If more copies of the forms are needed at that time, please advise and we will forward them to you. Upon receipt of the executed forms we will determine whether any of the proposed transmission lines would constitute a hazard to air navigation.

From the information available the proposed lines would pass within 6 miles of the following airports, so should be checked against the requirements for notice of proposed construction (FAA Form 7460-1 cover sheet):

Ft. Kent Municipal, ME
Clayton Lake SPB, ME
Sky Lodge (Jackman), ME
Moose River SPB (Jackman), ME
Newton Airport (Jackman), ME
Lake Parlin, ME
Colebrook, NH
Errol, NH
Groveton Papers, NH
Berlin Municipal, NH
Twin Mountain, NH
Whitefield, NH
Burlington International, VT
Edward F. Knapp, VT

RESPONSE:

DOE intends to comply fully with FAA Regulations, part 77. However, the information required to complete FAA Form 7460-1 will not be available until the exact centerline is known and the structure positions and heights have been determined.

18. COMMENT: 76-1

BY: Carole Coley

The impact projections that you list, gathered from your survey in Eastern Maine have no bearing on the Jackman area. How you ever saw a possibility of comparing Jackman to Eastern rural towns is beyond me. The towns surveyed were not isolated in any sense of the word. They were not natural scenic woodlands and could never feel an impact compared to what Jackman will feel if Dickey-Lincoln is built. The questions asked of those surveyed were not even relevant to our area.

RESPONSE:

All communities surveyed were small rural towns where both the rural character and aesthetic value were considered principal attributes. Of the five towns interviewed, one was significantly smaller than Jackman and another approximately the same size. Aside from construction impacts which were acknowledged as potentially more severe because of the isolation of the Jackman-Moose River area, long-term individual and community impacts were considered to be of similar concern. The DEIS recognized the unique qualities of the wilderness character of western Maine and acknowledges that it will be specifically impacted.

19. COMMENT: 76-3

BY: Carole Coley

Our schools, Economy and Municipal Services are at such a strained point now that any intrusion by a large number of people or project such as Dickey-Lincoln would surely put the town into a disterous position. We do not want to be a Boom town, created by Dickey-Lincoln. The Government is offering payment for lands and homes destroyed by Dickey-Lincoln. What are they offering for the destruction of towns???

RESPONSE:

The mobile nature of transmission line construction and the relatively small sized crews will reduce potential socioeconomic demands on the community. Proposed mitigation in the scheduling of work can maintain temporary population increases generally not to exceed 60 workers at any one time. Given the seasonal influx of tourists into the area this increase is considered manageable.

LAND USE

1. COMMENT: 68-2

BY: Vermont Public Service Board

In discussing the land use impacts, the Draft E.I.S. apparently has not taken into account proposed land use, but only existing land use. In Vermont, considerable weight is given to future land use.

RESPONSE:

Appendix G, Section IV provides a discussion of proposed land uses and the severity of impacts associated with each kind of use. The Appendix G map volume identifies proposed land uses within the corridor area. Impact analysis of the proposed route was not conducted on the basis of proposed land uses for reasons cited in Section IV. Tables 3.11-1 and 3.11-2 illustrate anticipated impacts for proposed land uses.

2. COMMENT: 68-3

BY: Vermont Public Service Board

The Draft E.I.S. assumes that the impact of power lines on timberland is more severe than their impact on residential and other open lands. This may create the impression that the project will have less impact upon Vermont than in other states. This would not be the case. It has been the historical practice in Vermont to locate transmission lines in wooded areas to reduce the visual impact, which is given high priority in Vermont. As a result, the Draft E.I.S. tends to be contrary to Vermont past practices in siting transmission lines.

RESPONSE:

The EIS evaluates the potential impacts on all relative land uses throughout the three-state study region. The consultants determined that the impact level on both residential land uses and forest land uses was severe. The value of "severe" indicates that the land use could not function if the transmission line passed over the feature. Another assessment was made incorporating possible impact after mitigation, and in the case of residential land use, it was determined that mitigation would reduce the impact to moderate or slight for most of the residential categories. There is no effective mitigation after timber has been removed in the forest land use. (See Appendix G, Section V.)

The EIS does not imply that there would be less impact in Vermont than in the other states. A full assessment of the visual impacts was completed as another study and reported in Appendix I. The visual impact assessment generally concludes that in fact the area of most severe visual impact would be in Vermont.

The siting criteria used in the DEIS consider all pertinent factors DOE feels are important in developing a sound transmission line location.

3. COMMENT: 72-5

BY: U.S. Department of Agriculture

Impacts on prime and unique farmland.
Comment --

a. The draft EIS should specifically note effected lands. Definitions are:
Prime farmland is land best suited for producing food, feed, forage, and oilseed crops, and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban built-up land or water). Prime farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Unique Farmland is land other than prime farmland that is used for the production of specific high-value food crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are cranberries, fruit, and vegetables.

RESPONSE:

The land use study, Appendix G, identified ten categories of agricultural land use and specified the impacts on each type. No distinction was made by type of row crop. Because of the generally small portion of lands removed from production due to transmission lines, the impact is expected to be more in the direction of change in land management techniques than in production loss. All agricultural definitions are based on actual rather than potential land uses. At this time, a more detailed identification cannot be justified on the basis of anticipated impact.

RECREATION

1. COMMENT: 9-10

BY: Jackman Planning Board

The area of the transmission corridors passes through an area of watershed for many of our local fishing ponds and streams. The effects that would be felt from such a chemical intrusion of herbicides used to control growth within the corridor would affect the quality of our vacationland and personal enjoyment of our recreations.

RESPONSE:

The maintenance program that would be used to control vegetation in the area would utilize to the fullest extent practical mechanical cutting methods; use of herbicide would be kept to a minimum. Great care would be taken to assure that the herbicides, if used, would not be applied within 300 feet of a stream or water body. DOE feels that through proper mitigation, little if any impact would occur to the recreation resources of the Jackman area.

2. COMMENT: 13-16

BY: Valley Residents Against Dickey-Lincoln

p 2-79, #5 The importance of the landscape to recreational value is stated. What effect will the visual impact of transmission lines have on the recreational value of this large section of Maine woods? Has the loss of some recreational value due to the transmission lines been included in the cost of the project?

RESPONSE:

A key factor in the recreation impact analysis was an assessment of the visual impact the transmission line would have on people using all recreation sites that could in fact see the line. A full discussion of these impacts is presented in Appendix I, pages B-35 through 43, and is summarized in Section 3.12 of the DEIS. The loss of recreational values due to the transmission line has not been included in the cost of the project.

3. COMMENT: 32-1

BY: Carleton Schaller, Jr.

2) I was an enthusiastic supporter of the creation of the Allagash Wilderness Waterway. I have canoed the Allagash, or portions thereof, 3 times since 1967. I am appalled to learn that the transmission lines would cross the northern part of the Waterway. What does this do to the wilderness character of the Allagash Wilderness Waterway.

3) I have camped in Groten State Forest, Vermont, with my family on several occasions. I am appalled to learn that the transmission lines will traverse this scenic recreational area.

4) The height of the towers in New Hampshire (some 135 to 180 feet high) will constitute a monstrosity on New Hampshire's scenic landscape.

RESPONSE:

The Dickey-Lincoln School 138-kV line is planned to cross the Allagash River immediately opposite the Dickey Substation, more than three miles north of the northern boundary of the Allagash Wilderness Waterway. It would have no effect on the wilderness character of the wilderness waterway area.

The proposed route for the 345-kV single circuit wood pole line between Moore and Granite Substations crosses the southern tip of Groton State Forest for about ! mile. In this area the new line is proposed to be located adjacent to an existing 230-kV wood pole line. Impact on recreation viewers has been rated "severe" for this portion. (See Appendix I, p. B-41, Link 44.)

The height of the steel double circuit towers was a factor in route location and visual impact assessment.

4. COMMENT: 46-3

BY: Society for the Protection of New Hampshire Forests

Despite the claim that many of the roads used in construction would be closed following project completion, we would suggest that snowmobile, ATV, and 4-wheel-drive access to previously inaccessible areas does not constitute recreational value or enhance the experiences of wildlife or present low impact recreational users.

RESPONSE:

DOE is unable to specifically relate this comment to statements in the EIS. In general, the Visual-Recreation Resources Impact Study discussed increased recreational value for trail access along the transmission line rights-of-way. As stated, wherever the rights-of-way would link with an existing snowmobile trail, there may be an increase in recreational opportunity due to greater access. Also, the rights-of-way themselves may provide access as snowmobile trails. As such, DOE feels that there may be some recreational value associated with the proposal. However, in terms of the evaluation of impact, only the effects of the proposed facilities on existing snowmobile trails were assessed. In the assessment, the institution of the transmission facilities was found to have either a low or moderate negative impact on the various trails depending on how the proposed alignments crossed or ran parallel to the existing trails. Higher impacts were not assigned because of the relative compatibility of access from existing snowmobile trails to the proposed rights-of-way.

In addition to the findings relative to trails, the DEIS notes comments provided by the New Hampshire Office of Comprehensive Planning, wherein the recreational benefits of the transmission facility rights-of-way for such activities as snowmobiling were identified as being positive.

5. COMMENT: 52-7

BY: Appalachian Mountain Club.

The category "recreation relocation" concerns us as recreationists, but to see these effects listed as positive is bewildering. We feel that the diminishment of the quality of recreation, aesthetics, and wilderness character are all effects which cause "recreation relocation" of great significance, and these are NEGATIVE impacts. The most significant "taking" of wilderness values occurs in the several instances where public lands are affected. Mitigation of these losses should include purchase of equivalent recreation lands in the public domain, and be included in the cost side of the ledger.

RESPONSE:

The discussion of recreation relocation relates specifically to activities which currently occur on or may be introduced to the transmission line right-of-way. Treatment of the larger issue of wilderness and aesthetic values is provided as separate discussions in Section 3.09.1.15 and 3.09.1.16 of the DEIS and much more extensively in Appendix H, Section V. The impact summary table in Appendix H,

Section II indicates the negative impacts identified for aesthetic and wilderness value losses. Recreation relocation addresses both the activities which will be displaced and those which will be introduced. What is a negative impact for one group is a positive impact for the other. Both types of impacts have been identified. Without an extensive inventory of all recreation activity and projected demand for each type, any statement as to the relative importance of one activity over another would be a value judgement subject to immediate challenge.

6. COMMENT: 71-1

BY: State of New Hampshire Office of Comprehensive Planning

The Draft EIS exhaustively treats many concerns associated with recreation and the environment along the transmission corridor. However, in its ambition to show that all things have been considered, the Draft comes across as a document prepared for any and all eventual defenses of the project. In doing this the Draft avoids making statements of the possible positive features of the project if it is undertaken.

Several recreational benefits could accrue with minimal expense to the overall project cost. Multiple use of the right-of-way for trails is an example. Access points to rivers and parking for trail and river users could be advocated. Certainly, there is positive benefit from the revegetation and proper maintenance of the right-of-way for wildlife of certain types. Depending on whether the property is operated by the Feds or by a private company leases and use agreements for multiple uses of the land need to be considered at the outset. They cannot be treated as add-ons. A policy statement with backup material needs to be presented in the EIS to treat this matter.

RESPONSE:

As pointed out, transmission line rights-of-way can be positive recreational features. This is mentioned on page 3-90 of the DEIS under discussion of recreational impacts. Due to the inability to anticipate the wishes of various landowners along the proposed transmission lines, or recreational needs at specific locations along the route, it was not considered appropriate to speculate with respect to possible recreational benefits. The comment states the need for a policy statement with regard to incorporating possible recreational benefits at the outset of this project. Should the Dickey-Lincoln School Lakes Project be authorized for construction, DOE will be willing to work with recreational agencies along the proposed transmission line routes to identify possible recreational development which might be accommodated by the rights-of-way.

Through such consultations, perhaps recreational benefits from creation of the transmission line right-of-way may be more fully realized.

7. COMMENT: 73-5

BY: State of Maine Department of Inland Fisheries and Wildlife

Page 2-100, Paragraph 2, Line 7 - The term "Great Ponds" is used and defined incorrectly.

RESPONSE:

According to the Maine revised Statutes Annotated - Title 38, Chapter 3 of October 1975, a "Great Pond shall include any body of water which in its natural state has a surface area in excess of 10 acres, and any inland body of water artifically formed or increased which has a surface area in excess of 30 acres, the shore of which is owned by 2 or more persons". As such, the term Great Pond does not connote remote characteristics. The only cases where great ponds were identified as having remote characteristics are those defined by the Land Use Regulation Commission (LURC) as being "remote trout ponds". In such cases, the areas around the remote trout ponds were mapped in the Visual-Recreation Resources Impact Study Map Volume 1 as "Proposed Recreation and Conservation Areas".

8. COMMENT: 80-2

BY: U.S. Department of the Interior

The final statement should identify recreation areas and parklands such as Allagash Wilderness Waterway which have received financial assistance from the Land and Water Conservation Fund. Any crossing of those lands would directly involve the jurisdictional interests of this Department. The use of Land and Water Conservation Fund assisted lands for the project would require the Secretary of the Interior's approval pursuant to the conversion requirements of Section 6(f) of the Land and Water Conservation Fund Act. That section provides:

> "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with then existing comprehensive State outdoor recreation plans and only upon such condition as is necessary to assure the substitution of other recreation properties of at least

equal fair market value and of reasonable equivalent usefulness and location."

In addition to identifying Land and Water Conservation Fund assisted areas to be crossed by the transmission lines, the final statement should specifically note the type of crossing, i.e., whether solely an areal easement or some other type. The applicability of Section 6(f) should be discussed.

RESPONSE:

The proposed transmission facility alignments do not cross any LAWCON assisted areas. The only LAWCON assisted area near the proposed transmission facilities is a parking area for the Pine Mountain Wildlife Management Area located in the Town of Groton, Caledonia County, Vermont. The parking area is not actually crossed but is located approximately 350' from the centerline. It should also be noted that the proposed alignment in its vicinity would share the right-of-way of an existing transmission line.

Regarding the Allagash Wilderness Waterway, the transmission facilities do not cross it but may be visible from a small portion of the northern tip of the area located approximately two miles to the southeast.

9. COMMENT: 80-3

BY: U.S. Department of the Interior

Several sections of the draft statement incompletely identifies candidates for the National Wild and Scenic River System. A complete list is: Baker Branch, North Branch, Penobscot River (Abacotnetic Stream), South Branch of the Penobscot River, Moose River, Kibby Stream, and the Connecticut River. Appropriate changes should be made in the final statement.

RESPONSE:

The final statement will be amended to reflect all candidates and study candidates for the National Wild and Scenic River system which are crossed or which would view the proposed facilities. From Dickey to Moose River, Baker Branch, Abacotnetic Stream and South Branch Penobscot River would be crossed. In addition to these three rivers, the North Branch Penobscot River would view the proposed facilities. From Moose River to Moore, Moose River, Kibby Stream and the Connecticut River would be crossed.

10. COMMENT: 80-4

BY: U.S. Department of the Interior

We note a significant omission which is not covered in either the socio-economic or recreation sections. This is the impact on the public use of fish and wildlife resources through fishing, hunting, and trapping. The natural environment through which the transmission line would be built, supports a wide variety of fish and wildlife, as noted elsewhere in the draft statement. The fish and wildlife, in turn, support a tremendous amount of fishing, hunting, and trapping and incidental nature study and wildlife photography. Human use of these resources then generates considerable expenditures for licenses, permits, clothing, equipment, supplies, travel, lodging and for maintenance of hunting dogs. This public use of fish and wildlife resources in the more remote areas of the affected states is a significant factor in total resources management and in the economy of the area. As such, it should be addressed in the final statement.

RESPONSE:

The Visual-Recreation Resources Impact Study, Appendix I, specifically addressed the potential impacts of the transmission facilities on existing, proposed and/or potential recreational sites, areas and features. In assigning pre-emptive impacts, an attempt was made to evaluate the effects on the user(s) at specific sites, areas and features. In assigning recreational viewer impacts, an attempt was made to evaluate the effects on the viewing activities of the user. As such, the notion of impact on the public use of fish and wildlife resources through fishing, hunting and trapping was addressed through the site/user assessment (pre-emptive impact) and the viewer/user assessment (recreational viewer impact). These assessments of impact were meant to be responsive to the relative compatibility/incompatibility between the proposed facilities and the existing recreational resource base; to the relative number of viewers associated with a given recreational site, area or feature; and to the user's dependency on the enjoyment of scenery, to derive value from their recreational experience. Impacts associated with expenditures for licenses, permits, clothing, equipment, supplies, travel, lodging, and for maintenance of hunting dogs, and to the economy of the area were not assessed in the Visual-Recreation Resources Impact Study, but were evlauated to varying degrees in the Socio-Economic Impact Study.

However, without a complete market study of supply and demand of recreation activities throughout the wilderness area, it is purely conjecture to attach a dollar value to recreation impacts. Most recreation activities in the area are at least somewhat transient and thus may be expected to be relocated rather than cease within the region. Except for some isolated lodging facilities, most

recreation expenses occur outside of the impact area. These expenditures can be expected to continue even if there is a slight shift in the location of recreation activities.

VISUAL

1. COMMENT: 11-4

BY: Mary M. Grow

Another example is the judgment that the more traffic on a highway, the greater the visual impact of transmission lines. That's nonsense; motorists on roads like US 201 and I-95 have to watch the traffic, not the scenery. The drivers who prefer to dawdle along deserted back roads are the ones who'll notice and resent transmission lines.

RESPONSE:

DOE does not find the consultants' judgment to be "nonsense". First, I-95 is used by a much higher number of people than any "back road" or group of "back roads" in the state. As such vacationers, hunters, travelers, and other recreationists headed to points along the coast, north, or west, are likely to experience it. Its image thus has become very important in confirming Maine as a "vacationland" (in much the same way as the New Jersey Turnpike has created an image for that state). In the same vein, Route 301 is, in whole or in part, a sightseeing and fall foliage route.

Further, the point concerning the issue of driver attentiveness, does not coincide with the findings of numerous highway research studies regarding attentiveness and road type.

Limited access highways, particularly those which are not urban expressways, are the type of road which is most conducive to a state of relaxed attentiveness. This is usually a function of reduced traffic congestion; a constant or relatively constant road speed; their use in long distance travel; and, the elimination of an oncoming traffic lane. What's more, due to the topographical siting criteria for such highways, they are generally located in landscapes which would afford extensive and lasting views of transmission lines located adjacent to them. "Back roads", on the other hand, usually require maximum driver attention as they are generally no more than two lanes wide, and are used primarily during short distance travel. Because they usually follow the contours of the land, with numerous bends and turns, they have a lower environmental impact but also a lower likelihood for exposure of adjacent transmission lines. The visual exposure of transmission lines is largely a function of the amount of cleared right-of-way associated with any particular road type, and the view angle created by the tree height at the cleared edge. Given the overwhelmingly forested nature of the New England landscape and the decreased right-of-way clearing associated with "back roads", it seems an inordinate number of view experiences along such roads may be classified as "tunnel vision".

The VTN Study (Appendix B), however, placed all roads into one of two classifications of average daily traffic, (ADT). This action may have led to the reference to such examples as I-95, Maine 201 and "back roads". However, due to data availability and the methodological and logistical issues associated with a project of the magnitude of the Assessment of Alternative Power Transmission Corridors it was felt such a sample classification was practical and adequate.

Thus, although DOE recognizes the commentor's concern for "dawdlers", trying to treat this class in the category of all roads with an ADT of less than 3000 would have been much too far-reaching in its consequences. The "dawdling" experience is not well documented and as such can not be understood with respect to spatial or quantitative occurrence. Furthermore, such judgments about roads and viewers are methodologically confined to analysis C-20 - "Decreased visual quality due to visibility exposure". The concern of the analysis is with the number of viewers which might be potentially exposed to the transmission facility.

Nonetheless, the concerns which the "dawdler" represents are dealt with to some extent in this analysis under data item 3.8 -"Designated scenic roads". Similarly, using this category also helped avoid making any false generalities about the view experience along any "back roads" as classified according to ADT.

2. COMMENT: 9-11

BY: Jackman Planning Board

Viewshed -- The transmission corridor will be visible from many locations throughout the Jackman Area. The town is advertised as the Switzerland of Maine, ranking high with scenic beauty and easy access to wilderness conditions. The EIS lists the area as being low to moderate on viewsheds. Just because the land is isolated does not mean it is not seen. In today's age of 4-wheel drive and camping, many vacationers come to the area for wilderness beauty. The infringement of a transmission corridor can only detract from the natural beauty and cause repercussions in our tourist trade.

RESPONSE:

Appendix I and accompanying map volumes, Map Numbers 28 and 29, depict which areas within the Jackman region can see the transmission line. The visual assessment evaluated not only Highway 207, but other less traveled roads in the area to determine the relative viewer impacts. The area was considered to have low to moderate viewer impacts because of the relatively fewer viewers along this

section of transmission line as compared to more populated areas west in New Hampshire and Vermont. It must be pointed out that the Jackman area is indeed of high scenic quality and impact on the landscape quality was rated as high. (See Appendix I, Page B-23.)

3. COMMENT: 13-7

BY: Valley Residents Against Dickey-Lincoln

p 1-16, #2 Are property owners whose land is crossed by transmission lines compensated for loss of property value on any or all of their property affected by visual disturbance due to the lines? Why are not other property owners in the viewshed also compensated?

RESPONSE:

Property owners are paid an easement for the right to construct, operate, and maintain the transmission line. The easement value is determined by the difference in the assessed value of the property before the transmission line and then after it is constructed and in operation. Many factors are considered in determining this differential. Values strictly determined on visual impact would be most difficult, if not impossible to assess. To date, market values on properties within the viewshed, but off the right-of-way, have not been assessed with regard to the effects of visual impact. Compensation is limited to payment for the rights-of-way to the fee title holder for the land area actually included in the right-of-way.

4. COMMENT: 13-22

BY: Valley Residents Against Dickey-Lincoln

p 3-82, #1 The line is visible to more people in Vermont and New Hampshire, but this doesn't mean that putting lines where there are fewer people causes less damage. The Wilderness character of an undeveloped area is greatly damaged by the building of transmission lines which cause the loss of unspoiled vistas.

RESPONSE:

DOE agrees that just putting lines where there are fewer people will not necessarily result in less damage. To this end, visual resources and impacts upon them were defined in Appendix 1 (page 1-6) of the DEIS according to three categories: impact on visual site attractiveness, visual landscape quality, and viewers. Only

the last specifically addresses whether or not the line is visible to people. The other two impact analyses were intended to identify, treat and evaluate impacts on the visual resource-base of the study area. Thus sites (in particular, site attractiveness) and landscapes in general (landscape quality) are inventoried and evaluated for their visual resource value. In neither instance did the impact analysis of these two resources address the visibility of such resources. More specifically, these analyses are based upon the assumption that if a site or landscape were seen, then impact is commensurate with the visual resource value of that site or landscape; -- i.e. the greater the resource value is, the greater will be the impact.

The ultimate resolution and impact assessment of proposed route alternatives had to reconcile the relative importance of the three visual impact categories. Table V.1 (Appendix I, p. V-3) was used to help determine which of the three was considered most important. Total impact-mile scores from the table were used to rank the alignment. The magnitude of the numbers and how they correlate with impact categories is significant. More precisely, the greatest magnitude of impact in segment 'E' relates to viewer impacts. The same is true of segment 'D' but not to the same degree, as here impacts on visual landscape quality are almost co-dominant. Segment 'C' is definitely dominated by impacts on visual landscape quality whereas dominant segment 'B' impacts are on visual site attractiveness, closely followed by impacts on landscape quality. No one impact category dominates along Segment 'A'. In all instances, these measurements and comparative measurements of impact reflect the nature of the areas through which the alignment passes. Thus, examination of this one measure of impact - total impact-miles - reveals the relative importance of each of the impact categories in a given area. This in turn underscores the importance of considering, as the comment points out, criteria other than the visibility of the line to more or less people.

For a clarification of the term "wilderness character", refer to the responses to comments 15-1 and 59-1.

5. COMMENT: 27-1

BY: National Wildlife Federation

A major problem, perhaps the major problem, is the attempt to evaluate subjective qualities strictly in numerical terms. One of the greatest effects of the transmission lines will be their visual impact. Since visual impact is largely a subjective reaction, the attempt to measure this impact simply by estimating the total number of people who will see the lines along each route is automatically doomed to failure. What is missing is the attempt to measure the extent of the impact on the individual in different settings.

For example, a person driving along a busy paved highway where there are many signs of human activity may scarcely notice the lines. Thus, even though the lines may be seen by many people, their visual impact may be light. On the other hand, a person driving along a scenic backroad may be jarred considerably by the intrusion of the line, and a person trying to get away from it all in the back-country may feel completely frustrated and cheated by the sudden sight of a huge transmission line.

We can appreciate the fact that those responsible for the DEIS would feel they were leaving themselves open to criticism by making a judgment based solely on subjective criteria. However, since the visual impact is subjective to a considerable degree, it is absolutely necessary that there also be a subjective study of the visual impact of the various routes considered in the DEIS; this study should be performed by people with a recognized sensitivity to such things as natural beauty and the values of recreation in a wild setting.

RESPONSE:

DOE wholeheartedly agrees that any methodology which attempted to measure visual impact "simply by estimating the total number of people who will see the lines along each route" would be "doomed to failure". That is precisely why visual resources and impacts upon them were defined in Appendix I (page 1-6) of the DEIS according to three categories: impact on visual site attractiveness, visual landscape quality, and viewers. The comment, as interpreted, appears more concerned with the precise treatment and methodological fine points applied to the analysis of impact on viewers. The "subjective" criteria, which the commentor believes have been omitted, were indeed included. However, DOE considers these criteria to be objective, as discussed in the response to comment 51-1.

"The extent of the (visual) impact on the individual in different settings" was addressed in two separate impact analyses contained in the Visual-Recreation Resources Impact Study (Appendix I). In particular, the recreation resources component treated, as one of two principal assessment categories, impact on recreational viewers. Recreational viewers were one of four viewer audiences examined in the overall assessment of impact on viewers. Recreational viewer impacts were examined in conjunction with residential, transportation and historic site viewer impacts. The "individual" was thus treated according to the breakdown of viewers within each of these four categories. In all, more than 75 different recreational viewer types, three different categories of residential viewers, four categories of transportation viewers, and historic site viewers were identified. Since each would be located in a unique setting within the study area, impacts were identified for each mile of transmission line and each substation and microwave facility according to the unique interrelationship between the viewing audience and the particular facility. These interrelationships were defined by

such things as: "the intervening distance between the viewer and a transmission facility; the nature of the viewing audience; the extent to which the transmission facility would be seen or blocked from view by vegetation; the nature of the view/viewer orientation, (i.e. looking up at, down at); the existing quality of the view; and the absorption characteristics of the landscape" paraphrased from page 1-24 of Appendix 1.) A composite viewer impact was assigned to each mile of transmission line, substation and microwave facility as a function of the viewer impact associated with the above interrelationships. This is tabulated in Appendix C of Appendix I to the DEIS.

6. COMMENT: 46-2

BY: Society for the Protection of New Hampshire Forests.

We would question many of the DEIS conclusions, our main points of contention relate to visual quality and increased access to back-country areas. Legions of 165' double circuit steel towers marching across the landscape do not in any sense constitute visual improvement of the back-country. (We might also add that, contrary to the DEIS, pending further interviews with perching bird species, the towers are unlikely to be preferable to tall trees for the hunting activities of those species.) There is no acceptable way to document the environmental, visual or economic cost of opening a 365-mile 150-foot wide swath through some of northern New England's finest backcountry areas.

RESPONSE:

The DEIS does not conclude that the steel double circuit towers constitute visual improvement. Section 3.13 and Appendix I present in detail the assessment of visual impacts; all lengths of the transmission line were evaluated as having some degree of negative impact.

It has long been known that many kinds of birds utilize power and communication line structures for perching and nesting. This subject has been documented by researchers in a number of countries. The use of steel transmission line towers by birds has also been well documented. Although birds utilize lines located in all kinds of habitats, most use occurs in areas where few natural resting or perching sites exist.

The DEIS does document in detail the pertinent impacts of the proposed transmission line. DOE feels that the documentation and studies undertaken present a fair and objective evaluation of the serious impacts related to the proposal.

7. COMMENT: 51-1

BY: Hal Clifford

Ten high-impact microwave stations will also be spread over the Maine countryside, and these will have visual on hundreds more square miles due to their exposed locations. The EIS states that these stations will have "little impact" because they will be in remote areas. Actually, an intrusion of this type has a greater impact in a remote area than a populated one.

Of the aforementioned viewshed, 59% is rated as having high "Landscape Quality," 11% as having high "Sight Attractiveness." I think this is a ridiculous, subjective measure. I, for instance, would be inclined to rate close to 100% of the affected area high in these categories, as well as others.

RESPONSE:

In developing this response, DOE is unable to relate either (1). the statement concerning "little impact" because of location in remote areas or (2). the percentage figures stated in the comment with anything written in the DEIS or its appendices.

DOE does not fully agree that "An intrusion of this type has a greater impact in a remote area than a populated one"; and rather contends that the "site attractiveness" and "landscape quality" of remote (unpopulated) areas are impact determinants. Therefore, unless these visual attributes are significantly affected, impact need not necessarily be greater. Moreover, any comment regarding "little impact" could refer only to "viewer impacts" in remote areas. By definition, such an evaluation would seem irrefutable.

Given the body of literature (see bibliography, Appendix E, of Appendix I, p. E-1 to E-4), and the research findings which were incorporated into the methodology for the visual impact assessment, the consultant's measurements cannot be regarded as either subjective or ridiculous. To the extent possible, the research findings contained in the literature were used as a basis for the methodology employed and the formulation of criteria used in the description of the visual site attractiveness and landscape quality of the existing environment. If these findings are an indication, is seems that the general public (the viewer audience relative to which all impact assessments were performed) is more discerning in its deployment of visual quality ratings and would not rate "close to 100 percent of the affected area high in these categories."

8. COMMENT: 51-4

BY: Hal Clifford

Much of the information provided by the EIS is ridiculously subjective. For instance, 29% of the route is rated as having no Visual Impact. I think it would be hard to ignore a 165-foot steel tower on a 150-foot path.

RESPONSE:

The 29 percent of the route that has no visual impact relates only to the measure of viewer impacts which was one of three separate measures of overall visual impact. This figure refers to that length of line which is not in view of any recreation sites or trails, highways, roads, tote and logging roads, railroads, historic sites, residential areas, or any other areas commonly associated with the viewing public. All those areas from which the line would be seen would experience some degree of negative impact.

9. COMMENT: 57-10

BY: Natural Resources Council of Maine

The Manner Of Evaluating Aesthetic Impacts. Our primary concern, set out at the beginning of these comments, that the consultants retained were not given adequate time and therefore opportunity to carry out their respective tasks adequately, also underlies our concern with regard to the aesthetic judgments made. Regardless of any reliance on numerical evaluation systems (see Appendix B), in the final analysis, aesthetic judgments are subjective. Assuming the basic requisite training, experience, and general expertise of those persons, whether consultants or in-house personnel, who made these judgments, a critical question is whether they were given adequate opportunity to make the necessary careful observations in the field as a basis for making their expert judgments. No matter what an expert's general knowledge, he would have to have a good knowledge of the landscape of the potential route areas and of the areas and viewpoints impacted there, if he is to make able judgments as to which routing will minimize visual impacts.

The DEIS, including the selection of the recommended route, fails to reassure us that such extensive observations were made or that they were the fundamental basis upon which routing decisions were made.

RESPONSE:

Needless to say, consultants would not have been selected for, nor staff assigned to, the project if DOE did not have full confidence in their abilities. In all, the efforts involved the work of five landscape architects, two visual resource analysis experts and several engineers and planners. Their combined work experience in New England is in excess of 75 years. Thus, the project team and the visual resource analysts in particular do "have a good knowledge of the landscape of the potential route areas."

Although projects of this magnitude may entail enormous field observation efforts, DOE probably does not place such a high priority on such efforts to achieve a project's success. Vast amounts of fieldwork need not be employed as a basis for making expert judgments. The recently evolving body of research into visual resource analysis attempts to provide information for use in a predictive analysis mode in order to overcome the need for unreasonably extensive field observation. Thus, time constraints were not relevant to the successful performance of aesthetic judgments, irrespective of the fact that the prior experience of the project team member in New England reduced the field time factor further. The method used in the analysis and evaluation of visual resources applied research findings and relied on field observations to verify results and check uncertain conditions. To this end, extensive air (airplane and helicopter) reconnaissance and ground (automobile and pedestrian) observations were conducted by both DOE and consultant representatives.

10. COMMENT: 57-11

BY: Natural Resources Council of Maine

Our concern over this matter is only amplified by some of the criteria used to either quantify, verify, or modify the initial subjective judgments. As Mary Grow points out in her statement (p. 2), VTN decided that--

> "a transmission line would have only a moderate impact on a national scenic trail, like the Appalachian Trail, but a high impact on an intensive recreation area, like a golf course. Most of the golfers I know would't even notice a transmission.... Another example ...that the more traffic on a highway, the greater the visual impact of transmission lines. That's nonsense; motorists on roads like US 201 and I-95 have to watch the traffic, not the scenery. The drivers who prefer to dawdle along deserted backroads are the ones who'll notice and resent transmission lines."

It is hard to believe that if the experts on landscape had made their own extensive observations, they would have found it necessary or desirable to rely on such dubious premises.

RESPONSE:

DOE stands behind the analysis (including these impact ratings) and the premises upon which it is based. A transmission line would have only a moderate impact on a national scenic trail, like the Appalachian Trail, but a high impact on an intensive recreation area, like a golf course. In assessing impact upon a recreational resource such as a national scenic trail one must consider the fact that a trail is a long linear feature to which a 150' segment of transmission line right-of-way is almost insignificant due to the extent of woodland through which the trail passes. In the study area, views of the transmission facility would most likely be limited to the point of crossing (some would even argue that the right-of-way opening would provide access to views otherwise lost, and that the relatively open character of the right-of-way would even be regarded as a source of variety and contrast to the otherwise uniform "tunnel of vegetation"). Further, only a few people using the trail system are likely to pass through the point in question. That the impact would even be moderate is due to the fact that the trail is a "scenic" trail, and its users are predisposed to a high quality visual experience.

A golf course, on the other hand, is a relatively compact areal feature (probably 300 acres maximum) with a rather open character affording numerous views in all directions. A transmission line crossing, or even a line in close proximity, therefore, might tend to dominate the visual experience. Moreover, the viewing audience would be concentrated at the site and would have little chance for escape.

The second example is discussed at length in the response to Comment 11-4. This issue, like several others discussed in the Comment-Responses, is one about which opinions will differ. Not everyone will agree with the position indicated in the above comment. DOE understands and appreciates the position naturalists and environmentalists take on these issues. However, the responsibility of the multidisciplinary teams and decisionmakers is to consider all environmental, engineering, and economic factors from a balanced perspective of the people in the region--their set of values. DOE believes the analysis and decisions made for the transmission facilities to be responsive to that need.

11. COMMENT: 57-12

BY: Natural Resources Council of Maine

Furthermore, while a series of public meetings and hearings have been held in the areas impacted, there is no evidence that any local citizens knowledgeable about the most aesthetically significant areas or impacts were actively sought out and consulted about least offensive routing possibilities from <u>their</u> perspectives. Again, time limitations (self-imposed) probably any such extensive cooperative observations and discussions.

RESPONSE:

Three, not one, series of public meetings were held in the region to provide opportunity for public input. These meetings were announced through paid advertisements in all daily and weekly newspapers in the affected region. Press releases were distributed to television and radio stations which carried spot announcements about the meetings. A considerable amount of publicity was given to the discussions in the meetings in news media after the meetings were completed. It was publicized that written comments were at anytime welcome at the DOE Bangor office.

DOE firmly believes that if any serious consideration had been overlooked, it would have come to light. Time limitations (self-imposed or otherwise) are not a factor here.

12. COMMENT: 57-13

BY: Natural Resources Council of Maine

The schedule for collecting aesthetic data also gives rise to concern. From February 9 through 25, 1976, Comitta Frederick Associates carried out all of its interviews at the "offices of Federal, State and local agencies, private groups and major landowners in Maine, New Hampshire, Vermont and Massachusetts" . . . for the purpose of assessing the availability of relevant publications, reports, maps, etc." on 21 different complex and often technical topical areas, including aesthetics. It is difficult to believe that in that period of time all of the most significant sources of information and knowledge regarding aesthetics, particularly knowledgeable individuals, could have been either interviewed or all of the relevant data collected.

RESPONSE:

The February effort referred to above was a data reconnaisance mission to identify as many sources of important environmental data as possible. The resulting Environmental Data Reconnaisance Report was made available to all parties who subsequently participated in the studies. In this way, it was not neccessary for all subsequently involved parties to duplicate the data reconnaisance effort.

This report has not been represented to include all of the most significant sources; it does, however, present most of them. Throughout the 2! year study effort, DOE and it contractors have continued to seek all available additional sources of information.

13. COMMENT: 57-14

BY: Natural Resources Council of Maine

In the light of the foregoing difficulties regarding aesthetic impacts and judgments, it is imperative that the public be advised of--

1. The identity, training and experience of those persons who made the aesthetic judgments affecting routing decisions.

2. The number of hours of observations on the ground and from the air, where those observations were made, by each individual, and for what purposes.

3. A description of and rationale for each significant aesthetic judgment made.

Only if such information is made available will the public be able to make informed judgments and comments on these critical decisions.

RESPONSE:

The identity, training and experience of those persons who made the aesthetic judgments affecting routing decisions in public information contained in DOE files in Bangor, Maine. These files are open to review and discussion with DOE staff. As indicated in the response to comment 57-10, DOE has full confidence in the professional abilities of the staff and consultants assigned to the project.

The response to comment 57-10 addresses the issue of adequate time and number of landscape observations regarding the visual studies. Field work related to the visual impact assessment was performed on the total length of the line during the winter, spring, and summer of 1977. All significant features along all alternative and proposed routes were examined either by helicopter, on foot or by vehicle. Those performing the field visits include the project managers, the DOE environmental staff, consultants and location engineers.

DOE feels that the description of and rationale for each significant aesthetic judgment is provided in the documentation provided in Appendix 1, particularly within the methodology section, pages 1-1 through 1-25. Also refer to responses to comments 57-10 through 57-13 and comment 11-4.

14. COMMENT: 67-2

BY: State of Vermont Agency of Environmental Conservation

An assessment relating to the potential scenic impact particularly along the Route 2 and Interstate 89 corridor, should be undertaken to thoroughly evaluate the visual effects of the transmission line.

RESPONSE:

All areas that could view the line were studied to determine the scenic impacts, as reported in Appendix I. If the line is approved for construction, DOE will conduct additional detailed on-site visual studies to aid in determining final centerline location to minimize impact and to develop appropriate visual mitigation.

15. COMMENT: 72-1

BY: U.S. Department of Agriculture

Exceptions to crossing of streams at right angles might be called for at times. A more natural opening might be visible from the stream, under some conditions if the power line and cleared area reached the stream at an angle.

RESPONSE:

The comment with respect to stream crossings will be taken into consideration in detailed siting of the transmission line centerline.

16. COMMENT: 72-11

BY: U.S. Department of Agriculture

Page 5-3 says the line will be visible from "a small portion of the Allagash Wilderness Waterway." Just this "small portion" might ruin the wilderness experience for some people. It would be better if they could avoid such visual impact completely.

RESPONSE:

DOE feels there is little cause for concern. First of all, this statement has been made based upon the inclusion of less than two tenths of a mile of the waterway, at its terminus, in the viewshed for the transmission line. Viewsheds were delineated in a most

conservative manner -- i.e., any area, which might potentially view the line was included in the viewshed. Moreover, viewsheds were defined almost exclusively using topographic criteria with little regard for intervening opaque vegetation. Thus, the statment must be qualified to state the extreme unlikelihood of the line being seen from the waterway. Second, the viewing distance would be more than two miles and much of the line would be blocked by intervening vegetation. The backdrop for the line would be dense woods along a hillside. Third, the portion of the waterway is coincidental with Twin Brook Rapids, and as such, is an area which would require a tremendous amount of concentrated attention on the part of potential viewers. Thus, it is DOE's feeling that there is virtually no likelihood for impact; but should impact occur it would be extremely slight.

17. COMMENT: 76-5

BY: Carole Coley

Jackman is one of the few towns struggling to sell scenic beauty to vacationers. How can we possibly sell our area to visitors for fishing and hunting and scenery after a project like Dickey-Lincoln? Will there be any fish left in the streams that receive runoff after you spray herbicides?? Will our local scenery be anything to look at once it is traversed with a Transmission line????

RESPONSE:

The Visual-Recreation Resources Impact Study identified the Jackman area as one of the most scenic areas along the entire route. The study pointed out that there will be high impacts on visual landscape quality. It is doubtful whether there will be any significant impact on the ability of Jackman to attract visitors. The ecological study did assess the impact on the water and fisheries in the area and did not identify any streams where there would be a high fish kill. Section 4.04 of the DEIS discussed the mitigation that DOE would undertake to lessen any impacts on fish and wildlife in the area. The EIS discusses the overall impact that would occur on the scenic quality and it is assumed that in certain areas, notably north and west of Jackman, there would be a high negative impact on the scenic quality.

18. COMMENT: 77-1

BY: Harvard Environmental Law Society

The DEIS does not give an accurate and instructive indication of the true effects upon the visual and recreational resources along

the route of the 150 foot wide corridor. In particular, the crossing of roads, trails, and waterways at a perpendicular angle with no doglegs will create long unsightly vistas in an area which has been free of this sort of eyesore. Moreover, the location of the right-of-way ("ROW") has not been accurately established. The result is that it is impossible for those who will be affected by the ROW to gain a true picture of what that effect will be.

RESPONSE:

Visual and recreational impacts were assessed using a 1/2 mile wide route with an assumed centerline. DOE feels that the extent of impact assessment is consistent with the level of planning that was undertaken. Until such time as a precise centerline and route design is completed, tower and access road locations determined etc., the site-specific issues raised cannot be fully studied. Key road, water, and trail crossings will be more fully studied to minimize visual impacts when the precise centerline is determined.

FORESTRY

1. COMMENT: 10-1

BY: Union River Electric Cooperative, Inc.

Some testimony given was on land values. I am a real estate broker, licensed in the State of Maine and a Plantation Tax Assessor, so I feel free to comment on the land values used in the Environmental Impact Statement. I am at this time offering for sale woodland of 10 acres or more for $450.00 per acre. I also have a buyer offering a price of $150.00 an acre for woodland, so it would seem that the land values used in the study were practical for this purpose.

RESPONSE:

Land values in the timberlands of western Maine and northern New Hampshire are based on present value of standing timber capitalized over a project life of 100 years.

2. COMMENT: 12-1

BY: Maine Citizens For Dickey-Lincoln

The right-of-way for the transmission lines represents an "opportunity cost" of $4,495,214, according to the DEIS. This is the supposed worth of the timber that could be grown and harvested in the area over the 100-year life of the overall project. It's a very dubious figure, especially since the annual rate of inflation is assumed to be three percent. But however approached, there is of course a minor loss of timber potential involved here which can be easily made up by better forestry management in the region.

RESPONSE:

While in the short term the inflation rate can be expected to exceed three percent, a long term rate (100 years) cannot be accurately forecast beyond a three percent annual average. Appendix H, p. 151, indicates that a change in management practices can be expected to influence future timber supplies. It was beyond the scope of this study, however, to analyze potential changes in timber volumes due to different management techniques.

3. COMMENT: 51-2

BY: Hal Clifford

The total economic losses over the project life are estimated at $10 million. This seems optimistically low, especially in the light of the fact that the dams are expected to have a life of well over 100 years, and that economic losses in the 288,000 acres of land inundated or ceded by the impoundment could approach $30 million a year.

RESPONSE:

Economic loss of timber resources has been calculated on the basis of the opportunity cost for a project life of 100 years, concurrent with the project life of the impoundment. Based on the estimated total amount of forest acreage to be removed for transmission lines, the estimated opportunity cost of approximately $10 million reflects the most current data on long-term demand and supply projections by timber type affected. Opportunity cost estimates for timber production in the area of the impoundment range from a total of $92.5 million to $155.2 million.

CULTURAL RESOURCES

1. COMMENT: 11-12

BY: Mary M. Grow

I have one more general concern, too, and that is the assumption that omissions in the EIS can be corrected by the contractors and construction crews. This is made explicit in the to-be-imposed requirement that if a construction crew finds an archaeological site, the contractor must stop work and report it and mitigation measures, including "minor redesign of the line" if needed, will be taken. Presumably the same procedure could be applicable to rare plants and so forth. However, in practice, not every contractor would recognize a Viking campsite (for instance) if he found one. And some who recognized it would rather bury it and say nothing than take responsibility for stopping work on a whole section of the line. And if a site were found which required more than a minor redesign of the line, I'm not sure that the Department of Energy would be any more cooperative than TVA was over the snail darter.

RESPONSE:

DOE has not assumed that contractors or construction crews will be held responsible for correcting omissions in the EIS. The comment questions the practice of relying upon a construction contractor to stop work if an archaeological site is discovered during construction. This fails to consider that a detailed and comprehensive archeological survey has been committed to by DOE prior to siting transmission line towers and access roads. DOE will utilize qualified professional people to conduct such surveys. It is well known that not all archeological sites are visible on the ground surface. Many are discovered during the process of excavation. If during construction, a previously unidentified resource were found, DOE would expect to be advised by the construction contractor.

2. COMMENT: 60-2

BY: State of Vermont Division for Historic Preservation

We feel, however, that a positive system and schedule complying with the Advisory Council procedures for the protection of historic and cultural resources, 36 C.F.R. 800.4, ought to be set up with specific reference to this project. This is particularly important in the area dealing with visual impact, as there are matters of professional judgment and evaluation involved.

We have no objections to the potential impacts set forth in the draft environmental statement but feel that they should be integrated with a specific procedure. In any case, there should be specific

mention of the Advisory Council procedures for all aspects involved in mitigation of adverse effect on historic and cultural properties.

RESPONSE:

DOE intends to comply with all applicable laws pertaining to cultural resource protection. This intention is indicated on page 4-12 of the DEIS. DOE representatives will consult with the state historic preservation officers to identify procedures for protecting these resources. It is considered premature at this time to set forth specific procedures, as authorization for construction of this project has not been granted.

ELECTRICAL EFFECTS

1. COMMENT: 4-1

BY: James Leonard Elsman

I find the conclusions relative to Electrical Effects at Sect. 3.18 shallow and uncreative and defensive. They show no recognition of the significant testimony at the PASNY Hearings in New York, and, in particular, of the Staff Reports and testimony of Dr. Marino and Dr. Becker.

It is not enough to say there is no "conclusive evidence" of biological harm. There should be "conclusive evidence" that there is no biological harm. The PASNY Hearings clearly put such latter conclusion in dispute, and you are unable to so conclude.

RESPONSE:

The question of whether or not adverse biological effects result from exposure to electrical fields in proximity to transmission lines is currently being debated.

Concerns have been expressed by a segment of our society on the subject, the issue has been addressed in court litigation, and it is possible to obtain "technical experts" which will support any of the widely diverse points of view on the subject.

The claims of adverse impact from electrical effects have led the electric utility industry to increase very substantially its expenditures for research and development activities designed to resolve the issue. These activities to date have not identified any adverse biological effects from exposure to the electric field levels which exist under the transmission lines presently in use in this country. Preliminary findings from extensive research conducted by Battelle Pacific Northwest Laboratories indicates that electric field levels many times greater than those levels found under transmission lines produced no harmful effects in laboratory animals.[1]

Transmission of electricity at 345,000 volts, as is proposed for this project, is not a new concept. Thousands of miles of 345,000 volt transmission lines have been in service for over thirty years in the United States; several hundred miles are in use in the New England Region. The final opinion of the State of New York Public Utility Commission in the PANSY hearings was that 345-kV lines are widely accepted, and it set the electric field levels at the edge of 765-kV lines to be comparable with existing 345-kV lines.[2].

The Bonneville Power Administration, an agency of DOE, maintains a very complete bibliography of information available on this subject.

Copies of all articles included in the bibiography are maintained in a library on the subject. All articles have been carefully reviewed by a scientific, multi-disciplinary staff. The important factors covered in the articles have been summarized and discussed in a comprehensive review paper.[3]

The results of the Soviet studies must be evalutated in the light of other available information. The Soviet reports of effects of electric fields on substation workers has been unsubstantiated by experience in this country and elsewhere. Demonstration of a causal relationship between electric fields and physiological or psychological symptoms in a complex work environment is difficult at best. The Soviet studies do not clearly demonstrate such a relationship. For example, Maruvada et al, (1976)[4] believed that the effects reported by the Soviets can be explained by existing stress syndrome theory. In this case, stress in the workers could develop as a result of their receiving frequent and sometimes painful transient discharge shocks. It is possible that these shocks rather than the electric field per se may result in biological effects such as nervous reactions, impotence, etc. Bridges (1977)[5] has pointed out that the Soviets attributed the reported effects to the electric field without measurements of other factors present in the Russian substation evnrionment which could possibly be important concomitant factors, e.g., acoustical noise, vapor pollutants.

Because of the lack of confirming evidence and the possibility of other causative agents, emphasis should not be placed on the Soviet results. The bulk of evidence indicates that any effects attributable to electric fields of the magnitude found under transmission lines are very subtle or nonexistent.

The problems associated with electric shocks from induced currents and voltages under transmission lines have been recognized for years in the power industry. They have not posed a problem with 345-kV lines. However, appropriate mitigative measures have been devised. Grounding practices for fences and buildings serve to eliminate most sources for nuisance-type shocks.

DOE appreciates the Appalachian Mountain Club's calling the omission of "field effect" data from microwave facilities to our attention. That item should be addressed. Present U.S. standards for exposure to this type of field is 10 mw/cm^2 (milliwatts per square centimeter) for short term exposure (6 minutes) or 1 mw/cm^2 for indefinitely long-term exposure.

The microwave stations projected for use in operation and control of these facilities are very low power-level stations. The worst case situation of 1/2 watt at the antenna results in 0.076 mw/cm^2 worst-case, near-field intensity. This is less than one-tenth the allowable long-term exposure level.

Additionally, the microwave energy is confined in a narrow beam, line-of-sight path which is propagated in an area above the earth not occupied by humans.

Footnotes:

1. Battelle Pacific Northwest Laboratories. "Biological Effects of High Strength Electric Fields on Small Laboratory Animals." Annual Report April 1977 to March 1978. U.S. Department of Energy Contract EY-76-C-06-1830. April 1978.

2. State of New York Public Utility Commission. "Opinion and Order Determining Health and Safety Issues, Imposing Operating Conditions and Authorizing Operation Pursuant to those Conditions." June 19, 1978, p. 41.

3. J. M. Lee, et al. "Electrical and Biological Effects of Transmission Lines: A Review." Bonneville Power Administration, Portland, Oregon. 1977.

4. Maruvada, P.S., N. H. Cavallius, N. G. Trinh, and M. DeVizio. 1976. Electrostatic Field Effects from High Voltage Power Lines and in Substations. Page 36-04 presented at the International Conference on Large High Voltage Electric Systems.

5. Bridges, J. E. 1977. Environmental Considerations Concerning the Biological Effects of 60 Hertz Electric Field Environments. Paper presented at the 1977 IEEE Winter Power Meeting.

2. COMMENT: 11-11

BY: Mary M. Grow

The second problem is the unresolved question of the biological effects of the electrical fields the transmission lines would cause (pp. 3-125 to 3-132). Unitl firm data are available, it seems desirable to postpone building transmission lines according to current specifications.

RESPONSE:

See response to comment 4-1.

3. COMMENT: 13-2

BY: Valley Residents Against Dickey-Lincoln

We are concerned about possible health effects (on man, on wildlife, and on plants) as a result of living near high-voltage transmission lines. Although the DEIS tries to reassure us about the lack of evidence for health effects (DEIS, pp. 3-124 - 3-132), there seem to be disagreements on test results from a number of experimenters. Long-term effects are hard to measure. Also, the annoyance, if not hazard, of shocks from conducting objects near the transmissions lines is a definite negative impact.

RESPONSE:

See response to comment 4-1.

4. COMMENT: 52-4

BY: Appalachian Mountain Club

We feel that the risks to public health and safety have been understated, particularly since the 12 proposed microwave facilities and the attendant health risks to the general public of these is not even addressed.

RESPONSE:

See response to comment 4-1.

5. COMMENT: 52-6

BY: Appalachian Mountain Club

We find no statement as to the health risks posed by long-term exposure to electric and magnetic fields, which has become quite an issue elsewhere in the United States.

RESPONSE:

See response to comment 4-1.

6. COMMENT: 77-3

BY: Harvard Environmental Law Society

The DEIS also understates the effects of the transmission lines electrical field on objects and living creatures within its vicinity. There have been many reports of large shocks under certain conditions which have made life for farmers and others living near powerlines, particularly ones as large as this one, extremely unpleasant. There is no indication in the DEIS that there will be any attempt to recompense those who will have to live with the fear of electrical shocks for the damage done to the piece-of-mind. The DEIS seeks to play down the Russian studies, although responsible scientists in the country have found them to be a cause for concern.

RESPONSE:

See response to comment 4-1.

MITIGATION

1. COMMENT: 13-8

BY: Valley Residents Against Dickey-Lincoln

p 1-16, #4 Will reseeding of construction roads not needed for access roads be part of the contract to guarantee it gets done?

RESPONSE:

DOE, in preparing this EIS, has assumed that it would be responsible for construction of the proposed facilities. Under this assumption, roads required for maintenance purposes would not necessarily be seeded unless for erosion control. Roads built solely for ease of line construction would be graded and seeded so as to replicate prior conditions. The access roads utilized by the construction contractor are located on maps and given numerical designations. The construction contract will speak specifically to each access road and set forth requirements of the construction contractor, including any reseeding requirements.

2. COMMENT: 13-24

BY: Valley Residents Against Dickey-Lincoln

p 4-1, #4 Who hires and pays for the inspectors?

RESPONSE:

DOE has assumed that it will construct and own the proposed transmission lines. Under this assumption, DOE would hire and pay the salaries of the construction inspectors.

3. COMMENT: 13-25

BY: Valley Residents Against Dickey-Lincoln

p 4-6, pt. 1 Restricting public access by snowmobiles, etc. once roads are built into remote areas is a pipe dream!

RESPONSE:

DOE will cooperate with the fee-owner of the property to try to control use of the right-of-way area to these acceptable to him and compatible with powerline reliability and safety needs.

Restriction of snowmobile travel along cleared rights-of-way and access roads may not be entirely possible. The intent of point 1 on page 4-6 was to indicate that vehicular access into remote areas could be restricted.

4. COMMENT: 13-27

BY: Valley Residents Against Dickey-Lincoln

p 4-10, pt. 2 "Where desirable, homes may be moved away from the right-of-way to an adjacent site." When will homes be moved at government expense--only when they are directly in the right-of-way, or when they are adversely affected by the near presence of the lines? Who makes the decision that action should be taken--the homeowner or the government? What recourse does the homeowner have if there is a disagreement?

RESPONSE:

The comment is directed at procedures for moving or acquiring homes located within or adjacent to a proposed right-of-way. Normally, only those homes within the right-of-way are moved at government expense. In some instances, where a right-of-way would reduce the size of an existing property, making it unsuitable for its previous use, homes are also acquired. The determination of which action is required is normally initiated by the government. A homeowner may disagree or object to the government's determinations. In such instances, the landowner may present his objections within a court of law at the time of easement acquisition.

5. COMMENT: 13-28

BY: Valley Residents Against Dickey-Lincoln

p 4-13, pts. 2 & 3 To whom do residents complain about radio or TV interference from the lines or grounding of metal structures under the lines? Will such processes be free to the affected residents?

RESPONSE:

If the project is built and the transmission facilities are constructed by the Federal government, a DOE office will undoubtedly be established somewhere in New England to manage the project.

Citizens encountering this kind of problem which they suspect may be due to the transmission lines can report information to the DOE. If it is documented that the problem is caused by DOE facilities, corrective action would be taken at DOE expense.

6. COMMENT: 41-3

BY: Jan Wells

That the section on mitigation strategies is an perfunctory as it is. Let me say a little more on this last point.

Possible impacts on wildlife habitats caused by the transmission line would include fragmentation of otherwise unbroken forested tracts and possible introduction of the cowbird into areas now recognized as "...probably the most important (area) in the United States for nesting warblers and vireos," birds parasitized by the cowbird. (p. 3-34) Impacts on potentially important wolf habitat, the importance of maintaining wooded vegetation in the right-of-way for the snowshoe hare, and possible harmful effects of linking now seperated populations of other species of wildlife are similarly noted. But the mitigation measures sketched out -- and sketched is all they are -- largely fail to apply creative effort in meeting these problems. Indeed, there is no indication that corridor maintenance will not follow traditional practices of maintaining mile after mile of straight-edged, cleared swaths. The occasional hint in the report at leaving intact some higher vegetation and some mature timber (only at road and river crossings, as I understand it) should be expanded and made more specific with regard to mitigating impacts on existing habitat values. The same may be said of trying to maintain as nearly as possible existing conditions of remoteness.

RESPONSE:

It was not the intent of DOE to be perfunctory with regard to mitigation strategies. However, as a defense for the mitigation measures included within the EIS, the following is offered. At the present stage of the Dickey-Lincoln School Project, it is DOE's understanding that the project EIS is intended to serve as a source of information to decisionmakers regarding the possible effects of a decision to construct the transmission lines. A great deal of additional and detailed investigation is required prior to its

construction if authorized. For example, a centerline for the transmission line route has not been precisely selected, but rather would be located within the one-half mile wide route area. Once a centerline is selected, impacts upon wildlife habitat and individual species may be more specifically identified and in turn, specific mitigation strategies derived. It is the intention of DOE to retain the services of qualified consultants to assist in centerline location and minimization of impacts upon wildlife habitats. The DEIS tends, perhaps, at times to overstate potential impacts. If this is so, it results from DOE's desire not to underestimate such impacts, because of the inability at this time to fully establish or project the possible effectiveness of mitigation.

7. COMMENT: 61-1

BY: State of Vermont Agency of Environmental Conservation

The Vermont State Air Pollution Control Office has reviewed the Draft Environmental Impact Statement with regard to the potential air pollution impact from clearing operations outlined in Section 4.02 "Mitigation of Atmospheric Impacts."

The 1977 Amendments to Section 118 ("Control of Pollution From Federal Facilities") of the Clean Air Act broaden the section and clarify that Federal agencies and their activities must comply with "all" requirements of State air pollution laws to the same extent as any person. A new sentence has been added to subsection (a) which states that the requirements which must be followed are "any requirement whether substantive or procedural," including requirements regarding "permits." The Conference Report on the Clean Air Act Amendments of 1977 (No. 95-564) reinforces the new language by stating, concerning Section 118: "The conferees intend, by adopting the House amendment, to require compliance with all procedural and substantive requirements . . . and to subject such facilities to State sanctions." (p. 137)

Federal activities causing air quality impacts due to the construction of transmission lines through Vermont in connection with the Dickey-Lincoln School Lakes Project (as delineated in Section 4.02 "Mitigation of Atmospheric Impacts" on the Transmission Draft EIS) would therefore clearly be subject to all applicable State, as well as, Federal regulations.

Section 5-201 (Prohibition of Open Burning) prohibits any open burning except as provided for in Section 5-202 (Permissible Open Burning). Under subpart 8 of Section 5-202, open burning in remote areas may be allowed only if written permission is obtained from the Air Pollution Control Officer and approval is obtained from all other officials having jurisdiction (such as local, state, or Federal fire wardens).

The Air Pollution Control Office will require that all merchantable logs be removed, and that all other wood products be chipped. The wood that must be removed should not be viewed as waste, but rather as an important fuel source that should be utilized as efficiently as possible. Open burning will be prohibited except in extreme circumstances where it is not feasible to use a chipper. There are approximately 1,300 acres of woodland in Vermont that must be cleared for the right-of-way. At 40 cords of wood per acre, there are approximately 52,360 cords available of which 20% or 10,470 cords will be merchantable logs. There then remains 41,890 cords or 104,700 tons of wood that must be removed and disposed of. This has a stumpage value of $1.00 per ton as chips and a market value of approximately $12.00 per ton delivered to a wood burning facility. There are presently three wood-fired boilers along the proposed transmission route that burn wood chips.

Conversely, if the wood, excluding merchantable logs, is disposed of by open burning, large quantities of particulates (TSP), carbon monoxide (CO), and hydrocarbon (HC), which would have a significant impact on the air quality, would be generated. Based on emission factors developed by EPA, the following emission estimates were made: particulates - 900 tons, CO - 7,329 tons, and HC - 1,256 tons. This would have a serious impact in the Burlington and Barre areas which are non-attainment for TSP, and Chittenden County which is non-attainment for oxidant (HC).

In conclusion, in order to maximize a value source of energy and to minimize the impact on the air quality, removal of merchantable logs and chipping of all other wood will be required for all clearing operations associated with the transmission project in Vermont.

RESPONSE:

DOE appreciates the citations of applicable rules and regulations presented by the Vermont Agency of Environmental Conservation. That information will be helpful if the project is constructed.

DOE shares with commentors the desire to maximize the use of materials resulting from the clearing activity. Economic considerations will, of course, need to be considered in developing a plan for disposal of the material.

DOE is committed to fulfilling its responsibilities on the project in compliance with legal requirements applicable to it. DOE's activities will be guided in this respect by the concept of Federal supremacy. It will be subservient to non-Federal regulations only where it is required by Federal regulations.

DOE will work with local organizations in an attempt to work out mutually acceptable procedures for disposal. DOE team members have had extensive experience with a number of disposal techniques:

open burning, forced draft burning, tub burning, chip and scatter, chip and bury, chip and pile, lop and scatter, etc. Each of these methods has its own advantages and disadvantages--environmental and economic. Development of a plan for disposal will consider all of these alternatives.

8. COMMENT: 72-7

BY: U.S. Department of Agriculture

In addition, we observe that many of the measures listed in sections 4.01 - 4.10 are not mitigation because:

1. Some measures are actions required by Federal or State law or regulation (e.g., LURC Statutes, Zoning Requirements, Great Ponds Act, Stream Alteration Act, Endangered Species Act, 1973). Not doing something which would be against the law is not mitigation.

2. Avoidance of damage is not mitigation.

3. Many actions described are simply good practices.

RESPONSE:

Definitions of mitigation vary somewhat with respect to agencies of the Federal government. It is DOE's contention that any measure which would reduce the environmental impact of a project, be it good practice or mandated by law, is mitigation. Many reviewers of environmental impact statements are not aware of construction practices related to transmission lines, yet are aware of all laws relating to resource protection and thus may anticipate worst possible consequences. DOE thus contends it is appropriate to describe such practices within an EIS under the heading of mitigation.

9. COMMENT: 73-2

BY: State of Maine Department of Inland Fisheries and Wildlife

The mitigation measures discussed on pages 4-6 and 4-7 should be discussed in more detail. Also, a clearer distinction should be made between mitigative measures and preventive measures. In other words, is it truly mitigation just to avoid doing damage? We would recommend that this section be expanded to discuss, in more detail, measures that would counteract any adverse impacts that will occur in addition to the discussion of the prevention of such impacts.

RESPONSE:

Please refer to responses for comments 41-3 and 72-7. In addition to the information and responses to these previously stated comments, it is DOE's contention that most, if not all, significant impact upon fish and wildlife resources from creation of a transmission line right-of-way can be prevented through proper measures. The ecological studies for the project concluded that wildlife habitat in general would benefit through construction of the project. It is recognized that this would not be true in all instances and for all wildlife species. However, there is reason to believe that the positive benefits of the project, as related to wildlife habitat, in themselves counteract any adverse impacts.

10. COMMENT: 75-1

BY: U.S. Environmental Protection Agency

The construction and maintenance of a 365-440 mile transmission line across the headwaters of many of New England's rivers concerns us. The DEIS is frank in identifying the potential for severe impacts of the project and suggests that these impacts can in many cases be moderated by adjustments in siting, routing, or other mitigative measures during construction. We agree with this and believe the Final EIS should contain a firm commitment to undertake stringent mitigative measures, including those recommended in Appendix E, "Ecological Resources Impact Study."

RESPONSE:

See response to comment 72-7.

11. COMMENT: 75-11

BY: U.S. Environmental Protection Agency

The third mechanism which will cause degradation of water and fisheries quality is the increased temperature in streams which are crossed or paralleled by the cleared ROW. The extent and severity of these impacts appear to be well documented by the EIS, and we are concerned with what the DEIS characterizes as severe impacts associated with certain links, for example, those ROW sections which parallel the Cupsuptic, Magallaway, and Nash Rivers.

We are especially concerned with those links which are identified by the DEIS and Appendix E as having the potential for "very severe" impacts on high quality receiving waters and associated fisheries.

The DEIS identifies 11 links in which some streams, ponds, and wetlands will be severely impacted due to sedimentation and/or herbicide runoff. Some mitigation of these impacts can be expected by careful placement of the ROW in the final design stages. However, in some cases, for example, link 20, Appendix E to the DEIS states that adjustments of the ROW would not significantly mitigate the impacts and suggests that a new alignment (link) be considered. In addition, there are several other links for which Appendix E recommends either relocation outside of the studied area (Links 7, 11), locations within the link area to allow for perpendicular crossings (Links 1, 44), selection of another link (Links 55, 22), or mitigating measures not discussed in the DEIS (Links 14, 15). We feel that in preparing the Final EIS, DOE should establish and evaluate alternate links to some, if not all, of those links with severely impacted aquatic resources or describe how, by movement within the link, the severe impacts identified by the DEIS can be mitigated.

RESPONSE:

Appendix E was written by a consultant to DOE, documenting the consultant's assessment of potential impacts on ecological resources. In addition to providing information needed for the EIS, the study is being used in other ways. First, it helped DOE make a decision regarding proposed and alternative routes. Secondly, it provides valuable information about these one-half mile wide routes which will greatly aid in locating a final centerline with minimum impacts. Thirdly, in his report the consultant recommended to DOE certain other mitigation measures - both general and site-specific. General mitigation measures are discussed in the EIS. Site-specific measures are not.

The links having potential for severely impacting streams, ponds, and wetlands due to sedimentation and/or herbicide runoff, have been identified in Appendix E and summarized in the EIS. If the project proceeds toward the design stage, these problem areas flagged by the consultant will be evaluated in detail and their recommendations regarding final alignment will be carefully considered. It must be remembered, however, that the best "overall" transmission line location is not necessarily the best from any one particular aspect, such as avoidance of streams.

The mitigating measure proposed in Appendix E, but not discussed in the DEIS, is to schedule construction activities to avoid sedimentation into high quality spawning streams during the spawning season. The final transmission report has been revised to include this measure.

12. COMMENT: 80-5

BY: U.S. Department of the Interior

We note that mitigation of water impacts is to include prohibiting the application of herbicides from the ground within 10 feet of any body of water, except in cases where the chemicals are known to be safe. However, the statement should also consider similar mitigation with respect to ground water, particularly for portions of the route where the depth to water table is shallow, where permeabilities of surficial materials are high, and where habitations, wells and/or springs are near the corridors. Mitigation by dilution is suggested by comparing the area(s) of aquifers crossed by the rights-of-way with total aquifer extent. This does not appear to be a generally valid basis for the following reasons:

(1) ground water moves slowly compared to most surface streams and generally moves without turbulence or much mixing;

(2) dilution and dispersion are greatly delayed in ground water; pollutants tend to move for long distances essentially in a linear downgradient course; and

(3) ground water, especially shallow ground water, is usually rather directly tributary to a stream, for which it helps to sustain base flow -- but the arrival of pollutants at the stream will be considerably delayed.

Therefore, we suggest that the impacts of herbicides or other pollutants on shallow ground water should be more adequately considered in the final statement. The evaluation should specifically address the protection of ground water by mitigation against spills of herbicieds, lubricating oils, transformer oil, fuels, etc. Corrective measures should also be described in the event that a spill occurs.

RESPONSE:

The possibility of herbicides affecting groundwater is very remote for several reasons:

1) Most herbicides are applied as foliar application; little if any reaches the ground. During the time of the year when applications are made, degradation occurs fairly rapidly except for picloram.

2) Most chemicals are tied up by the soil and humus and are not readily leached down, if at all.

3) Vegetation management for sites with high water tables will be modified by the site conditions.

4) No evidence exists that herbicides have seeped into groundwaters in any measurable quantities beyond those permitted by EPA or that they have had any adverse biological effects.

5) What herbicide does reach groundwater does so on a very gradual basis; herbicide dilution does occur.

The foregoing is what can be expected for day-to-day applications of herbicides. Since spills are of concern, special mitigation measures have been established. The particular states and Federal agencies responsible would be involved in carrying out mitigation measures.

13. COMMENT: 80-6

BY: U.S. Department of the Interior

Although a short-term increase in runoff and erosion from vegetation removal and surface compaction are identified as unavoidable impacts on page 5-1, mitigating measures should be considered to minimize soil erosion and sedimentation if delays should occur during construction.

RESPONSE:

An additional mitigating measure will be added to those contained in Section 4 on mitigation pertaining to minimization of soil erosion due to seasonal construction work stoppages or delays. The following mitigating measures will be tried. Drainage facilities such as ditches and waterbars will be installed in access roads to accommodate seasonal runoff during nonconstruction periods. Disturbed ground surfaces will be graded and contoured so as to minimize runoff during nonconstruction periods.

VEGETATION CONTROL

1. COMMENT: 11-10

BY: Mary M. Grow

The first is the proposal in the DEIS (pp. 1-24 to 1-26 and 3-17 and 3-18) to control vegetation on the line by herbicides, including aerial spraying. In light of recent questions about the adverse effects of both the active and the inert ingredients in such sprays, and the controversy in Maine over spruce budworm spraying, these plans seem unsound from an ecological, a human-health, and a political perspective.

RESPONSE:

DOE would acquire "easement rights" for the right-of-way. The easement would provide rights to DOE to construct, operate, and maintain transmission facilities on the land identified for right-of-way use. It provides authority for DOE to limit owner use of the property to those uses which are compatible with reliable and safe operation of the facilities.

Fee title to the property remains with the property owner from whom the easement rights are purchased. DOE would work with the property owner to identify compatible uses of the right-of-way, to limit access by other to the right-of-way or not (his option), and to identify mutually acceptable management plans where possible.

The use of the land under the transmission lines would be dependent upon the desires of the fee owner--as long as his proposed use was not in conflict with the rights purchased by DOE. In agricultural areas, land under lines would be farmed, used for pasture, or for any number of other compatible uses.

In areas of less intense land use, such as forested areas, the maintenance of the right-of-way to provide high reliability of the circuits will require vegetation control by DOE.

An ideal method for these areas would be the establishment of low-growing vegetation which would be thick enough to discourage the seeding and growth of tall vegetation that would get into the transmission line. The low-growing materials would serve as a valuable food resource and cover for wildlife.

The vegetation control methodologies used on the Dickey-Lincoln School transmission facilities would be developed from information available from other DOE power marketing agencies. It can be projected that a number of procedures will be used, including blanket and selective herbicide spraying techniques and hand cutting.

Only those herbicides included on the list approved by the EPA for such use would be used on the project. It is not possible at this time to identify precisely the herbicides that would be used. The approved list of herbicides which will exist in the middle-to-late 1980's, when herbicides would be needed for these facilities, may be substantially different from today's list. 2,4,5-T, which is of concern in several of the comments, will not be used until the RPAR process is completed.

In those situations where aerial application of herbicides is found to be necessary, great care will be exercised in restricting application to times when weather conditions are proper to allow control over drift of material. Extra care will be exercised to keep material out of water courses.

It is also not possible to judge effectively, at this time, what percentage of the total vegetation control effort will be done by herbicide versus by other methods.

The plan developed by DOE for vegetation control will be responsive to the state-of-the-art at the time the facilities are placed in service. It will:

1. Consider the superiority of a method which would establish new communities of dense low-growing vegetation on the right-of-way to control growth of taller species. Effort will be exerted to analyze the applicability of this method to the soils, climate, and other associated environmental conditions in the region.
2. Encourage use of the right-of-way area for other compatible, productive uses.
3. Recognize the superiority, from an environmental perspective, of non-chemical methods, and use them where economically practical.
4. Recognize the superiority, from an environmental perspective, of selective application of herbicides over aerial application, and use non-aerial methods where economically practicable.
5. Specify that great care be taken in those instances where aerial application of herbicides is determined necessary.
6. Allow the use of only those chemicals which are approved for such use by regulatory agencies (presently, EPA). 2,4,5-T will not be used unless ongoing studies should refute some of the adverse effects presently attributed to it.
7. Consider the economic impact of the use of different methods.
8. Establish a program which calls for a mix of the available methods which is acceptable from both an environmental and an economic point of view.

It is anticipated that, if the project is built, DOE will establish an office in the region to manage the construction, operation, and maintenance of the facilities. Representatives of that office will be charged with deciding the type of vegetation control, the method

of application if herbicides are to be used, and how often it should be done. Environmental and economic considerations will be important factors in this decisionmaking process. Information received in consultation with landowners and state and local organizations will also be considered.

DOE will consult with local and state agencies in developing its right-of-way maintenance strategies. Its activities will be guided, however, by the concept of Federal supremacy. It will be subservient to non-Federal regulations only where required by Federal regulations.

Questions concerning the facilities or the operation and maintenance practices could be referred to that office for resolution.

2. COMMENT: 13-13

BY: Valley Residents Against Dickey-Lincoln

p 1-24, #5 More information is needed here! Who decides whether to use herbicides, what kinds, or whether to use aerial or selective spraying or cutting in order to keep rights-of-way clear? How much natural growth will be allowed along rights-of-way? How often will spraying or other vegetation management be done? (Section 3.06.1.3, pp 3-17 - 3-18 also deals with this.)

RESPONSE:

See response to comment 11-10.

The answer to the question of who (DOE or other utilities in the region) will build, operate, and maintain the transmission facilities will evolve from extensive contractural negotiations if it is decided the project should be built.

3. COMMENT: 13-14

BY: Valley Residents Against Dickey-Lincoln

p 1-25, #5 Aerial spraying seems very hazardous to nontarget plants as well as animals. This paragraph states that aerial application is often preferred "when cost considerations are important." What guarantee is there that effects on wildlife will be considered in picking a vegetation control program, since economics usually wins over environmental considerations!?

RESPONSE:

See response to comment 11-10.

4. COMMENT: 13-17

BY: Valley Residents Against Dickey-Lincoln

p 3-18, #2-4 What are the hazards of herbicides to man either directly or indirectly (through biological magnification)? 2,4,5-T (or dioxin in it) has been suspected of being a teratogen and 2, 4, 5-T itself may be carcinogenic! Does the public have any way of influencing the type of vegetation control used?

RESPONSE:

See response to comment 11-10.

5. COMMENT: 13-19

BY: Valley Residents Against Dickey-Lincoln

p 3-66, table 3.08-12 How can impact on wildlife in rights-of-way be considered as overall slightly positive when it's so dependent on the type of vegetation managgement used?! This is stated a number of times in the text (e.g., p 3-58, #3). It seems dishonest to stress wildlife value when this is obviously a "best case" that is presented, and if repeated spraying is used to kill plants in the ROW, the effect on wildlife would surely be negative (e.g., p 3-46, #5 and p 3-34, #5). Also, increased pressures due to snowmobiles and other all-terrain vehicles will certainly be adverse! (3-29, #5 and p 3-47, #2)

RESPONSE:

See response to comment 11-10.

6. COMMENT: 13-26

BY: Valley Residents Against Dickey-Lincoln

p 4-9, pt 2 "Maintenance of the right-of-way would be designed to be compatible with the owner's plans." Does this give the owner the right to determine the method of vegetation control used on his

land, e.g., could he forbid the use of herbicides and have control done by selective cutting by hand?

RESPONSE:

See response to comment 11-10.

7. COMMENT: 13-1

BY: Valley Residents Against Dickey-Lincoln

4) Herbicide sprays used for maintenance of right-of-way along the transmission lines could cause possible damage to wildlife, nontarget plants, and humans. 2,4,5-T, which has been widely used in such spray programs, contains a toxic byproduct, dioxin, which has been implicated in causing birth defects; 2,4,5,-T itself is strongly suspected to be a carcinogen. (Environmental Action, 5 Nov 1977, pp 11-13) In predicting mainly slightly positive effects of the right-of-way on wildlife, the DEIS admits "the magnitude and direction of all these impacts on habitat will strongly depend on the vegetative control methods used," (DEIS p 3-58), and yet these control methods have not yet been determined! (DEIS, pp 1-24 - 1-25)

RESPONSE:

See response to comment 11-10.

8. COMMENT: 17-1

BY: Department of Health, Education and Welfare

We noted that a determination has not yet been made on the procedures for the control of vegetation. The final environmental impact statement should include the control procedures which will be followed, methods of chemical applications, types of herbicides to be used, toxicity, and other related aspects of the control program.

RESPONSE:

See response to comment 11-10.

9. COMMENT: 27-4

BY: National Wildlife Federation

MAINTENANCE.
We are seriously concerned by the suggestion that maintenance of the right-of-way might be turned over to various local utilities. While some of them would undoubtedly do an excellent job of maintenance compatible with enhancement of wildlife habitat, it is equally certain that others would simply kill every broad-leaved plant in the right-of-way with periodic applications of herbicides. This must not be allowed to happen. Either the Department of Energy should retain responsibility for maintenance under clear, written guidelines or maintenance should be turned over to local utilities only under regulations which forbid the use of herbicides.

RESPONSE:

See response to comment 11-10.

10. COMMENT: 32-2

BY: Carleton Schaller, Jr.

5) In my opinion, questions concerning maintenance of the 150 foot right-of-way over its length of 365 miles were to a large extent unanswered. No one seemed to know for sure whether herbicides would be used; whether a timber owner would be allowed to continue to grow timber in the right-of-way; or if certain species might be acceptable and others not.

RESPONSE:

See response to comment 11-10.

11. COMMENT: 40-1

BY: Vermont Group of Sierra Club

The Draft EIS states (p 4-5), "The spraying of herbicides into streams, wetlands, rivers, lakes, or other bodies of water would be prohibited." Yet, earlier in the document we learn that "Drifting during application, or erosion of sprays attached to soil particles into aquatic systems, could occur." (p. 3-18) Most of use know examples of how imprecise the application of sprays in an area can be under the best of conditions and how many an agent which has

been introduced into the natural environment has dispersed in an upredictable fashion. Furthermore, it is explained that "large volumes of solution" (p. 3-18) are needed to be effective. Under these circumstances it is difficult to believe that the water quality of the streams along the route of the transmission lines would not be harmed. It might be worth a trade-off if the project were necessary, which, we believe, it is not.

RESPONSE:

See response to comment 11-10.

12. COMMENT: 41-4

BY: Jan Wells

As to the too brief discussion of aerial spraying for vegetation control, more specific information should be provided on miles and percentage of corridor likely to receive this treatment. The suggested 100 foot buffer zone for aerial spraying adjacent to streams, lakes, and wetlands seems unrealistically small. In short, much more needs to be done on the section on mitigation before a final assessment of the impact statement is made.

RESPONSE:

See response to comment 11-10.

13. COMMENT: 44-1

BY: Vermont Public Interest Research Group

Of major concern to VPIRG is the method of vegetation control along the power lines, if and when they are built. The draft EIS states that herbicides will be used to clear the lines and mentions 2,4,5-T and 2,4-D as possible herbicides.

2,4,5-T, because it contains dioxin, has been shown to cause birth defects, liver damage, and skin disease in both humans and laboratory animals. Doses as small as 1 part per billion have been fatal to laboratory animals. The proposed use of this chemical presents a serious health hazard to all residents living near the proposed transmission lines. The herbicide 2,4-D, while it contains no dioxins, has also been implicated in causing birth defects and cancer.

VPIRG feels that draft EIS is incomplete in regard to vegetation management along rights-of-way! To minimize the environmental impact of the lines and to lessen herbicide use, VPIRG recommends that (1) 2,4,5-T not be used, (2) aerial applications of herbicides not be allowed, (3) the power lines follow existing corridors, and (4) a vegetation management program be developed that emphasizes the introduction of low shrubby vegetation to exclude tree seedlings, with hand application of herbicides only when necessary.

RESPONSE:

See response to comment 11-10.

14. COMMENT: 52-5

BY: Appalachian Mountain Club

The possibility of contamination of ground water by herbicides seems to have been understated. The only information provided regarding the types of herbicides to be applied is that they must comply with EPA standards. There is no guarantee that herbicides will be of short life. We found no mention of the deleterious effects to top carnivores (such as raptors) of herbicidal concentration in the food chain. The proposed measures to mitigate the effects of herbicidal use appear to be vague and inadequate.

RESPONSE:

See response to comment 11-10.

15. COMMENT: 57-1

BY: Natural Resources Council of Maine

A. Maintenance of the Right-of-Way. While we recognize that there may be some reasons for not yet determining what type of entity, governmental or private, will maintain the right-of-way, that decision may affect policies regarding maintenance, the use of herbicides and policies regarding public access, and use of the right-of-way. Therefore, we cannot yet know whether or not some of the most serious impacts will occur. This issue, among others, must be resolved before an adequate DEIS can be issued.

1. Use of Herbicides. Responsibility for, and the methods of, controlling vegetation with the right-of-way remains so vague in the DEIS so as to preclude any defensible conclusions

regarding the project's impact upon wildlife and plant life. Certainly, the benefits to wildlife proclaimed by the DEIS, as well as project proponents, resulting from the maintenance of the right-of-way will be almost illusionary if responsibility for maintenance is delegated to local power companies and they choose, as is their tradition, to use 2,4,5-T or similar herbicides. Furthermore, blanket aerial herbicide spraying will inevitably result in some damage to crops, timberland, plant life, and fisheries beyond the right-of-way, judging from our past experience both with herbicide spraying for hardwoods and pesticide spraying for spruce budworm. (Another question not resolved in the DEIS is how the resulting damage will be documented and whether individual owners must take the initiative to seek recovery in court and, if the DOE is willing to assume financial responsibility, whether that contingent liability has been included in the cost-benefit analysis.)

RESPONSE:

See response to comment 11-10.

It has been DOE's experience that damage to adjacent crops or vegetation from aerial spraying is quite evident. It has not been necessary in cases DOE is aware of to settle this kind of issue in court. Where such damage is attributable to DOE action, it will reimburse the injured party for the damage.

16. COMMENT: 57-6

BY: Natural Resources Council of Maine

It is essential that the DEIS reflect a policy decision, one way or the other, on the question of which entity, governmental or private, will maintain the right-of-way and what management policies concerning, among other things, the use (particularly aerial spraying) of herbicides, will be adopted.

RESPONSE:

See response to comments 11-10 and 27-4, this section.

17. COMMENT: 69-1

BY: State of Vermont Pesticide Advisory Council

Any application of pesticides on the Dickey-Lincoln Right-of-Way should be strictly prohibited on or near lake, pond, stream, or

wetland to protect the aquatic environment. Herbicide application in mountainous regions is also viewed with concern because of the existence of delicate flora and the increased chance of runoff due to steep and rocky slopes. Cropland and meadows should also be avoided by the ROW whenever possible.

The Vermont Pesticide Advisory Council wishes to see the development of a management scheme, to be included in the funding of the Dickey-Lincoln Project, for the establishment of low growing flora, such as junipers, along the right-of-way. The establishment of such plant populations wherever practical would reduce the need for herbicide applications.

The main concern of the Council regarding the ROW pesticide applications for the Dickey-Lincoln project involves Federal cooperation in following State regulations concerning pesticide applications. The Council feels it is not in the best interest of Vermont for the Federal Government to override State regulations that were established to protect Vermont's environment and people. Any Federally owned stretch of the power right-of-way would mandate a guaranteed Federal subserviency to State Pesticide Law before the concerns of the Vermont Pesticide Council are alleviated.

RESPONSE:

See response to comment 11-10.

18. COMMENT: 70-3

BY: New Hampshire Wildlife Federation

We oppose the use of herbicides to maintain clearance of the lines because of the harm to plant life, necessary to wildlife subsistence.

RESPONSE:

See response to comment 11-10.

19. COMMENT: 72-4

BY: U.S. Department of Agriculture

(4) The effect of water discharges from proejct lands or rights-of-way onto other properties.

Comment --

a. Vegetation control

1. Pesticides are a major nonpoint source of water pollution. Although most herbicides are short-lived, they usually have short term high toxicity to fish, insects, birds, and mammals. The longterm effects of repeated application of herbicides (as usually needed on powerlines) is not known. It has been observed that soil organisms in cropland are reduced or eliminated by herbicides. This reduces the overall natural productivity, assimilative capacity, and ability of soil to support diverse plant life which provides wildlife habitat.

Stream and pond flora in watersheds where herbicides are repeatedly used is reduced. This reduces the biological productivity of streams. Vegetative filters are not completely effective in reducing the amount of water or oil soluble herbicides which reach waterways.

We would encourage manual vegetation control. This would be a relatively safe method and provide jobs for local people. Water quality problems would be reduced and better wildlife habitat would result.

RESPONSE:

See response to comment 11-10.

20. COMMENT: 72-6

BY: U.S. Department of Agriculture

Impacts on ecosystems
Comment -- Good descriptions

a. Broad spectrum aerial spraying of herbicides will tend to reduce vegetation diversity and wildlife habitat values. Also, this method of vegetative management may not be compatible with maintaining the "scalloped" edge effect mentioned to improve habitat and visual impact.

RESPONSE:

See response to comment 11-10.

21. COMMENT: 72-12

BY: U.S. Department of Agriculture

There are several references to what may or might be done in the way of vegetative maintenance. To enhance wildlife habitat there should be a continuous zone of shrubs maintained by selective basal spray. Broadcast spraying of the ROW should be avoided at all times.

RESPONSE:

This thought will be considered in developing right-of-way maintenance strategies. Also, see response to comment 11-10.

22. COMMENT: 73-1

BY: State of Maine Department of Inland Fisheries and Wildlife

Two general points present themselves. First, the conclusions regarding impacts on wildlife are based on a preconceived idea of what the proposed right-of-way will look like and how the right-of-way will be managed. However, the report did not suggest a proposed management scheme or plan for the right-of-way; nor do we know of any binding commitment that would require the responsible agency to abide by any such management plan. We would recommend these points be more clearly discussed in the final report.

RESPONSE:

See response to comment 11-10.

23. COMMENT: 75-4

BY: U.S. Environmental Protection Agency

As detailed in our technical comments, the potential for widespread application of herbicides, particularly those containing 2,4,5-T, concerns us; 2,4,5-T is now being investigated by EPA because of a potential hazard to health. The Final EIS should include a more complete investigation of alternative maintenance techniques.

RESPONSE:

See response to comment 11-10.

24. COMMENT: 75-9

BY: U.S. Environmental Protection Agency

The impact of herbicides on aquatic resources is a function of chemicals being sprayed directly onto receiving waters and the runoff of chemicals sprayed in a stream's watershed. The DEIS does not specify the method of vegetation control. However, aerial spraying of herbicides is commonly used on utility rights-of-way. The DEIS does state that herbicides would not be applied aerially within 100 feet of shorelines and would not be applied from the ground within 10 feet of any water body. We are concerned that actual implementation and control of this mitigating measure would be difficult. For example, it is unclear whether the 100 foot aerial prohibition refers only to lakes and wetlands or to stream crossings and ROW sections paralleling streams as well.

RESPONSE:

See response to comment 11-10.

25. COMMENT: 75-10

BY: U.S. Environmental Protection Agency

Additionally, there appears to be a difference between the herbicide mitigating measures recommended by the Ecological Resources Impact Study, Appendix E, and those proposed by the DEIS. It is requested that the rationale for these differences be discussed in the FEIS and any additional impacts associated with them be identified and discussed.

RESPONSE:

See response to comment 11-10.

26. COMMENT: 75-12

BY: U.S. Environmental Protection Agency

USE OF HERBICIDES FOR VEGETATION CONTROL

Although the EIS briefly discusses various methods for controlling right-of-way vegetation, there is no indication of which method or methods will actually be implemented. The EIS does state that aerial spraying of herbicides is commonly used on utility rights-of-way, and 2,4,5-T is the frequently preferred herbicide.

- 2,4,5-T is toxic to fish and its application is prohibited where runoff into waterways is likely to occur.

- 2,4,5-T is not approved for use on any food crops except rice, so edible plants (blueberry bushes, fiddleheads, etc.) exposed to spraying in the right-of-way should not be harvested for human consumption.

- The U.S. Forest Service Policy on Pesticide Use (FR May 2, 1978) states that 2,4,5-T may be used on Forest Service land, such as the White Mountain National Forest, only where no other environmentally acceptable and economically feasible alternative is available.

Subsequent to release of the Draft EIS, EPA began a formal investigation of 2,4,5-T based on findings that 2,4,5-T has caused birth defects and tumors in laboratory animals, that an ample margin of safety may not exist for persons applying the herbicide and people exposed to aircraft spraying of it, and that scientific evidence exists of a potential health hazard. The investigation is being conducted under the Federal Environmental Pesticide Control Act's "Rebuttable Presumption Against Registration" (RPAR) process. The process, which enables 2,4,5-T producers, users, and the general public to rebut the evidence, will result in a decision by EPA to allow continued use, to restrict use, or cancel its use altogether. The RPAR process may not be completed for sometime, and in the meantime, 2,4,5-T may continue to be sold and used.

In light of the concerns discussed above, we request that the Final EIS:

1. Analyze the comparative environmental risks and benefits of all potential methods for vegetation control.

2. Contain a recommendation for a method or combination of methods for vegetation control. If herbicide application is recommended state specifically which herbicide(s) will be used and how they will be applied.

3. Disclose the current status of the 2,4,5-T RPAR process.

4. If 2,4,5-T is selected, discuss how it could be used in a way that will assure that humans, recreation areas, and waterways will not be exposed to spraying, and adopt as a mitigative measure the requirement that notices be published to warn people in advance of spraying.

RESPONSE:

See response to comment 11-10.

27. COMMENT: 77-2

BY: Harvard Environmental Law Society

Although the DEIS does indicate that there are many adverse effects from the use of herbicides to keep open the ROW, it does not commit the DOE to make all efforts to avoid their use. There are many studies being done that suggest adverse short- and long-term effects. The DOE has not committed itself to going beyond the letter of current laws to avoid these effects. The suggestion that 2,4,5-T is a proper herbicide, given what has already been learned about its mutagenic effects is a sign that the DOE has not exercised that independence of judgment which NEPA requires in order to protect the environment. This omission is particularly serious, in that the ROW crosses many waterways and passes along other bodies of water, whose flora and fauna will be harmed by the use of herbicides. The use of heavy aerial spray is a practice to be avoided, because of the frequent lack of control over where the spray will land. There also is no indication in the DEIS of the wind conditions along the ROW that are less than 7 mph, which would allow safer aerial spraying.

RESPONSE:

See response to comment 11-10.

PLAN OF SERVICE ALTERNATIVES

1. COMMENT: 6-3

BY: Jesse Mase

b.) Move it East and South to tie in with existing lines and routes in the Bangor area.

RESPONSE:

The criteria which an effective transmission integration system must meet are well documented in Appendix C, (Transmission Planning Summary) of the DEIS, as are the assumptions, study results, and justification supporting selection of the western route.

2. COMMENT: 13-5

BY: Valley Residents Against Dickey-Lincoln

p 1-6, #3 Why were only engineering and economic considerations used to pick the "best" route from among the five? Why weren't environmental and field reconnaisance studies used as well in making the route choice?

RESPONSE:

The paragraph cited refers to a brief discussion of the system planning studies and their overall general recommendations as to the best plan from an electrical service standpoint. Environmental and reconnaissance study results were major cosiderations in arriving at the proposed Plan E. A full discussion of all factors considered is presented in Appendix C and briefly discussed on page 1-9 of the DEIS.

3. COMMENT: 15-2

BY: Land and Water Resources Institute - University of Maine, Orono

Thus, in my opinion, the basic issue is not how to mitigate the myriad impacts of construction along the preferred route, but whether or not transmission should occur along the preferred route at all. There are basically two potential routes for transmitting power from Dickey-Lincoln-- a westerly and an easterly route.

Tangible costs associated with the westerly route have been shown to be less than those associated with the easterly route. This is the major reason for designating the westerly route as preferred. However, there are important intangible costs--related to the value of wilderness--associated with the westerly route which have not been assessed and which are assumed incalculable. These costs do not exist along the easterly route. It is of extreme importance that route location decisions not be made when unknowns or vague assumptions are involved; all important impacts must be quantified. It is stated in Appendix A of the EIS, page 6, that "System studies indicate that each of the five plans is capable of integrating the entire output of Dickey into the New England transmission system." Thus, the feasibility of an easterly route has been documented. Further, all important impacts are quantifiable. Finally, an easterly route is still economical. It will not result in a significant reduction in the benefit/cost ratio for Dickey-Lincoln. For a project for which the ultimate price tag will likely be well over a billion dollars, the additional costs in adopting an easterly route can hardly be considered critical. Thus, until the value of wilderness can be quantified or even estimated reasonably well, there can be only one choice regarding transmission from Dickey-Lincoln--an easterly route must be taken.

RESPONSE:

DOE completed several studies that were considered and evaluated during the phase of study directed toward the selection of the preferred corridor.

The issue of "wilderness" as pertains to northwest Maine has always been considered in DOE's studies. The area where the transmission line is located is not a wilderness area as defined by Public Law 88-577 and as such was not evaluated as wilderness as a national resource. The area, while substantially isolated and wild, is in fact open with many miles of tote and temporary logging roads. Access is possible in the area and indeed the area is used variously by many people for timber operations, recreation, etc. The studies by VTN Consolidated examined the impacts that would in fact occur to the area from the transmission line. The factors studied by the interdisciplinary team are listed in Figure 2-7, Appendix B, Volume I. These six basic concerns - social, economic, natural systems, aesthetic, cultural, legal, and site development costs - are the basic components of the environmental assessments used to determine the proposed plan of service.

It is difficult, as pointed out in the comment, for DOE to answer questions related to values of wilderness, especially wilderness that in DOE's view is in fact already heavily impacted by logging activities. DOE does not feel that there is any acceptable way to quantify the impact on this resource given the present and probable future conditions of the area. DOE believes the analysis examines

in an objective manner the impacts on the components of the total area in an objective manner and thus presents a comprehensive measure of the overall environmental impact in this area. The choice of the western route and the criteria behind that choice are documented in Appendix C.

4. COMMENT: 27-2

BY: National Wildlife Federation

Although we are unable to make any judgments at this time as to the least damaging route, it at least seems possible that the more southerly route shown in Plans A and B would be preferable because they would violate the integrity of so much less wild country than the proposed route.

It seems likely that a major reason for rejecting the more southerly routes is their greater length and higher cost. I submit that monetary cost should not be a major consideration in the choice of a route. Since Dickey-Lincoln is economically unsound to begin with, and will ultimately have a benefit to cost ratio of less than 1 to 1 if all the hidden and not-so-hidden subsidies are added to the cost, the project might as well be a little larger economic loss if this will result in less destruction of natural resources, including intrusion into uninhabited forest land.

It is also our view that the great length of the Dickey-Lincoln transmission lines, even for the shortest possible routes, shows the bankruptcy of our energy planning. Instead of the narrow, old-fashioned thinking which can only propose energy solutions such as Dickey-Lincoln which are hundreds of miles from consumers, we need imaginative planning which will seriously consider alternatives. In the case of Dickey-Lincoln, this means something more than a pro forma consideration of a mix of energy conservation, offpeak pricing, small site hydropower, wood-fired generating plants, solar hot water heaters, and insulation of existing housing.

RESPONSE:

Inherent in DOE's study methods was the overall objective of determining and proposing the route that would have the least damage on the environment. The analysis, as reported in Appendices B and C, indicates that Plan E (a western plan) would have the least overall impact on all aspects of the environment considered. Issues related to the impact on the wildlands were addressed in the response to comment 15-2.

The criteria for rejecting the more southerly route were discussed in Appendix C (see the Transmission Planning Summary). The system

planning studies, environmental studies, and reconnaisance studies all led to the same conclusion that Plan E is the best of the five alternative plans. The environmental study associated with examining the five plans of service concluded that more environmental impact would occur on the southern routes than the western plans.

5. COMMENT: 41-1

BY: Jan Wells

As to the impact statement itself, I have three major concerns: (1) that the impact of the chosen corridor on the wildland character of the area it traverses was not given more weight in Phase I of the study when initial corridor selections were being made.

RESPONSE:

The Phase I Corridor Study was a comprehensive examination of all factors and issues that were deemed important in the 32,000-square mile study area. The contractor hired by DOE used a multidisciplinary approach using resource experts with professional training, knowledge and experience pertinent to most of the issues and concerns studied. The relative weight assigned to the wildland-related resources was based on collective judgments of these experts. The findings from these studies were the subject of 13 regional meetings during which comments were solicited to determine feedback and additional information that would allow the team to make judgments based on the input of all groups and individuals with an interest in the study region. A general questionnaire was prepared and distributed at these meetings to solicit additional information as to how much "weight" should be given to the resources studied. All of this information was considered by the team in developing it's recommendations.

6. COMMENT: 46-4

BY: Society for the Protection of New Hampshire Forests

As a resident of Webster, New Hampshire, I have long been aware of the impact of transmission corridors in that town. In reviewing the map section of the DEIS all project alternates, A - E, involve 345 kilo volt lines either through or to Webster -- several appearing to call for entirely new rights-of-way. Quite frankly, for Webster the advantages provided by the availability of a relatively small amount of peaking power generated 300 miles away compared to the further acreage losses in the town would have to be weighed carefully. As one resident, I'd be inclined to object. Within the DEIS, I could find no analysis of these new lines or projections of their impact.

RESPONSE:

The additional 345-kV line from Beebe to Webster was identified after the completion of the Phase One Corridor Study. This line has been added at the ultimate level of project development because of changes in proposed nuclear generation in northern New England. The addition of this line would not change the proposal to develop a route through western Maine and, in fact, the additional changes as discussed on page 8-6 of the DEIS would further strengthen the proposal for Plan E.

The line into Webster is required for an adequate tie to the New England Electrical Grid and must not be construed as delivering peaking power solely to Webster.

Detailed analyses were not performed for project transmission needs at the ultimate level of generation installation. A complete EIS Supplement would be prepared prior to construction of these additional lines.

7. COMMENT: 52-8

BY: Appalachian Mountain Club

We are also concerned about certain ambiguities in the design of the transmission corridor. First, the AMC is especially concerned with the "ultimate" energy developments at Dickey-Lincoln and of the transmission corridor. The "dotted line" additions to the transmission corridors, apparently to be added at such time as the additional power on the corridor warrants, include an addition from Moore to Beebe that will transect the Kinsman Notch area of the White Mountain National Forest. The impact of this addition has not been assessed, and in our opinion, would be a completely unacceptable use of valued public land. Indeed, land use planning intiatives are underway in this area right now to consider the eligibility of part of this land as a national Wilderness area. We would like to know how and when the assessment of this corridor will take place, how critical this link is to the ultimate development of power transmission, and what alternates to this link have been considered.

RESPONSE:

The route for this addition to the transmission system has not yet been located so it has not been determined that it will transect the Kinsman Notch area. Several corridors were located during the corridor study (see Appendix B, Volume I), one of which transects this area. The preferred corridor, however, does not go through the Notch.

The need for this line from Moore to Beebe was based on projected plans by NEPLAN. System studies indicated that this line would probably be required if additional generation at Dickey were developed to the ultimate level. Additional EIS studies and reports would be made if this addition were to be actively considered.

8. COMMENT: 55-1

BY: Trout Unlimited, Sunkhase Stream Chapter

Our membership is strongly opposed to the proposed location of the transmission lines as drawn by your office.

We feel that the impact of the lines, the herbicides necessary to clear them and the destruction of practically untouched woodland is not worth the savings in distance that might result.

We are of the opinion that a transmission line and corridor running down the Eastern route through Chester, Millinocket, Bucksport, etc, would be much more acceptable to us from an ecological standpoint.

We strongly urge that the location of the transmission corridor be reconsidered, and that the woodlands which would be affected by the proposed route be spared in favor of Eastern locations which already have cleared rights-of-way or fewer wildland areas.

RESPONSE:

See the response to comment 15-2.

9. COMMENT: 70-1

BY: New Hampshire Wildlife Federation

We would prefer, if a transmission line is to be routed, then plans A and/or B (southerly routes) would be more desireable than the proposed route because they (it) would have less impact on wilderness regions.

RESPONSE:

See the response to comment 15-2.

ROUTE ALTERNATIVES

1. COMMENT: 3-1

BY: State of Vermont Agency of Transportation

I would like to suggest that the alternate route planned on the east side of the state which proceeds through Barnet, Peacham, etc., would be a grand error and misuse of some scarce historic and scenic territory. The Town of Peacham of which I am a resident has enjoyed for over 200 years the unique character of an unspoiled north country community. Its major assets are its scenery and beauty, there being a low volume of commercial and industrial enterprise. To route the transmission lines through this pastoral scene when the existing corridor has been planned and established would not be in the best interests of all concerned.

I would, therefore, like to recommend to your Project that the primary route be utilized along the existing corridor and that the route stated as an alternative through Barnet and Peacham be found unsuitable for environmental, aesthetic, and economic reasons.

RESPONSE:

The alternative route through Peacham (D-2) is compared with the proposed route (D-1) in Table 8.04-12 and the narrative discussion in Section 8.04.4.2, p. 8-33 and 8-34. Route D-1 was ranked higher (less impact) than D-2 in all impact topics, except Forestry, for which the two were rated equal. The proposed route does not include a link through Peacham.

2. COMMENT: 5-1

BY: Town of Northumberland, New Hampshire

I wish to register a protest on the line as it comes over Cape Horn Mountain in front of our farm, The Potter Farm, which is also a historical site registered with the State of New Hampshire being the location of Fort Wentworth.

You will recall that we looked at the map together and I pointed out how you could avoid the route now contemplated. That being by changing the route of the line along the back side of the mountain.

RESPONSE:

As a result of a meeting with town officials and planners, in December of 1977, discussion at the Public Meeting on May 11, 1978, and the above comment, the DOE study team has reevaluated the routing in the Cape Horn area. As a result, DOE has relocated a portion of Link 35 to the east and south of Cape Horn to avoid visual prominance to the Connecticut River Valley in that area. This relocation is described in Section 9.0 and shown on Figure 1 in this chapter. The FEIS has been revised accordingly.

3. COMMENT: 6-2

BY: Jesse Mase

I offer two recommendations: a) keep the line up at the border, where a cleared corridor already exists, or.

RESPONSE:

Locating the transmission line along the international border between the United States and Canada is not considered a viable solution. Although an existing clearing could be used to some extent, the alignment of the border is so crooked that transmission costs would become unacceptable. The terrain along the border is not at all conducive to transmission line locations, and visual, structural and access problems would be extreme.

4. COMMENT: 6-4

BY: Jesse Mase

Segment 10 on the map is a possible alternative, but it still allows the line to be close to Trickey pond (uninhabited), but saves Heald Pond (inhabited year round) and Crocker (inhabited summers) Pond.

RESPONSE:

Route B-1 which includes Link 10 does avoid Heald Pond and Crocker Pond. In the overall ranking process, Route B1-1 was a close second to the proposed route (B2-1), as shown on Table 8.04-6. Impacts on these ponds will be minimized as much as possible when locating the centerline and structure sites.

5. COMMENT: 7-1

BY: Central Vermont Regional Planning Commission

On the basis of the guidance provided by the Regional Plan, while withholding endorsement of the project itself, the Commission wishes to discourage consideration of Lines Nos. 43, 50, 52, and 54, in favor of the concept of utilization of existing corridors and, where possible, rights-of-way.

RESPONSE:

See response to comment 8-1.

6. COMMENT: 8-1

BY: Berlin (VT) Planning Commission

The Berlin Planning Commission concedes that power lines are necessary but believes that they should be confined to existing corridors and rights-of-way. Such a corridor presently exists, parallels the proposed route and should be used! New corridors involve construction of new access and maintenance roads whereas following present corridors involves a minimum of environmental impact because access exists. The physical problems of power lines - induced current, corona audible noise, interference, etc. - present in any high voltage line should be limited to those areas where these undesireable effects already exist - the existing transmission corridors.

The proposed deviation from Berlin's existing corridor will severely inhibit land development in a highly desirable area of Berlin. There will be severe local visual impact. The line will preclude future building within the right-of-way and will materially lessen the desireability of adjacent lands. In addition it will be skylined on a ridge just westerly of the most used end of the most used runway of the Edward F. Knapp State Airport; it looms directly in the approach line of said runway and thus constitutes an additional unnecessary hazard to aircraft. If it were to be striped and fitted with large orange balls for aircraft visibility as has been suggested, the visual impact both locally and on Interstate 89, already severe, would be greatly increased. The skylined crossing at Interstate 89 would be visible for several miles from either direction. The commission holds that visual impact priority should not be limited to Interstate 89 travel. Transient impact is not comparable to daily local impact. The proposed line in the Hill Street area would be right in the foreground of one of the most magnificent views available in central Vermont. The commission finds the impact of the proposed line on this panorama unnecessary and unacceptable.

The Environmental Impact Statement draft states this proposed line has the least socioeconomic impact although it has more severe impact on houses. The commission finds it difficult to follow the logic for leaving the existing corridor within Berlin and cannot believe there will be either short of long range savings, or advantage, in leaving the existing corridor.

RESPONSE:

This is one of several comments received urging that the proposed new line be located adjacent to, or within, the existing 115-kV wood pole right-of-way, between Granite and Essex Substations.

The idea of utilizing common corridors is subscribed to by DOE as a general concept, but not as a hard-and-fast rule. When an opportunity to parallel or rebuild an existing transmission line presents itself, that idea is given first consideration and investigated thoroughly. But, as experience has shown, DOE cannot establish a blanket policy of utilizing existing corridors. Each situation must be evaluated on its own merit.

In the case of the Granite-Essex routing, such an evaluation resulted in the selection of three non-parallel links (50, 52, and 56) and one link which follows the 33-kV steel line (link 54). DOE recognizes the advantages and disadvantages of these links as compared to their parallel counterparts (links 47, 47A, 48, and 55), and believes the factors are adequately addressed in the EIS and its appendices. The decision to propose links 50, 52, 54 and 56 was based on an overall assessment of the impacts associated with each link, and represents the combined opinion of the multidisciplinary team (including consultants) involved in the study. The comments received opposing this decision have presented no new arguments nor any not considered in the original decision. Consequently, no routing changes between Granite and Essex are proposed in the FEIS.

DOE recognizes the important role of state, regional and local planning agencies, and has made a commitment to consult with those agencies in the planning and development of this project. If the project is funded for construction, a great deal of detailed location work remains to be accomplished. In the course of these studies, the location specialists will coordinate closely with planning agencies at all levels of government, the utilities involved, and affected land owners. If these detailed investigations indicate the need to change the routing decision, it will be done at that time.

In summary, DOE feels the correct decision has been made, but because of the reaction of planning agencies and commissions in the area, agrees to reevaluate that decision during the detailed location phase.

7. COMMENT: 36-1

BY: Moretown (VT) Planning Commission

The Moretown Planning Commission met on May 16th and voted to ask me to write expressing our unanimous and vigorous opposition to the construction of yet another power transmission corridor from the substation near Barre to the one near Burlington, this latest proposed corridor to serve the Dickey-Lincoln Project. With respect to the transmission lines in this area, the feelings of the Commission were unequivocal: no new corridors. None of the members had strong opposition to the use of present corridors using existing towers or replacing existing towers with wooden ones capable of carrying both the present lines and the proposed new ones.

RESPONSE:

See response to comment 8-1

8. COMMENT: 47-1

BY: Harland J. Cantin

In using Route #36 you are going about 5 miles into the wilderness west of the direct line that Route #37 follows making the distance much further and costlier. You are also destroying a deer yard where deer have wintered for years and going through a nesting area for a pair of falcons that have returned every year for the past 10 years and, as you know, are an endangered species.

I would suggest that you stay with the alternate Route #37 through Guildhall and lowbed area. If this Route #37 is really investigated you will find that it disturbs very little farm land. Whereby, Route #36 is going in an area where the elevation is in access of 1 over 1 and I believe there would have to be even more steel towers than you have shown on your proposal.

RESPONSE:

DOE appreciates the concern about link 36. It was only after considerable discussion between DOE and the several consultants involved in the study, and an additional field review of link 36 and 37/39, that link 36 was finally chosen.

DOE's cost comparisons confirm the statement that link 36 will be more costly than 37/39. However, DOE does not agree that the deer yard identified along that link will be destroyed by the transmission line. The report of the falcon nesting areas was of concern and

was investigated. From the commentor's verbal description of the birds and their nesting habits, DOE is of the opinion that they are not perigrine falcons, but are most likely sparrow hawks, not an endangered species.

DOE is aware that link 36 will present some difficult location problems, particularly in the northern end. However, study shows it to be best, considering all impacts involved in both alternatives.

9. COMMENT: 50-1

BY: Mr. & Mrs. John F. Portelance

We would like to submit this letter as an official statement of route preference in Williston, VT., as to the corridor of the transmission lines for the Dickey-Lincoln School Project. We are in favor of the proposed Route No. 56 as it follows the Winooski River and opposed to Corridor No. 55 along the existing line, which is named alternate.

We object to the possible use of the alternate route for the following reasons:

A. Open Land - the character of the open land would be irreversibly destroyed;

B. Visual Impact - the presence of transmission lines in open fields would have a negative visual impact for a large radius, dramatic visual pollution;

C. Develop Area - the alternate route would destroy an already established residential area with a high negative result on future development along this route.

Through use of the proposed route, the lines would be hidden from view and allow this area to retain its particularly sensitive and beautiful views of Mt. Mansfield, Bolton Mountain, and Camel's Hump Mountain.

RESPONSE:

Link 56 has been proposed primarily for the same reasons stated in this comment.

10. COMMENT: 57-5

BY: Natural Resources Council of Maine

Finally, we request that any future changes in the routing, because of discoveries made through a more thorough inventorying or for other reasons, be subject to the same systematic resource analysis that has been attempted (and will be attempted) for the routes described in the DEIS.

RESPONSE:

Any future major routing change would most likely require filing of a supplement to this EIS. Analysis would be made of resources affected and impacts that would result should any change in route be planned.

11. COMMENT: 60-1

BY: State of Vermont Division for Historic Preservation

Regarding Link alternatives, construction of Link 43 going through Peacham, Vermont, would constitute a severe adverse effect on the visual and aesthetic qualities that contribute to make the village meet the criteria for inclusion in the National Register of Historic Places. We, thus, strongly urge that this alternate be avoided.

RESPONSE:

High visual impacts and the significance of Peacham as a historical community were among the considerations leading to the selection of Link 44, which avoids this area.

12. COMMENT: 63-1

BY: E. Martin Kaufman

I was present with several of my neighbors at the Dickey-Lincoln meeting in Groveton, NH, on May 8 of this year. We were, and reamin, disturbed by the thought of the 345 kV lines coming through our community, but we were gratified by your apparent interest in the proposal, made simultaneously by several Stewartstown and Colebrook residents, of an alternate route approximately 10 miles to the east through the Swift-Diamond area.

Fortunately, enough people in the area from Pittsburg to Columbia are directly affected by the currently proposed route that a committee formed immediately and several actions are being taken, including letters such as the copy enclosed, which are being sent to the representatives concerned, and petitions to the same individuals.

We are also counting on your word, given to Robert Petrovsky of Stewartstown among others, to return and survey the area proposed. Both Mr. Petrovsky and Robert Burrel, of Colebrook, know the area in question and have undertaken to keep our committee informed on progress made with you on the alternate route.

RESPONSE:

The alternative route proposed by the residents of Upper Coos County has been investigated and evaluated. The assessment and results are appendicized to Section 9.0 of the FEIS.

13. COMMENT: 65-1

BY: Dartmouth College

I wish to confirm for your records that Dartmouth College strongly approves of your Department's announced preference for the northerly transmission line route which avoids the Second College Grant and the watersheds of the Dead and Swift Diamond Rivers. We were very pleased to note that the portion of the draft EIS dealing with the choice of routes in Segment C (Jackman/Moose River - Moore) gave particular recognition to the valuable ecological resources of the Second College Grant which would be subject to significant negative impact if the transmission line were to be located there.

On the basis of testimony which we heard presented at some of the public hearings on the Draft EIS, it is our impression that no serious objection has been raised to your Department's decision to prefer the more northerly route in New Hampshire. My colleagues have informed me that the comments made by persons living in the Colebrook area seemed only to be directed to the local siting of the line through that valley. Although some reconsideration of the specific location of the line in that local area may well be appropriate, we at Dartmouth would object strongly to any further consideration being given to routing any portion of the proposed transmission line to the east of the Dixville Peaks and would appreciate being consulted if the possibility again comes under serious consideration.

RESPONSE:

See response to comment 63-1.

14. COMMENT: 78-1

BY: State of Vermont Department of Health

We are especially concerned with your proposal to cross the Barre City water supply watershed in the Town of Orange. We would hope you could arrange an alternate route outside that watershed. Please let us hear your suggestions.

RESPONSE:

DOE would like to thank the Department of Health for providing information on the ground and public water supply systems in the vicinity of the proposed transmission facilities. It appears that the Barre City water supply watershed is not crossed by the proposal route. This route is south of Highway 302 and the water supply watershed generally lies north of Highway 302. The review of the Central Vermont Regional Planning Commission's Regional Plan, Part 1 indicates that a transmission line land use is not excluded within a watershed area.

EPA has delegated to the states the right to promulgate rules and regulations concerning the uses of herbicides, pure water, and other environmental concerns. If the state rules and regulations are acceptable to EPA, the rules and regulations literally become Federal law and the state and all Federal agencies must comply.

It is not clear whether the five policy statements in your comment letter have a regulatory status. These alternatives may have severe environmental impacts much greater than the possible impacts resulting from the use of herbicides.

DOE has quite a few lines which cross numerous watersheds, varying in size from very large municipal watersheds, down to private water supplies. The vegetation management activities have caused very few problems. DOE is convinced that the potential adverse impacts to water purity are greater if herbicide use is prohibited. DOE's vegetation management policies presently provide adequate safety to locate a right-of-way in a watershed, to manage the vegetation in these watersheds and to use EPA-approved herbicides as a management tool.

1. COMMENT: 9-12

BY: Jackman (ME) Planning Board

I feel that those involved with the preparation of the Draft EIS have done the residents of Jackman a great injustice by not allowing our responsible representatives to supply correct information during the preparation of the EIS. Jackman is now portrayed as any little town somewhere in the State of Maine. We are, in fact, unique not only in our location but in our economy and survival as a wilderness area town. The EIS has created a picture of us that is untrue. Through the distribution and study of the Draft EIS many of those important people who are favoring the construction of the project do not understand the impacts that will be created in the Jackman area. I hope that through the process of creating a final draft we will have a chance to supply correct information and make a true picture of Jackman and the surrounding area available.

RESPONSE:

The methods of collecting socioeconomic data for the Jackman and Moose River area were consistent with the methods used for other towns along the proposed and alternative routes -- they mainly involved examining various agency records and conducting telephone interviews. Obviously, the Jackman Planning Board did not feel this was adequate. However, the record shows that the Jackman Planning Board was notified at its May 1977 meeting that representatives from DOE and E. C. Jordan Company were willing to meet with them if they desired. Having received no response, either verbally or in writing, the study team did not arrange for such a meeting because it was felt there was enough information to predict the impacts on the Jackman-Moose River area.

In December, 1977 DOE learned through indirect sources that the Planning Board wished to meet. The Planning Board Chairman was contacted immediately and a meeting was arranged for January 24, 1978, and confirmed in writing. The meeting was postponed until February 14, 1978, at the request of the Jackman Planning Board. It is true that this meeting was held too late to obtain information for inclusion in the DEIS, but it gave the Planning Board an opportunity to ask questions and discuss the proposed project with DOE.

At the Jackman public meeting, on May 3, 1978, DOE was charged with inadequate coordination. DOE, therefore, arranged through the North Kennebec Regional Planning Commission to visit the community on June 28, 1978 to conduct personal interviews, and to meet with the Jackman and Moose River Planning Boards. DOE believes that all concerned parties will now agree that adequate coordination has

taken place. A discussion of the additional data and associated impact predictions is appendicized to Section 9.0 of the FEIS.

2. COMMENT: 62-1

BY: North Kennebec Regional Planning Commission

There was a lack of communication on behalf of the Corps of Engineers, the Department of Energy, and various consultants with Jackman and Moose River officials in the collection of data and information for the Draft EIS.

RESPONSE:

See response to comment 9-12.

3. COMMENT: 62-6

BY: North Kennebec Regional Planning Commission

The North Kennebec Regional Planning Commission requests that lines of communication be reestablished to correct the deficiencies in the draft EIS, before the final EIS is made ready so that Jackman area people will know that the Federal Government clearly understands their situation before such material is finally published in the final EIS. We would be happy to work toward bringing the various interest together to bring this about.

RESPONSE:

See response to comment 9-12.

4. COMMENT: 67-4

BY: State of Vermont Agency of Environmental Conservation

It is recommended that this proposed project be subjected to the Public Service Board's 248 review process.

The Agency will, to the extend possible, cooperate in the location and assessment studies as well as the management of affected wildlife resources along the proposed rights-of-way.

RESPONSE:

See response to comment 68-9.

5. COMMENT: 76-2

BY: Carole Coley

The facts that are listed about Jackman are consistently incorrect, or outdated. It only proves that no contact was made with our Planning Board or Selectmen, for correct information concerning our town.

RESPONSE:

See response to comment 9-12.

ADEQUATE INFORMATION

1. COMMENT: 11-2

BY: Mary M. Grow

The second fault is the appalling lack of information about the land which would be affected by the dams and transmission line. Despite weeks of study and volumes of documents, the Army Engineers and the Department of Energy seem to have only the vaguest notions of the quality and quantity of soils, plants, and animals in the parts of Maine, New Hampshire, and Vermont that they plan to alter irretrievably.

RESPONSE:

DOE feels that the extensive studies provide a good information base about the existing environment that will be affected by the transmission line. The commentor is encouraged to review carefully Appendices E through J of the DEIS and the related map volumes to understand fully the information and knowledge that has been compiled for this area. The data base prepared is consistent with the level of information necessary to describe the general impacts that would occur if transmission line facilities were to be built.

2. COMMENT: 11-6

BY: Mary M. Grow

And still furthermore, there was, here as elsewhere, a lack of adequate information about resources. Among the unknowns specifically mentioned are deer yards (Appendix B, Vol. 2, p. 56), endangered and threatened flowers (Appendix B, Vol. 2, p. 73 and Vol. 3, p. 32), ordinary nonendangered plants and animals (Appendix B, Vol. 3, p. 10), and anthropoligical and historic resources (Appendix B, Vol. 3, pp. 141, 143, 145, e.g.). VTN's attempt to compensate by, for instance, allowing for a moderate impact on any area suspected to be archeologically valuable is generous, but it does not enhance the accuracy of their computations. Some of the allegedly available data are also doubtful, like the population distribution based on 1970 and 1972 figures (Appendix B, Vo. 3, pp. 74-80) and the out-of-date list of National Historic Register sites (Appendix B, Vol. 3, pp. 161-167).

RESPONSE:

The commentor refers to Appendix B. This study was a general regional overview examining at a regional level the potential impacts on a 32,000 square mile study area. The information for this level of assessment was compiled primarily from existing and known data sources identified during the environmental data reconnaissance study in March 1976 and modified by VTN's multidisciplinary team. DOE recognized that this information was not adquate for the detailed impact assessments along the alternative routes. Therefore, DOE hired additional environmental consultants to collect, analyze, and evaluate detailed up-to-date information along the western corridors. The commentor should refer to Appendices E through J and accompanying map volumes for a clearer understanding of the data used in the study.

3. COMMENT: 16-1

BY: State of Vermont Agency of Transportation

Additional information on specific location of highway crossings and effects on airport operations are needed. There are several highway improvement projects planned for, which the transmission proposal or alternate will be intersecting. Locations of towers and conductors will need to be coordinated with this Agency to insure horizontal and vertical clearances on new, relocated, and existing highways, airports, and railroads.

RESPONSE:

Specific location and design information is not included in the EIS. If the project proceeds to the centerline location and design stage, all highway and railroad crossings and potential airport interference situations will be coordinated with the Vermont Agency of Transportation, as well as appropriate Federal agencies.

4. COMMENT: 23-2

BY: Auburn E. Brower

From my reading of the Impact Statements and their Appendices, and from attending public meetings, I feel that the on-the-ground studies of the project areas and of existing dams have been virtually ignored. In these respects the Environmental Studies issued by Dickey-Lincoln sound too largely like library and published resource evaluations. There are long detailed explanations of the procedures followed, and page after page to record some repetitious detail, but the sort of information I look for is lacking.

RESPONSE:

DOE and its consultants performed a considerable amount of on-the-ground study during preparation of the EIS. Each consultant developed the method and approaches to the study they were responsible for and included the level of field work and review that, as professionals, they felt would be needed to do an acceptable level of analysis required for a project in this phase of planning. The VTN corridor study was designed as a long-range regional study that utilized data collected from secondary sources. To complete on-site studies for 32,000-square miles was beyond the needs, scope, and practical aspects of the study.

The detailed studies used information gathered from a variety of sources including on-site inspections and air-photo interpretation. Again, to gather all data from field work is both impractical and unnecessary for the type of assessment needed. DOE and its contractors feel confident that the most important and critical aspects of the environment have been adequately identified and studied.

5. COMMENT: 57-9

BY: Natural Resources Council of Maine

Thereafter, there should be opportunity for the public, including interested knowledgeable members of the scientific community, to have input into this decision-making process, as required by the National Environmental Policy Act (NEPA). Only after these policy decisions and the other decisions referred to above are made and set forth in a public document--either a partial supplemental DEIS or by some other equally appropriate document which is then circulated for public comment--will it be possible to evaluate and minimize adverse impacts in these areas, as required by NEPA.

RESPONSE:

"Members of the scientific community" will have input into the decisionmaking process in addition to the significant input already available in the draft and final EIS's.

In the context of this response, DOE staff people, who are professionally active in many associated fields of endeavor, are considered to be "members of the scientific community." They will have continued input into the decisions that need to be made. In those areas where the expertise needed may not be available on the staff, it will be employed from outside DOE.

6. COMMENT: 62-2

BY: North Kennebec Regional Planning Commission

Much of the data collected was outdated and inaccurate.

RESPONSE:

DOE utilized the most current data available in all studies completed. An early study, the Environmental Data Reconnaissance Report, March 1976, was prepared to identify the types of resource and planning data available in New England and was used by all contractors to assist in their data collection. Over 300 people and agencies were contacted as part of the data identification and collection phase. To be assured of current land use and natural systems data, DOE provided 1" = 2000' color air photos taken in the fall of 1976 to all study contractors. DOE feels that it has used the best data available and made every attempt to use accurate information.

It is undoubtably possible that some pieces of information were outdated or inaccurate but it is felt that the analysis completed captures the overall environmental impact that would be expected to occur.

7. COMMENT: 68-1

BY: Vermont Public Service Board

The Board, as the State agency responsible for passing judgment on proposed transmission facilities within the State of Vermont would normally review and evaluate proposed transmission lines and corridors using different environmental criteria than those apparently applied in the Draft EIS (30 Vermont Statutes Annotated 248).

RESPONSE:

DOE has received 30 Vermont Statutes Annotated 248 and these statutes do not specifically list environmental criteria except to state "(4) will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment, and the public health and safety." For the EIS, DOE developed environmental criteria that include at least all of these general categories of impact and performed the analysis using professional consultants from the New England area who represent experts in each of the topics studied. DOE feels that the criteria used in the EIS has enabled a true and objective evaluation of the impacts.

8. COMMENT: 68-8

BY: Vermont Public Service Board

Furthermore, it appears that the criteria upon which the Department bases its environmental impact study inadequately evaluates the impact of transmission placement on the Vermont landscape.

RESPONSE:

See response to comment 68-1.

9. COMMENT: 68-9

BY: Vermont Public Service Board

The Draft EIS clearly fails to meet our criteria. The planned system should undergo the rigorous analysis that we accord other transmission lines in the State.

RESPONSE:

DOE will work with local and state agencies in an attempt to identify locations and management techniques which are mutually acceptable.

DOE's activities will be guided by the concept of Federal supremacy. It will be subservient to non-Federal regulations only where it is required to be so by Federal regulations.

10. COMMENT: 11-9

BY: Mary M. Grow

The second major problem I mentioned, the lack of information, appears again in the analysis of the impacts of building the line in the recommended western corridor. Even for this comparatively small area--about 385 square miles (Appendix E, Vol. 1, pp. 1-2 and 2-2), contrasted with 32,00 square miles examined for all possible routes (DEIS, p. 2-1)--very little hard information has been obtained. For example, the existence of rare plants is guessed at, on the basis of the existence of favorable habitats (DEIS, pp. 2-52 and 2-53). The Center for Natural Areas, the contractors who wrote Appendix E, report that they were required to do all their field work between May 1 and July 1, and specifically recommend more search for rare plants (Appendix E, pp. 8-1 and 8-2). The numbers and kinds of wildlife were guessed on the same basis; the DEIS says on page 2-58:

> The type of vegetation, as well as its presence or absence, is acknowledged as being a crucial element in the distribution of wildlife. The cover type categories inventoried along the route, therefore, serve as the foundation for an assessment of wildlife potential. Other complex factors that influence wildlife abundance are not considered here.

Consequently, the so-called description of wildlife in Section 2 of the DEIS is full of statements like such an area "is thought to be a bald eagle nesting area" (p. 2-71), or "Game species are probably more abundant here..." (p. 2-73), or such an area "may be important to wintering deer..." (p. 2-75). Almost nothing is known about the use of the area by endangered wildlife species (p. 2-77).

We should expect, then, that Section 3 of the DEIS, which tries to predict the environmental impacts of building and maintaining the transmission line, would also be vague and inexact, and so it is. Among the things not known are the effects of dividing forested areas into "habitat islands" (p. 3-46), and the effects on deer, on moose, and on most other animals (pp. 3-47 through 3-52). I think, though, that the description that most clearly shows the utter inadequacy of this whole discussion of impacts is the description of impacts on waterfowl (including some 10 species of geese and ducks). The DEIS solemnly states, on pages 3-53 and 3-54, that the transmission line project might either increase or decrease their food supplies and it might either increase or decrease possible nesting sites. And it concludes, "Thus, although the extent of impacts to waterfowl populations is unknown, impacts could adversely effect (sic) waterfowl populations slightly." (p. 3-54)

RESPONSE:

While it is true that the nature of some impacts is not well known, the level of effort expended on this phase of the project analysis is considered adequate to meet the basic objectives of an EIS. Further detailed studies of some resources may be required once the exact alignment of the right-of-way is decided upon.

11. COMMENT: 75-6

BY: U.S. Environmental Protection Agency

We believe that the DEIS inadequately addresses the impact of the additional 74 mile, 345 kV transmission line required at the ultimate level of development of the Dickey-Lincoln Project. Though the DEIS states that the DOE evaluated the Project at both the authorized and ultimate development levels, the DEIS does not analyze the environmental impact of this line in any of the route identification or route impact studies. Though the corridor evaluation study

screens three alternative corridors for this line (and recommends one), it is impossible, from the information presented in the DEIS and its appendices, to locate these corridors with any degree of certainty. It is apparent only that all three corridors pass through substantial portions (up to 25 miles) of the White Mountain National Forest. Accordingly, we find it impossible to comment on the potential environmental impact of this portion of the Project. We understand the difficulties of attempting a detailed analysis of the impacts of ultimate Project development for all the alternative system plans. However, in the case of the recommended plan, and in view of the national significance of this area (which the DEIS appendices clearly acknowledge), the Final EIS should include route impact studies for these corridors at the same level of detail as done for the authorized project, and a further analysis of non-National Forest corridors.

RESPONSE:

The corridor study (Appendix B) examined all the alternative system plans at both the authorized and ultimate levels of generation. The additional line required to Beebe was included in this assessment. An additional line between Beebe and Webster was not evaluated as part of the corridor study because its requirement was established after the study was completed. See response to comment 46-4.

The corridors delineated were of varying widths (1 to 10 miles) as shown on Map 1, Appendix B, Volume 1. These corridor locations were defined with a degree of certainty that should allow for them to be located in a geographical sense. No routes were defined within the corridor during the Phase 1 studies.

At the authorized level, Plan E, the proposed plan, and any of the top-ranked corridors do not go through the White Mountain National Forest. At the ultimate level, the line from Moore to Webster would go through the forest.

The detailed studies and information required for the DEIS was conducted for only the authorized level of transmission at this time. At this point in the project planning process, the project and the EIS addressed only the aspects of the project that have been authorized.

If additional generation is to be installed at the project, new electrical studies would be completed to determine more precisely the added transmission that would be required at that time. Obviously substantial changes between now and the time the additional transmission would be required could dictate different transmission additions.

Based on this, DOE felt that detailed routing studies and public review of locations and impacts would not be needed at this time.

ACCESS

1. COMMENT: 13-9

BY: Valley Residents Against Dickey-Lincoln

p 1-18, #1 The statement that "most of the new access roads would be on the right-of-way" doesn't seem to jibe with table 1.03-3 on page 1-20 where it shows 207 out of 445 miles are off the ROW.

RESPONSE:

The table projects 238 miles of access road on the right-of-way and 207 off the right-of-way. The statement referred to (top of p. 1-18) is correct. However, the word "occasionally," in the following sentence is misleading and has been deleted from the FEIS.

2. COMMENT: 15-3

BY: Land and Water Resources Institute - University of Maine, Orono

The question to be asked is "will access remain limited?" The answer is not to be found in the Draft EIS. This issue must be addressed. A primary reason the area has retained its wilderness character is that the major landowners have curtailed access. Assuming that Dickey-Lincoln is approved and that the transmission lines are built along the westerly route, what type of activities will be allowed and/or encouraged along the right-of-way and access roads? The EIS mentions, impact from increases snowmobile use, and indicates that this type of use, if not encouraged, will at the least be allowed. How about summer vehicular activity? Will four-wheel-drive vehicles be allowed on the right-of-way? motorcycles? ORVs? How about on the off-right-of-way access roads? Traditionally, ORVs and motorcycles have been banned from the North Maine Woods, and many roads are closed to all vehicular travel. Will these "regulations" remain in effect? If so, who will be responsible for enforcement? The proposed transmission route will cross many paper company haul roads. For public safety, access must be restricted in areas of active lumbering operations. Will all these roads be gated and maintained? At whose expense?

RESPONSE:

Acquiring a Federal easement to construct, operate, and maintain a transmission line does not give the public legal right to use the right-of-way, or travel the access roads against the landowner's wishes, nor does it give the Federal government the authority to

ban the public unilaterally. The decision whether access is to be curtailed rests with the property owner. Agreements will be reached with each landholder regarding limiting access to and along the right-of-way. Temporary roads not needed for transmission line maintenance will be permanently barricaded unless the landowner wants them left open for timber harvesting or other purposes. Permanent roads will be gated and kept locked at the owners request, and at government expense. The North Maine Woods regulations should apply equally to these roads as to the other roads in the area.

3. COMMENT: 27-3

BY: National Wildlife Federation

Construction of the Dickey-Lincoln transmission lines, especially if the proposed route is followed, will require a substantial network of access and maintenance roads. After careful study, we have concluded that there is no practical way to prevent a substantial portion of these roads and the transmission line route itself from being used by motorized vehicles.

Given the propensity of a portion of the American public for going wherever possible with vehicles of various sorts, the net result will be the destruction of recreation in terrain remote from the noises and signs of civilization. This destruction will occur throughout the major portion of what has accurately been described as the largest remaining uninhabited tract of forest land in the Northeast. This will undoubtedly be the most ruinous single effect of the transmission lines. Those who insist on driving into the middle of their outdoor recreation area already have most of the Northeast available to them. On the other hand, the large and rapidly growing number of people who seek solitude, quiet, and a wild setting are being forced into an ever-diminishing acreage of remote country. To open so huge an area of northern New England to virutally uncontrolled vehicular travel is quite simply to cause irreparable devastation to remote-area recreation opportunities in the Northeast. This band of remote, uninhabited country stretching across the northern tip of New England is all we have left. It cannot be replaced, and to destroy it is unthinkable!

RESPONSE:

See response to comment 15-3.

4. COMMENT: 57-2

BY: Natural Resources Council of Maine

2. Uncontrolled Public Access To And Use Of The Right-Of-Way. As is true of the unresolved issue of the use of herbicides, the DEIS and the discussion at the May 4 hearing in Augusta also made clear the DOE has also failed to resolve the important issue of public access to and use of the right-of-way. The general tone of the answers we received at the May 4 meeting were to the effect that the matter was not entirely resolved, that DOE would simply like to see adopted and would encourage policy appropriately restricting public access; the matter, however, might well have to be left up to the local landowner involved and that general uncertainty prevailed as to what the final policy and its consequences might be. Obviously, uncontrolled and unmonitored public access, given the variety of four-wheel drivers, ORVs, trail bikes, and snowmobiles that could use both the access roads and, in many instances, the right-of-way itself, poses severe threats of devastation of highly critical areas and abuse of other areas. It also could impose unreasonable pressures on certain wildlife stocks.

RESPONSE:

See response to comment 15-3.

5. COMMENT: 57-11

BY: Natural Resources Council of Maine

3. The Undetermined Location Of The Access Roads Themselves. At the Augusta hearing on May 4, Mr. Hurless acknowledged that the access roads to the right-of-way would be the means by which activities would result which would most likely have the most severe impacts on the area. In the light of this fact, the scientific and professional community involved should have been given the opportunity to comment on the location of these access roads. The DEIS, however, does not describe where such roads will be located and the resource maps do not contain information on sensitive resources beyond the right-of-way which would enable the roads to be routed away from such areas. As the DEIS now stands, no one can know for certain that access roads will not cross outstanding trout streams, approach osprey nests, or destroy rare plant communities discernable only by trained specialists.

The repetitive nature of the disturbances outlined above is not adequately considered. If we have unlimited public access, the free use of snowmobiles and other vehicles, coupled with herbicide spraying, we will have repetitive disturbances, month after month,

year after year. Such disturbances are totally unlike and greater by magnitudes than the type of disturbance that occurs, for example, from a 40-year logging cycle. These repetitive disturbances could have serious adverse impacts on wildlife.

RESPONSE:

It is true that the locations of the access roads are undetermined at this time, just as the exact final right-of-way location is unknown. Access roads are needed primarily to reach tower sites, which are in turn dependent on the final centerline location and design of the line. DOE does not feel this site-specific information is necessary to adequately assess the overall impacts of the proposed transmission system, including access roads.

Access road milages, both on and off the right-of-way, have been carefully estimated. Nearly all new road construction would take place within the one-half mile wide route, for which considerable resource information has been obtained. This information will be extremely useful in assuring that all roads are located, designed and constructed in such a manner that impacts on critical resources, such as those mentioned in the comment, are avoided or minimized. DOE is committed to follow the mitigation measures outlined in Chapter 4 of the EIS, which provide safeguards against undue disturbance.

In summary, specific access road locations are not available at this level of study, nor are they believed to be necessary.

6. COMMENT: 57-7

BY: Natural Resources Council of Maine

The issue of whether and to what extent there will be control of public access on the access road and on the right-of-way must also be resolved.

RESPONSE:

See response to comment 15-3.

7. COMMENT: 57-8

BY: Natural Resources Council of Maine

Finally, access roads must be located and the rationale for those locations given.

RESPONSE:

See response to comment 57-11.

8. COMMENT: 72-1

BY: U.S. Department of Agriculture

(2) Provisions for control of erosion and management of water during construction.
Comments --
A. Erosion and sediment control on access roads
1. Sediment traps or debris basins may be needed to protect intermittent and perennial streams, ponds, and wetlands. These "traps" should collect runoff from roadside ditches. Some may be permanently needed. Temporary roads need less elaborate traps.

RESPONSE:

Sediment basins, such as those described in this comment, are common design features in roads with roadside ditches, and will be used wherever appropriate. Mitigation measures 17 and 22 (p. 4-3), were meant to include these "traps" as well as other erosion and sediment control measures.

9. COMMENT: 72-18

BY: U.S. Department of Agriculture

The company should consider provision of access to public waters and other recreation areas while constructing the line.

RESPONSE:

DOE can only acquire easements for purposes related to the construction, maintenance, and operation of the transmission facilities. However, another Federal, state, or local public agency could acquire an additional easement over the same road from the underlying owner to provide public access to public waters or recreation areas. Sometimes cost-share arrangements are made to fund a multi-purpose road jointly, and the location can be adjusted to serve more than one purpose. DOE is willing to explore such possibilities.

GENERAL COMMENT

1. COMMENT: 35-3

BY: Town of Moose River

Additionally, how can electricity which is transported out of the State to a "pool" and then returned to the State be considered as "inexpensive electricity." We are only lay people, but any thought given to that statement would lead one to believe that unless specific rates were regulated by law and were sufficiently low to protect the consumer, regular rates would be eaten by our present rate of inflation.

RESPONSE:

Identification of the proposed "plan of service" for integrating the Dickey-Lincoln School Lakes generation into the New England Power Pool (NEPOOL) system resulted from a decision based upon extensive engineering, environmental, and economic studies.

Comments 35-3 and 40-2 relate to the the engineering (transmission system planning study) portion of the total effort. This study effort, which was done in cooperation with the NEPOOL planning organization (NEPLAN), required something over one year to complete. Its assumptions, methodologies, and results are summarized on pages 11 through 18 of the Transmission Planning Summary (Appendix C) dated November 1976, and in great detail in the report entitled, "Transmission System Planning Study" (Appendix A) dated February 1977.

Maximum benefit from the project will accrue if the Dickey-Lincoln generation is treated as a NEPOOL resource, and is integrated into the load/resource curve for the region in a certain way. This can only be achieved if the transmission facilities are designed to allow the generation to serve as a "Pool" resource, and it is dispatched by NEPOOL to accomplish this purpose.

Any reference to this resource being "inexpensive" is based on a comparison of the delivered cost of this power to the ultimate consumer versus the delivered cost of other alternate sources of peaking and energy capability available to the region. The proposed plan of service results in the lower cost of power to the ultimate consumer of all alternatives studied.

There are "no firm commitments" for sale and distribution of the power from the project. A recommended plan for marketing the power is included in Section 1.03 of the Corps of Engineers DEIS. Firm commitments (contracts) would only be made after a decision is made to construct the project.

The project will supply both peaking power and energy. The transmission system must be adequate to meet reliability criteria for delivering the resource from the plant to the Pool under a wide variety of load and resource assumptions, and under adverse "outage" assumptions for transmission facilities in the Pool. The reliability must be adequate for both "steady state" and "transient" conditions.

The transmission facilities may be totally or partially constructed by the utilities in the region, or they may be constructed by the Federal government using "taxpayers' dollars." If they are built by the Federal government, the investment differs from most other uses of Federal funds, in that the financial plan for the project will be developed to repay, from power revenues, all power allocated costs of the project, with interest.

2. COMMENT: 40-2

BY: Vermont Group of Sierra Club

It is evident that the plan for construction of the transmission lines does not correspond in a direct way to the potential utilization of the peak period electricity to be generated. There are thus far, to our knowledge, no firm commitments of power to particular areas in New England. The maximum amount of power to be transmitted from the Dickey-Lincoln Dams through the lines would be for between 3 and 4 hours a day. Most of this could conceivably be sent to areas with more electricity users than northern Vermont, New Hampshire, and Maine. The EPA response to the Corps of Engineers Draft EIS states that the "main energy related benefit of the proposed project is to supply peaking power principally to Southern New England." One begins to wonder why such a large transmission project, supposedly connected to the construction of the Dickey-Lincoln Dams, is to be financed by taxpayers' dollars. What are the plans for utilization? This question should be addressed in detail in the Final EIS so we will be in a better position to judge if it's worth the impact it would create.

RESPONSE:

See response to comment 35-3.

3. COMMENT: 51-6

BY: Hal Clifford

It is noted that contractors should plan not to use heavy equipment on rainy days to prevent unnecessary impacts, but they count on a

20-day work-month. Anybody who is familiar with the area knows that it rains frequently up there, often more than here.

RESPONSE:

The projected construction schedule for the proposed facilities takes into account an approximate three-month period per year during which construction would not occur. As stated, a 2 1/2 year clearing and construction period is projected. To be able to project the income of construction workers, and the proportion of that income which would be spent in communities along the transmission line, a 20-day work month was assumed for the socioeconomic study. This assumption may not be valid with respect to all months during which construction occurs but is perhaps representative of that figure. Given the provisions for work stoppage due to wet conditions, a 2 1/2 year construction period is judged adequate for the proposed facilities.

EDITORIAL

1. COMMENT: 13-11

BY: Valley Residents Against Dickey-Lincoln

p 1-19 Is there something missing from this table? What does the last column mean--there are no numbers?!

RESPONSE:

Values from this table were inadvertently left out of the text. The text has been corrected to reflect this additional information.

2. COMMENT: 13-15

BY: Valley Residents Against Dickey-Lincoln

p 2-60 A page reference has been omitted after "cover types."

RESPONSE:

Refer to Page 3-7, Appendix E, for full explanation.

3. COMMENT: 13-20

BY: Valley Residents Against Dickey-Lincoln

pp 3-58 & 3-59, tables 3.08-2 & 3.08-3 The fact that wildlife habitat impacts between Dickey and Fish River are slightly beneficial (table 3.08-2) does not seem to follow from table 3.08-3 where 72% of this route has a severe disturbance probability and 28% has high. Also, why does the statement under the table say about 75% of the route has high disturbance impact when the table shows 72% severe?

RESPONSE:

The first part of the comment refers to separate measures that were made as part of the impact on wildlife studies. These separate studies are discussed in the DEIS on p. 2-58 to 2-77 and described further in Appendix E, Chapter 2.

Briefly, the first measure was to examine the relative impact, positive or negative, on the general wildlife habitat of three separate groups of species: rare, threatened, or endangered; species legally harvested; and overall species richness (all species). The second measure, which is termed Disturbance Probability, considers each species' habitat remoteness, which is very important to large raptors, nesting waterfowl, Eastern cougar, Eastern timber wolves, and mustelid furbearers.

It is reasonable that, for all species taken as a whole, impact on habitat will be slightly positive, whereas for those particular species of wildlife that require remoteness, the construction, maintenance, and operation of the transmission facility would have a significant probability of high disturbance.

The second part of the comment points out an error in the text. The word "high" should be changed to "severe." Changes have been made in the text.

4. COMMENT: 13-23

BY: Valley Residents Against Dickey-Lincoln

p 3-108, #1 & table 3.13-1 The text says the viewer impacts are generally moderate while the table shows 28.6% moderate, 51.4% high, and 13.2% severe (text says 13.2% high). Which is right? Also the table says 3.9% instead of 3.9 miles.

RESPONSE:

The text has been corrected to reflect this information and the other inconsistencies that the commentor points out. The text should read that the viewer impacts are generally high.

5. COMMENT: 72-3

BY: U.S. Department of Agriculture

The first paragraph, page 3-7 - Four percent -- Does not agree with Table 3.03-2, Page 3-9 percent figures. Please check.

RESPONSE:

Table 3.03-2 is right. The text has been changed to reflect this inconsistency.

6. COMMENT: 72-9

BY: U.S. Department of Agriculture

Please note that the definition of "wetland" on page 2-24 is not within Federal guidelines. Also, the designation "Great Pond," page 2-100, 2nd paragraph, is not used correctly. A great pond includes all lakes and ponds in Maine 10 acres or larger and does not "denote remote characteristics."

RESPONSE:

A broader definition of wetlands was used so as to include all areas that might be ecologically (as opposed to institutionally) important. Regarding the comment on Great Ponds, refer to the response to comment 73-5, under Wildlife.

WILDERNESS

1. COMMENT: 15-1

BY: Land and Water Resources Institute - University of Maine, Orono

However, there is one subject in particular which was barely addressed and which, considering the location of the proposed transmission route, must be faced squarely. This broad subject area concerns the concept of "wilderness." What constitutes wilderness, what is its significance on a local, State, and national level, and what is its value? These questions are largely unanswered, and to some extent they are largely unanswerable, at least quantitatively; regardless, they are of recognized importance and must be addressed.

RESPONSE:

Although a legal defintion of wilderness exists, the term is often used loosely to describe a number of different landscape conditions. Wilderness is legally defined by Public Law 88-577 as follows:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an areas where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements of human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value."

Wherein,

> "...there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act...there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other forms of mechanical transport, and no structure or installation within any such area."

This definition and the use provisions are used to regulate the incorporation and use of such lands in Federal projects. However,

"Within wilderness areas in the National Forests designated by this Act, (1) the President may, within a specific area and in accordance with such regulations as he may deem desirable, authorize prospecting for water resources, the establishment and maintenance of reservoir water conservation works, power projects, transmission lines, and other facilities needed in the public interest, including the road construction and maintenance essential to development and use thereof, upon his determination that such use or uses in the specific area will better serve the interests of the United States and the people thereof than will its denial."

According to the above criteria as stated in the Maine Comprehensive Outdoor Recreation Plan, Volume III, 1972, "Maine has only one area officially designated as a Federal wilderness area; a 2,800 acre area in the Moosehorn National Wildlife Refuge". However, Thomas Cieslinski, in his "Outdoor Recreation Paper", prepared for the Land Use Regulation Commission in May, 1975, proposed "that the phrase "wilderness area" be used to describe those areas where no development of any kind, including any form of recreational development, be allowed without a permit", but recognizes that "wilderness... refers to a tract of land completely untouched by human beings" and that using this definition "it would appear that land with even rudimentary trails can no longer be called wilderness, but could be called a primitive area."

In their Comprehensive Land Use Plan for the Plantations and Unorganized Townships of the State of Maine, August, 1976, the Land Use Regulation Commission (LURC) states:

"The jurisdictional area of the Land Use Regulation Commission is important, regionally and nationally, as a relatively wild, natural area. Some argue that none of the jurisdiction meets the definition of wilderness because of land and timber management and recreational use. Depending on the level of forest management in the area, once harvested, a region is left to nature for anything from 10 to 80 years. Forest flora and fauna grow and live until the natural succession again produces tree growth of some economic value. Thus, although the area is not virgin forest, it is relatively inaccessible and it does have a natural character."

Further, in defining wilderness as areas "more than five miles from the nearest railroad, highway, or navigable waterway", LURC in its Policies Plan of December, 1974, was able to include "the Maine Woods" as one of the remaining "wilderness areas" in the northeastern U.S. (Adopted from Tunnary and Pushkarev, Man-Made America: Chaos or Control, 1963). In discussing "Basin 1" (an area which includes much of the St. John and Allagash River Watersheds) the North Atlantic Regional Water Resources Study identifies the major need for this basin to be "the preservation of 6,000 square miles of unique wilderness quality landscape...the extent of wilderness in the

basin is unique in the NAR (North Atlantic Region) however, and its remoteness (more than 5 hours driving time from any metropolitan center) makes it one of the largest, least accessible and most primitive geographical units east of the Mississippi." Further, LURC (Cieslinski, 1975) lists the following findings of fact: "Unorganized area residents, and lessees in the unorganized area like the Maine Woods primarily because of its wilderness atmosphere... wilderness areas in Maine are nationally significant recreational resources from the standpoint that Maine is one of the last states in the east with large, intact wilderness areas."

Although the references above attest to a perceived wilderness value for a large part of the study area for this project, the "Outdoor Recreation Paper" also recognizes that "the wealth of wilderness research and the literature available suggest that the majority of professionals consider wilderness to be as defined by the National Wilderness Act of 1964."

With this in mind, a few statements on the issue which have been made by a number of other commenters (opponents of the project) are in order. One such person recognizes the area as "extensive wildlands only lightly touched by the hand of man". The commenter further states: "I know that there have been intrusions by man, that the Dickey-Lincoln project area is no longer a wilderness", however, recognizing that "even now a wilderness experience can still be found in many sections of this vast forest region..." Another group regards the area only as the "largest remaining uninhabited tract of forest land in the Northeast." And they go on to state that "conservationists have never claimed that the Dickey-Lincoln area is pristine wilderness."

The documentation above is intended to illustrate the degree of confusion concerning the true nature of the area generically referred to as "the Maine Woods". The only factual statment that can be made about it is that it is not a legally defined "wilderness". As such, there is no geographically or qualitatively defined area to address. Therefore, DOE cannot make "the simple statement that this project will change permanently the character of the only major wilderness area in this part of the country." To do so would be to engage in opinion-making and to exercise subjective judgment. Nonetheless, it is not that nothing has been said about this area. On page 3-82 of the DEIS in section 3.09.1.16 entitled "Wildland Character" the following may be found:

> "The proposed transmission route will have an impact on the wildland character of the western Maine region and, on those who use it because of its qualities. The users include two main groups, the "active users" and the "passive users". The active users are the recreationists and guides who engage in various forms of "primitive recreation" activities in the wilderness area. According to the Maine Land Use Regulation Commission (LURC), these activities include climbing, hiking,

canoeing, fishing, hunting, trapping, cross country skiing, snow sledding, snow shoeing, wildlife viewing, and camping. The second group, the "passive users", consists of such people as students of ecology, naturalists, members of conservation and recreation groups, and others who place a high value on the wildland character of this region. These individuals derive satisfaction through direct or indirect knowledge of the area, whether or not they have visited it in the past or plan to in the future.

The area is significant to the user groups discussed above not only because it provides an expanse of undeveloped land ideal for primitive and natural environment related recreation activities but additionally as an important cultural symbol. These wildlands serve as a symbol of wilderness values and, consequently, have a social function which transcends the economic functions which occur on them."

Also germane to this issue is a quotation from the Environmental Data Reconnaissance Report, a study, which although not incorporated within the DEIS, was most instrumental in its production. In fact, it is one of the first documents produced by DOE on the project; was provided for, and used extensively by, every project team member and consultant to the studies; and, served as the first identification of issues relative to the location of transmission lines in the three-state (Maine, New Hampshire, Vermont) study area. From "Description of Issues", page 11:

"The issue of a 'taking' of resource values is most acute in the State of Maine. The northwestern part of the state, which is a probable area of study, is perceived by many (Maine residents and other residents of the northeast and east coast) as a "wilderness area." In fact, whether it conforms to a more classical definition of "wilderness" with the required contiguous land area not disturbed or influenced by man's activities (roads, homes, industrial activity) is not important to many, because the perception of the area as a wilderness is almost unanimous. Further, this identity is not unique to Maine alone. Respectively, the areas of probable study are known in Maine, New Hampshire and Vermont as the Unincorporated Territory (also Unorganized Territory and North Maine Woods), North Country and Northeast Kingdom. And, recently (1966) the Maine Bureau of Parks and Recreation completed the designation and the acquisition of the Allagash Wilderness Area, which would seem, at least in part, to confirm the value of "wilderness" which is perceived as "true" wilderness. It is at least an extremely rural area (the population of all of the Unincorporated Territory in Maine is about 12,000 people), which aside from the timbering industries is used primarily for recreational purposes - hunting, fishing, hiking, camping, skiing, boating, and sightseeing (all of which are either directly or indirectly linked to a source of a significant amount of income to the

states). Regardless of its identity, though, the institution of transmission lines is regarded as an "aesthetic intrusion" either for its degradation of the "wilderness" values which exist, disruption of recreational activities or its detraction from the visual quality of the area."

Therefore, it is DOE's contention that it did "see the forest for the trees," and that the kind of editorializing that certain requested comments would entail is unnecessary. Rather, in answering comments, the study area must be disaggregated into the resource bases likely to be impacted by the project. In this process, comments such as these are needed to identify the more subjective non-qualifiable or quantifiable issues and resources. Therefore, the above comments are appreciated. Because of such comments, and others relative to "wilderness", and their incorporation in the final EIS, the issue will continue to be addressed.

2. COMMENT: 15-4

BY: Land and Water Resources Institute - University of Maine, Orono

Though the impact of a transmission line along the proposed route has been discussed in great detail, the impact of increased use of Maine's wildlands due to improved access has not been adequately addressed. It must be recognized that access to the corridor will potentially open up the majority of Maine's wildlands to vastly increased recreational use. This use is not limited to a 150-foot right-of-way or even to a "viewshed," but potentially involves literally thousands of square miles of Maine's--and the nation's--remaining wildlands. Policy decisions regarding access must be made now to allow quantification of this impact.

RESPONSE:

The potential will exist for increased recreational use in the wildlands as a result of the creation of the transmission right-of-way. Although impact due to increased recreational opportunity through greater access was generally identified as being positive in the DEIS, the actual tabulation of impact highlighted the negative effects of the proposal. This tabulation was performed after an extensive investigation to determine the location of existing, proposed and potential recreational resources. These resources are documented and assessed in Appendix I. In addition to recreational resources commonly considered in such an assessment, there was an attempt to record features in the "wildlands" which are representative of remote characteristics such as high elevations, remote trout fishing ponds and their shorelines (mapped as Proposed Recreation and Conservation Areas) and surface water bodies where recreation potential exists. Other more commonly known features such as

public lands, wildlife viewing areas, canoe routes, wild and scenic river candidates, camping areas, hiking trails, fishing streams/lakes/ponds, great ponds, sporting camps, and lookout tower/fire tower sites were also mapped and evaluated. Through the mapping and evaluation exercises, severe and high impacts were assigned to many sites and areas. In so doing, such sites and areas were further analyzed with respect to the mitigation of impacts. These efforts, however, did not specifically address the secondary effects of the project in terms of additional positive or negative impact created through increased recreational use associated with increased access. To address such effects would have entailed an individual and detialed study of the relationship of the new potential use areas to the recreational needs or demands of the particular area being affected. This effort was not undertaken.

3. COMMENT: 70-2

BY: New Hampshire Wildlife Federation, Inc.

We oppose the need to construct access roads to these lines for maintenance purposes because it means destruction of wilderness areas now almost inaccessible.

RESPONSE:

See response to comment 15-3

4. COMMENT: 59-1

BY: Environmental Defense Fund

Our comments on the Corps' EIS also addressed the need to view the environmental losses resulting from the dam in the context of the ever-increasing encroachment upon wilderness areas, particularly in this part of the country. The importance of this comment has been amplified by a careful reading of the transmission EIS. Together, the dam and transmission lines will have a devastating impact on this area. Neither EIS begins to address this impact, or to place it in its proper context.

The transmission EIS, like the EIS for the dams, contains an overwhelming amount of detail regarding the mile-by-mile, foot-by-foot, stream-by-stream, and plant-by-plant effect of the transmission lines and their construction. However, almost in a literal sense, both impact statements completely fail to see the forest for the trees. No where in either document is any attempt made to understand

what it means for this country to cut this permanent swath through one of the last remaining wilderness areas east of the Mississippi River. The EIS does contain segment by segment evaluations of the ecological and aesthetic impacts rated on various scales, and it also recognizes that may people put a value on the preservation of wilderness areas. But one searches in vain for the simple statement that this project will change permanently the character of the only major wilderness area remaining in this part of the country.

In our previous comments, we showed that the Corps' economic calculations were carefully designed to conceal the fact that this project is an economically unjustifiable boondoggle. If the Federal agencies involved insist on continuing to support this project, they have an obligation to state publicly what its impact will be. This obligation cannot be met solely with an excruciatingly detailed documentation regarding each individual segment. What really counts is the overall impact of the project within the context of continuous nationwide encroachment on wilderness areas. The Final EIS must recognize this fact.

RESPONSE:

See response to comment 15-1.

SUBSTATIONS

1. COMMENT: 52-10

BY: Appalachian Mountain Club

Next, according to the DEIS, transformers and some switchgear are the only additions needed to incorporate the existing Moore facilities into the project plan. However, it is our understanding that switching station alone will not be sufficient to connect the 345 kV transmission line with the 230 kV equipment in the existing substation. Is this indeed the case? If so, we are concerned that the impact of large scale additions to the Moore station, including possible conflicts with the construction of I-93 have not been adequately considered.

RESPONSE:

Transformation equipment will also be required. As stated in the DEIS, p. 1-28, the Moore Substation addition would require about 5.2 acres. There would be no conflict with I-93, which will pass about 1400 feet north of the Moore Substation.

1. COMMENT: 52-11

BY: Appalachian Mountain Club

Finally, we question the extent to which proposed base load plants along the western corridor route (Clarksville NH, Monroe VT, and West Milan NH) affected the choice of system plan. The ultimate development of Dickey-Lincoln calls for the construction of 2 reversible turbines, which can be added only when sufficiently inexpensive baseload power is available on the power grid. To what extent were these proposals considered in the choice of corridor?

RESPONSE:

The "proposed base load plants along the western corridor route," as referred to in this comment, were not considered in the choice of the corridor. The implication in this comment is that pumping power for the pump-turbine units at Dickey should be provided from low energy cost base load generation located somewhere near the project, ostensibly to minimize transmission losses.

It should be pointed out that one of the four Dickey units at the authorized level is planned to be a pump-turbine. The remaining two for the ultimate level are also planned to be pump-turbines. This means that pumping power can only be at most one-half of the project capability.

Transmission losses associated with pumping power would be fairly low since transmission losses vary as the square of the loading and the pumping occurs during light load hours when the transmission system is relatively lightly loaded. On the other hand, losses resulting from transmission of power during the peak load period are relatively high. Therefore, it would be of advantage to locate base load generation as close as possible to the major load centers to minimize overall transmission losses. This would tend to make the sites referred to in the comment less attractive from a loss standpoint.

One other aspect which should be considered is that the project is expected to be a New England Power Pool (NEPOOL) planned generating plant. As such, it will be dispatched through NEPEX (NEPOOL's dispatching center). Its output will be integrated into the New England transmission grid in coordination with other resources dispatched by NEPEX so as to fit properly into the New England load shape. This coordinated operation is necessary to make optimum use of the generation available and to improve efficiency of the system. The pumping energy for the pump-turbines will also be supplied in an efficient manner as part of the integrated operation of the New England power system.

2. COMMENT: 68-6

BY: Vermont Public Service Board

A review of the Draft EIS indicates that the Department has based its load and system requirements projections on a 1974 New England Power Planning Committee Study (1974 Study) containing data which apparently dates back to 1973. Since that time, forecasted growth rates have changed considerably, resulting in a mid-1980's condition that would, at this time, be quite different from that upon which the Draft EIS is based.

For example, a review of Appendix A of the Draft EIS, which includes certain charts of the 1974 Study, indicates that a "typical" December, 1985 week load curve would peak at 33,000 mW. A review of the January, 1978 New England Power Pool (NEPOOL) Load and Capacity report, however, forecasts the 1985-86 winter coincidental peak to be 21,484 mW. This is only 65% of the 33,000 mW projected in the transmission study. As seen another way, it would take until 1994-95 at the recently forecasted NEPOOL average compound growth rate of 4.68% per year to reach 33,000 mW from the 1977 December NEPOOL peak of 14,900 mW.

In addition, it is important to note that while the 1974 Study shows a future generation and transmission plan for New England in the mid-1980's which would support the then expected load of some 33,000 mW, these plans have been delayed or revised so that several differences now exist between the projections of the Vermont transmission grid made by the 1974 Study and those made by more current studies. The following differences are noted:

1. The second 345 kV line from Vermont Yankee south to Massachusetts would be deleted.

2. The second Vermont Yankee-Coolidge-West Rutland 345 kV circuit would be deleted.

3. The 1,150 MW Orwell nuclear plant would be deleted.

4. The double-circuit 345 kV line from West Rutland to Orwell and the single-circuit Orwell-Essex line would be replaed by a single-circuit West Rutland-Essex 345 kV line.

5. The Essex-Granite 345 kV line would be deleted.

In light of these changes, it is impossible to tell from the Draft EIS whether the transmission lines would be capable of absorbing the output of the Dickey-Lincoln Project without adversely affecting the stability and reliability of the transmission system in Vermont.

We also note that the economic evaluation for transmission shown in Appendix A does not include the Granite to Essex line and the

assoicated substation costs. We have been advised that this may be an additional cost of approximately $13 million in 1976 dollars, using the Department's own unit costs. (See Table A-5, Appendix A of Draft EIS)

For these reasons, we believe that it is imperative that the Department conduct system studies based upon a mid-1980's condition as currently foreseen, and implement corrective design measures, if necessary, to assure that there will be no adverse effect upon the Vermont transmission system.

RESPONSE:

The concerns expressed in this comment are very real and, as such, have been given a considerable amount of attention. The rapid deceleration in load growth projections and changes in resource schedules became apparent before completion of the study discussed in Appendix A. The problem is reviewed in somewhat abbreviated form starting on page 9 of the appendix.

As stated in Appendix A, load and resource information included in this study was that of the November 1974 study of the project prepared by NEPLAN. It was decided to use the same load-resource data so as to maintain consistency with the previous study.

During the course of the study and after discussions with NEPLAN on changes in load projections and resource schedules, an analysis was made of the study results as affected by those changes. It was decided that an updating of the study should not be made at that time since the impact upon transmission system facilities, schedules, and economics could be determined with what we believed was sufficent accuracy for the purposes of this study. In addition, if the project is authorized for construction, a more detailed transmission study will be performed incorporating the most current load projections and resource schedules. This study would be carried out in cooperation with NEPLAN and all interested utilities. We would also maintain communication with other interested entities through notices, direct contacts, meetings, etc.

Subsequent to the preparation of Appendix A, we determined that, with the deletion of the Orwell Nuclear Plant and of associated transmission, the Granite-Essex 345-kV line would be required to integrate Dickey-Lincoln power into the New England transmission grid in advance of utility need for this circuit. Accordingly, the economic evaluation for the preferred Plan E was modified to include additional costs of constructing this line and its associated substation facilities. This has been reflected in the periodic updates of Plan E costs for the New England Division, Corp of Engineers, Waltham, Massachusetts.

Future project transmission studies, if performed, may show that other plan modifications will be required. These would be coordinated with New England transmission plans.

3. COMMENT: 68-7

BY: Vermont Public Service Board

A review of the Draft EIS demonstrates that it is imperative that the Department conduct current and more complete studies which will more accurately reflect a mid-1980's load condition.

RESPONSE:

See response to comment 68-6.

9.03.6 Addenda and Errata

Changes and modification of the DEIS that was issued on April, 1978 have been made through the use of addenda and errata rather than reprinting the entire document. The following Addenda and Errata are included in order that the reader can make the necessary changes to the DEIS. These, along with the responses to the comments, comprise the overall changes DOE has made in the DEIS and, as such, constitute the final report issued by DOE.

Addenda

1. Section 1.03.4, table 1.03-2, page 1-19: add, under "NEW ACCESS REQUIRED," after colon, for each line, in order, .1/mile .5/mile .5/mile .5/mile 1.0/mile .5/mile .5/mile .2.0/mile

2. Section 2.06, paragraph 3, page 2-31, line 33: after ". . . populations of Brook Trout." add, "and significant populations of landlocked salmon."

3. Section 2.07.4, table 2.07-6, page 2-47: add to the table, "probability: zero equals low, five equals high (but still very low in an absolute sense)."

4. Section 3.09.2, table 3.09-10, page 3-84: add, under "Types of Impacts," "Community Concerns," and under Comments, ". . . Jackman and Moose River concerned with impacts on tourism housing municipal services and crimes. Upper Coos residents object to transmission line through community."

5. Section 4.04, paragraph 10, page 4-7, line two, add, after "and erosion," "construction activities will be scheduled to avoid sedimentation in high quality trout streams during spawning seasons."

Errata

1. Table of Contents, p. xiii: under 3.09.1.16, delete "Wilderness Character" and add "Wildland Character."

2. Section 1.01.3, paragraph 4, page 1-3, line 26: delete, ". . . Negotiations with Canada would result in benefits that would accrue to the project from the additional energy generated at the Canadian projects as a result of coordinated operation. It has been estimated that 175 GWH," and add, " . . . This increased generation is estimated at 350 GWH annually. Negotiations of a draft treaty in the mid-1960's provided for the U.S./Canada to share equally in this increased generation. Pending resumption of formal negotiations with Canada, it has been assumed that 175 GSH . . . ."

3. Section 1.03.3, paragraph 18, page 1-18, line two: delete, ". . . roads would occasionally have to be . . ." and add, ". . . roads would have to be . . . ."

4. Section 2.01.1, paragraph 5, page 2-1, line 28: delete, "Pleistocene glaciers shaped the main features in the region's landscape. These glaciers stripped away the rock mantle and early soils and left behind till sheets of unconsolidated, unweathered rocky materials that formed thin, infertile soils. The soils often will not support crops." and add, "Pleistocene glaciers shaped the main features in the region's landscape. These glaciers stripped away part of the rock mantle and early soils and left behind till sheets of unconsolidated, unweathered rocky materials from which thin and infertile soils formed. Some may not support agriculture or commercial forest crops."

5. Section 2.01.2, paragraph 7, page 2-3, line 32: delete, ". . . the NW slope of . . ." and add, ". . . the SE slope of."

6. Section 2.02.1, paragraph 2, page 2-5, line seven: delete, ". . . rock fragments called till." and add, ". . . rock fragments called glacial drift."

7. Section 2.02.1, paragraph 3, page 2.5, line 13: delete, ". . . any . . . ."

8. Section 2.02.1, paragraph 4, page 2-5, line 19: delete, ". . . till, and moraines." and add, ". . . till."

9. Section 2.02.1, paragraph 4, page 2-5, line 27: delete, ". . . deposits, lacustrine deposits, . . ." and add, ". . . deposits, glacio-lacustrine deposits, ..."

10. Section 2.02.1, paragraph 6, page 2-5, line 28: delete, ". . . and marine sediments." and add, ". . . and glacio-marine sediments."

11. Section 2.03.2, paragraph 6, page 2-10, line 29: delete, "The Stetson-Allagash-Hadley-Winooski association consists of soils

formed in floodplains and terraces. They are composed of water-deposited sands and gravels and some silts. Soils of this association are found in most stream valleys along the route. Most of the soils in the association are well drained. Hadley and Winooski soils are floodplain soils found along streams and the St. John River. These soils have high erodibility. The well-drained Allagash and Salmon soils and the moderately well drained Madawaska and Nicholville soils are found on the lower terraces. These soils are mostly sandy and generally have medium erodibility. In wetter areas their erodibility is high. Stetson and Machias soils are found in the higher terraces and are usually more gravelly. These soils have low to medium erodibility" and add, "The Stetson-Allagash association consists of soils formed in outwash plains and terraces. They are composed of water-deposited sands, gravels and some silts. Soils of this association are found in most stream valleys along the route. Most of the soils in the association are well-drained. The well-drained Allagash and Salmon soils and the moderately well-drained Madawaska and Nicholville soils are found in the lower terraces. These soils are mostly sandy and generally have medium erodibility; in wetter areas the erodibility is high. Stetson and Machias soils are found in the higher terraces and are usually more gravelly. These soils have low to medium erodibility."

12. Section 2.07.4, paragraph 1, page 2-48, line three: delete, ". . . been officially designated (or proposed for designation) by the . . . " and add, ". . . been proposed for designation by the . . . ."

13. Section 2.08, table 2.08-2, page 2-60, line six: delete, ". . . cover types (see page for exact definitions . . . " and add, ". . . cover types: (see page 3-7, Appendix E, for exact definitions)."

14. Section 2.08.2, paragraph 18, page 2-68, line 19: delete, ". . . several deer" and add, "seven deer."

15. Section 2.08.2, paragraph 24, page 2-71, line one: delete, " A total of eight deer wintering areas" and add, "A total of 17 deer wintering areas."

16. Section 2.08.2, paragraph 31, page 2-73, line one: delete, "The proposed centerline crosses four deer wintering areas." and add, "The proposed centerline crosses five deer wintering areas."

17. Section 2.08.2, paragraph 35, page 2-73, line 24: delete, "Two deer yards . . ." and add, "Nine deer wintering areas . . . ."

18. Section 2.08.2, paragraph 41, page 2-75, line 11: delete, "Six deer wintering areas . . ." and add, "Fourteen deer wintering areas . . ."

19. Section 2.08, table 2.08-13, page 2-78: change, for Round Whitefish, "x" under U.S. recognition to "x" under CNA recognition; for Pine Grosbeak, delete, "x" under U.S. recognition; change, "Timber Wolf" to "Eastern Timber Wolf."; change, "Mountain Lion" to "Eastern Cougar"; for Northern New England Cottontail add, "x" under Vermont recognition and delete, "x" under Maine recognition.

20. Section 2.12.2, paragraph 4 page 2-100, line seven: delete, ". . . the St. John River and the South Branch of the Penobscot River both of which are crossed by the route and are candidates for the national wild and scenic river system . . ." and add, ". . . Baker Branch, Abacotnetic Stream and the South Branch Penobscot River are crossed by the route and are candidates for the National Wild and Scenic River System . . . ."

21. Section 3.03.2, paragraph 8, page 3-7, line 12: delete, ". . . erosion potential. Four . . ." and add, ". . . erosion potential. One and eight tenths . . . ."

22. Section 3.03.4.3, paragraph 4, page 3-8, line 21: delete, "The soil is least stable Cape Horn near Groton, New Hampshire. Other than at Cape Horn soil stability is low to moderate." and add, "Impacts related to soil stability are low to moderate on this segment".

23. Section 3.07.6.3, paragraph 2, page 3-31, line 12: delete, ". . . and a stand of naturally growing red pine along the western slope of Cape Horn Mountain are also of special concern." and add, ". . . is also of special concern."

24. Section 3.08.7, paragraph 3, page 3-48, line two: delete, ". . . pers. comm.) . . . " and add, ". . . pers. comm.) but basically remain the same . . ."

25. Section 3.08.8.1, paragraph 4, page 3-58, line 31: delete, "Five deer wintering areas which include 16.3 impacted acres are located between Dickey and Lincoln School Substations." and add, "Seven deer wintering areas, which include 27.3 impacted acres, are located between Dickey and Fish Rivers Substations."

26. Section 3.08.8.1, paragraph 5, page 3-59, line 13: delete, ". . . have a high disturbance . . ." and add, ". . . have a severe disturbance."

27. Section 3.08.8.2, paragraph 5, page 3-60, line 29: delete, "Sixteen deer wintering areas (a total of 71 acres) are impacted," and add, "Seventeen deer wintering areas (a total of 55.5 acres) are impacted."

28. Section 3.08.8.3, paragraph 4, page 3-62, line 13: delete, "Sixteen deer wintering yards are crossed on 16 acres of the segment." and add, "Five deer wintering yards are crossed on 45.1 acres of the segment."

29. Section 3.08.8.3, paragraph 4, page 3-62, line 14: delete, ". . . one quarter mile west of Cape Horn Mountain . . ." and add, ". . . Southwest of Cape Horn Mountain."

30. Section 3.08.8.4, paragraph 4, page 3-63, line 34: delete, "There are deer wintering areas south of Blue Mountain in the town of Ryegate, Vermont, and near where the route crosses the Keenan Brook

in the town of Groton, Vermont" and add, "Nine known or suspected deer wintering areas are crossed on 61.1 acres of this segment."

31. Section 3.08.8.5, paragraph 4, page 3-65, line seven: delete, "Twelve deer wintering yards covering 12.8 acres are crossed" and add, "Fourteen known or suspected deer wintering yards, covering 160.5 acres, are crossed."

32. Section 3.09.1.4, paragraph 2, page 3-75, line 35: delete, "It is possible that two 60-men crews would work out of the Jackman area at one time."

33. Section 3.09.1.5, paragraph 1, page 3-75, line 42: delete, ". . . would be slight." and add, ". . . would be slight overall, but would create severe problems for Jackman's strong tourist industry if up to two crews were to be in Jackman at the same time."

34. Section 3.09.1.5, paragraph 4, page 3-76, line 16: delete, ". . . in the area, but it is probable that local labor would be hired and no housing shortage would occur. If two such crews work in the same vicinity at one time, a temporary housing shortage could occur during the summer and winter tour seasons. The recreations users would encounter a shortage of rooms." and add, ". . . in the area. If two such crews work in the same vicinity at one time a temporary housing shortage could occur during the summer and winter tourist seasons. Consideration will be given to the use of a labor camp during the largest (employment) stage of work if it occurs with the summer tourist season. The recreation users would encounter a shortage of rooms. Also the possible relocation of the Holeb sawmill complex to Jackman will further burden an already tight housing market."

35. Section 3.09.1.6, paragraph 3, page 3-77, line seven: delete, "The possibility of two work crews in the Jackman area would place further demand on services." and add, "Capacity for handling additional school population is limited. The impact on the school system is considered to be minor because there is little evidence that workers bring families with them in the best of situations. The isolation and housing situation will discourage many workers who may consider doing this. Present development plans indicate that the update of the waste water treatment system in Jackman will occur prior to commencement of proposed construction work for the transmission line. The new system will have sufficient capacity to accommodate anticipated work crews."

36. Section 3.12.2.1, paragraph 5, page 3-101, line two: delete, ". . . the one severe impact is recorded for the length of route that crosses the North Branch of the Penobscot River, which is a National Wild and Scenic River candidate" and add, ". . . the one severe impact is recorded for the length of route that crosses the South Branch of the Penobscot River, which is a National Wild and Scenic River candidate."

37. Section 3.12.2.1, paragraph 5, page 3-101, line eight: delete, ". . . There is also a high impact where the line crosses Baker Branch of the St. John River." and add, ". . . There are also high impacts where the line crosses Baker Branch and Abacotnetic Stream, both candidates for the National Wild and Scenic River System."

38. Section 3.12.2.1, paragraph 9, page 3-102, line nine: delete, ". . . The route crosses the Moose River and Kibby Stream which are National Wild and Scenic River Study candidates . . ." and add, ". . . The route crosses the Moose River, Kibby Stream, and the Connecticut River, which are National Wild and Scenic River Study candidates."

39. Section 3.13.2.1, paragraph 2, page 3-108, second line: delete, " . . . generally moderate." and add, ". . . generally high."

40. Section 3.13.2.1, table 3.13-1, page 3-108, line 11: delete, "severe 0.1 mi. 0.5% 3.0% 13.2%" and add, "severe 0.1 mi. 0.5% 3.9 mi. 13.2%."

41. Section 3.13.2.3, paragraph 3, page 3-110, line 17: delete, ". . . Cape Horn."

42. Section 3.13.2.3, paragraph 4, page 3-111, line two: delete, ". . . and near Cape Horn."

43. Summary, page lX, line 11, delete, "About 138 acres . . ." and add, "About 350 acres . . ."

44. Section 3.08.7, paragraph 2, p. 3-47, line 39, delete, "About 138 acres of known . . .", and add, "About 350 acres of known or suspected . . ."

9.04 Appendices: Consultation during Preparation of the FEIS

After the DEIS was written, until September 1978, DOE conducted additional studies and consultation to aid in the preparation of the final document and to help answer comments raised during the review process.

The following appendices are included as part of the final documentation:

A. Comment Letters Received - all of the letters received during the review of the draft EIS are included in this Appendix. Several of the letters did not contain comments relevant to the DEIS and subsequently were not responded to.

B. Fish & Wildlife Coordination Report - Pursuant to the Fish & Wildlife Coordination Act, DOE consulted with the U.S. FWS and funded the study report included as this appendix.

C. Jackman/Moose River Consultation - This Appendix discusses the results of additional consultation with the Jackman/Moose River commenters in Maine related to concern expressed during the DEIS review process.

D. Swift Diamond Alternative - This appendix describes the location, analysis, and recommendation concerning new route alternative that was examined at the request of several residents in the Dixville Notch, Kidderville, Colebrook, New Hampshire area.

E. Deer Yard Survey - This appendix describes the results of an additional survey of deer wintering yards that DOE organized during winter 1977.

F. Cape Horn Mountain - At the request of several residents in the Groveton, New Hampshire area, DOE has proposed a slight change in the proposed route as it crosses Cape Horn Mountain. The appendix discusses that change.

G. Mineral Resources - DOE retained a mineral geologist/engineer to review the proposed route in terms of possible impact on mineral resources. This appendix reports on the investigation.

APPENDIX A - COMMENT LETTERS RECEIVED

APR 14 1978 #1 McCarthy

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

APR 12 1978

U. S. Department of Energy
Dickey-Lincoln School Lake Project
Transmission EIS Study Team
Federal Office Building
Room 209
Bangor, Maine 04401

Dear Sir:

This letter is in response to your letter of April 5, 1978 inviting our comments on the Draft Environmental Impact Statement (DOE/EIS-0008-D) for the construction of the Dickey-Lincoln School Lake Transmission Project.

We have reviewed the statement and determined that the proposed action has neither radiological health and safety impacts nor will it adversely affect any activity subject to regulation by the Nuclear Regulatory Commission. Accordingly, we have no comments or suggestions to offer.

Thank you for providing us with the opportunity to review this draft environmental impact statement.

Sincerely,

Voss A. Moore

Voss A. Moore, Assistant Director
for Environmental Projects
Division of Site Safety and
Environmental Analysis

cc: Environmental Protection
Agency (5)

#2

APR 28 1978

Penobscot Valley

REGIONAL PLANNING COMMISSION

31 CENTRAL STREET BANGOR, MAINE 04401 TELEPHONE 947-0529

April 26, 1978

ALTON
ARGYLE
WEBSTER
BRADFORD
BRADLEY
BREWER
BROWNVILLE
CORINTH
DEXTER
DIXMONT
DOVER FOXCROFT
EDDINGTON
ENFIELD
ETNA
EXETER
GARLAND
GLENBURN
GREENFIELD
GREENVILLE
GUILFORD
HAMPDEN
HERMON
HOLDEN
HOWLAND
HUDSON
KENDUSKEAG
LEVANT
LINCOLN
LOWELL
MATTAWAMKEAG
MILFORD
MILO
MONSON
NEWBURGH
NEWPORT
OLD TOWN
ORONO
ORRINGTON
PASSADUMKEAG
PLYMOUTH
SANGERVILLE
SEARSPORT
SEBEC
SHIRLEY
STETSON
STOCKTON SPRINGS
VEAZIE
WILLIMANTIC
WINN
WINTERPORT

Larry L. Wilkerson
Dickey-Lincoln School Lakes Project
Federal Office Building, Room 209
Bangor, Maine

The Penobscot Valley Regional Planning Commission has reviewed the application of Dickey-Lincoln School Lakes Project

for Dickey-Lincoln Transmission Lines

under A-95 procedures and has taken the action indicated below.

1. Recommends approval. _____
2. Recommends the application be disapproved. _____
3. Requests consideration of the comment below. _____
4. No comment. X

Comment:

It is our policy to not comment on projects in the wildlands

Talbot R. Averill
Planning Director

3

STATE OF VERMONT

MAY 5 1978

AGENCY OF TRANSPORTATION

OFFICE OF THE SECRETARY
Montpelier, Vermont 05602

DEPARTMENTS OF:
Highway
Aeronautics
Motor Vehicles
Public Carriers

May 2, 1978

Mr. Larry L. Wilkerson
c/o Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

We have had a chance to review the plat of the intended transmission corridor for the Dickey-Lincoln Project if it is approved. As Secretary of Transportation for the State of Vermont, I realize the difficulty of planning utility and transportation corridors and am aware of all of the pitfalls of poor planning and lack of citizen support. I would like to suggest that the alternate route planned on the east side of the state which proceeds through Barnet, Peacham, etc., would be a grand error and misuse of some scarce historic and scenic territory. The Town of Peacham of which I am a resident has enjoyed for over two hundred years the unique character of an unspoiled north country community. Its major assets are its scenery and beauty, there being a low volume of commercial and industrial enterprise. To route the transmission lines through this pastoral scene when the existing corridor has been planned and established would not be in the best interests of all concerned.

I would, therefore, like to recommend to your Project that the primary route be utilized along the existing corridor and that the route stated as an alternative through Barnet and Peacham be found unsuitable for environmental, aesthetic and economic reasons.

Sincerely,

Ronald E. W. Crisman
Secretary

#4 MAY 4 1978

LAW OFFICES
JAMES LEONARD ELSMAN
The Business Building
635 Elm Street
Birmingham, Michigan 48011
PHONE: AREA 313 - 645-0750

May 2, 1978

U. S. Department of Energy
Room # 209
Federal Office Bldg.
Bangor, Maine 04401

Re: Dickey-Lincoln School Lakes Project
Draft EIS

Dear Gentlemen and Ms.:

I object to the draft EIS regarding transmission lines.

I find the conclusions relative to Electrical Effects at Sect. 3.18 shallow and uncreative and defensive. They show no recognition of the significant testimony at the PASNY Hearings in New York, and, in particular, of the Staff Reports and testimony of Dr. Marino and Dr. Becker.

It is not enough to say there is no "conclusive evidence" of biological harm. There should be "conclusive evidence" that there is no biological harm. The PASNY Hearings clearly put such latter conclusion in dispute, and you are unable to so conclude.

Thus, a poor job, I say, and I have studied this matter of UHV for over 5 years, since Detroit Edison is trying to put 345-765 lines on my land, and I have successfully stopped them so far. The People of the U. S. should be able to expect better protection from their Government's regulatory bodies than this shallow EIS.

Sincerely,

James Leonard Elsman

JLE/mf
cc: George S. McIssac
Bill Feero

GROVETON 636-1450

#5

MAY 12 1978

Town of Northumberland

Office of Selectmen

Groveton, New Hampshire 03582

May 9, 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
Dickey-Lincoln School Lakes Project
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

Because of a Selectmen's meeting on the night of the hearing at Groveton High School, May 8, 1978, I was not able to make a statement on the Dickey-Lincoln School Lakes Project.

I wish to register a protest on the line as it comes over Cape Horn Mountain in front of our farm, The Potter Farm, which is also an historical site registered with the State of New Hampshire being the location of Fort Wentworth.

You will recall that we looked at the map together and I pointed out how you could avoid the route now contemplated. That being by changing the route of the line along the back side of the mountain.

I also wish to register the objections of my neighbors with the hope we will be listened to by a change of the location of the line.

I respectfully request that this objection be placed on file and given consideration in the final plans.

Sincerely yours,

Natalie M. Potter

Natalie M. Potter
Town Manager

#6

268 W. 84th St Apt 6C
New York, N.Y. 10024

May 6, 1978

Larry Wilkerson
Department of Energy (Army Corps of Engineers)
Federal Bldg.
Bangor, Maine 04401

MAY 10 1978

Dear Mr. Wilkerson:

As a property-owner and Summer resident of Jackman, Maine I had read with horror of the routing of the transmission line for the proposed Dickey-Lincoln Dam through the Jackman area. On a March visit to Jackman, I viewed the map in the Town Office of the corridor route in our area. It is appalling. One of the main attractions of the area is its great scenic beauty, its fish, its wild aspect. The many ponds in the area are jewels. And so I see the corridor route - segments 8 and 11 - which I copied on my topo maps, going in full view of Trickey, Heald, and Cocker Ponds, as it goes around Boundary Bald Mtn. I am not only concerned about the sight of the line from the ponds, I am also concerned about the

silt and herbicides draining into the whole watershed from the construction and control of the corridor and line.

I offer two recommendations: a.) Keep the line up at the Border, where a cleared corridor already exists, or b.) move it East and South to tie in with existing lines and routes in the Bangor area.

Segment 10 on the map is a possible alternative, but it still allows the line to be close to Tuckey Pond (Uninhabited), but saves Heald Pond (inhabited year round) and Crocker (inhabited summers) Pond.

I am sure you know that residents of Jackman are not at all pleased with the prospects of the line coming through the area. I have been coming to Jackman for 31 summers and have never seen a greater threat to the beauty or wild quality of the area than this.

Sincerely,

Jesse Z. Mase

#7

MAY 15 1978

Central Vermont Regional Planning Commission

26 STATE STREET
MONTPELIER, VERMONT 05602
TELEPHONE 802-229-0389

May 10, 1978

U.S. Department of Energy
Federal Building
Bangor, ME 04401

The Central Vermont Regional Planning Commission appreciates this opportunity to comment on the transmission lines associated with the proposed Dickey-Lincoln Hydroelectric Project. Inasmuch as the Central Vermont Region would be among the most severely impacted areas if the project is implemented, such comment is viewed as highly appropriate.

It should be made clear at the outset that this statement in no way represents an endorsement of the Dickey-Lincoln Project and its associated transmission facilities. Significant questions of need, economic feasibility, appropriateness of scale and cost/benefit remain to be answered.

A review of the Draft Environmental Impact Statement and appendices indicate that the impact associated with the construction of high voltage transmission lines in Central Vermont in either preferred or alternate corridors will be considerable. To select one route over another is exceptionally difficult.

For guidance in this matter, the Commission has referred to its Regional Plan, Part I, adopted in November, 1974. On Page 24 of that document, under ths sub-heading "Utilities Goal", the following statements are made:

> Goal: Placement of needed electric ... transmission lines ... in a manner which is visually acceptable and which is, as much as possible, harmonious with the natural environment.
>
> Objective: Provision of necessary utility services at minimal environmental cost.

Policy: Support corridor concept where overhead placement is required.

Support use of measures such as feather cutting and maintenance of vegatative screen to minimize visual impact.

Support necessary expansion of facilities within existing corridors as opposed to establishment of new corridors.

On the basis of the guidance provided by the Regional Plan, while withholding endorsement of the project itself, the Commission wishes to discourage consideration of Link Nos. 43, 50, 52 and 54, in favor of the concept of utilization of existing corridors and, where possible, rights-of-way.

Sincerely,

Robert A. Apple, Jr.
Executive Director

RAA/jaw

#8

MAY 1 5 '78

TOWN OF BERLIN
WASHINGTON COUNTY
VERMONT

MUNICIPAL OFFICES

May 8, 1978

BERLIN CORNERS
(VIA MONTPELIER. VT. RD.
05602)

U. S. Department of Energy
Federal Building
Bangor, Maine 04401

Dear Sirs:

The Town of Berlin, Vermont Planning Commission has reviewed the draft Environmental Impact Statement, Dickey-Lincoln Transmission line as it relates to the town of Berlin, Vermont and makes these comments thereon:

The commission has no adverse comment regarding the proposed transmission line where the proposed line shares right of way with existing transmission lines.

The proposed line, however, leaves Berlin's existing transmission line corridor just westerly of the Central Vermont Medical Center, cuts diagonally south westerly through an area of high residential desireability. It then crosses Hill Street at a point very near the Interstate 89 overpass and at the height of land. It tnen runs westerly through territory of great scenic beauty.

The Berlin Planning Commission concedes that power lines are necessary but believes that they should be confined to existing corridors and rights of way. Such a corridor presently exists, parallels the proposed route and should be used! New corridors involve construction of new access and maintenance roads whereas following present corridors involves a minimum of environmental impact because access exists. The physical problems of power lines - induced current, corona audible noise, interference, etc. - present in any high voltage line should be limited to those areas where these undesireable effects already exist - the existing transmission corridors.

The proposed deviation from Berlin's existing corridor will severley inhibit land development in a highly desirable area of Berlin. There will be severe local visual impact. The line will preclude future building within the right of way and will materially lessen the desireability of adjacent lands. In addition it will be skylined on a ridge just westerly of the most used end of the most used runway of the Edward F. Knapp State Airport; it looms directly in the approach line of said runway and thus constitutes an additional unnecessary hazard to aircraft. If it were to be striped and fitted with large orange balls for aircraft visibility as

has been suggested, the visual impact both locally and on Interstate 89, already severe, would be greatly increased. The skylined crossing at Interstate 89 would be visible for several miles from either direction. The commission holds that visual impact priority should not be limited to Interstate 89 travel. Transient impact is not comparable to daily local impact. The proposed line in the Hill Street area would be right in the foreground of one of the most magnificent views available in central Vermont. The commission finds the impact of the proposed line on this panorama unnecessary and unacceptable.

The Environmental Impact Statement draft states this proposed line has the least socioeconomic impact although it has more severe impact on houses. The commission finds it difficult to follow the logic for leaving the existing corridor within Berlin and cannot believe there will be either short or long range savings, or advantage, in leaving the existing corridor.

Respectfully,

Frederick J. Nuissl

Frederick J. Nuissl, Chairman
Berlin Planning Commission

cc: Central Vermont Planning Commission
Berlin Town Clerk
Berlin Town Agent.

#9

"Switzerland of Maine"

Town of Jackman

JACKMAN, MAINE 04945

Jackman Planning Board
Box 146

May 3, 1978

To the Dept. of Energy, Army Corps of Engineers and othere involved with the preparation of the Draft Environmental Impact Statement for the Dickey Lincoln Project;

The Jackman Planning Board would like to see these facts entered into the Final EIS;

The Jackman Planning Board voted unamisously against the Dickey Lincoln Project.

Recent Survey results show 62.7% of the residents against the proposed project.

No contact was made with responsible planning or information groups within the Town of Jackman during the preparation of the Draft EIS.

Impacts projected for Jackman within the EIS as compiled from your survey on the Eastern Coast of Maine are innacurate and do not apply to our wilderness area.

Facts within the EIS, such as, Income, working force, projected workers available & housing are innacurate, untrue and outdated.

The residents of Jackman have been negelected by not having their Planning Board, or Selectmen contacted for information regarding their town, during the preparation of the Draft EIS.

The Impacts listed within the EIS, pertaining to Jackman, do not show the true possible impacts, for such an isolated small town.

Wages and costs of material listed in the EIS stand to ruin the economic base of the area businesses.

Enclosed is a copy of the results of our recent survey. This will provide you with some correct information. If you diesire further correct information to correct you final EIS please contact us.

JACKMAN PLANNING BOARD

CAROLE COLBY, Sec.

May 3, 1978 #9A

To the Dept. of Energy and the Army Corps of Engineers;

After sufferin g throughtthe reading of the Draft Environmental Impact Statement and Appendix H, I feel that I live in an area that no one cares about. It also appears that you feel that the Jackman area is small and can be overlooked with out any trouble.

I know that Dickey Lincoln is a politicians Dream come true, but did any one stop to realize what effects it could have on a small area such as Jackman??? It sure dosent show up in the EIS.

The impact projections that you list, gathered from your survey in Eastern Maine have no bearing on the Jackman area. How you ever saw a possibility of comparing Jackman to Eastern rural towns is beyond me. The towns surveyed were not isolated in any sense of the word,. They were not natural scenic woodlands and could never feel an impact compared to what Jackman will feel if Dickey Lincoln is built. The questions asked of those surveyed were not even relevant to our area.

The facts that are listed about Jackman are consistently incorrect, or outdated. It only proves that no contact was made with our Planning Board or Selectmen, for correct information concerning our town.

Our schools, Econbmy and Municipal Services are at such a strained point now that any intrusion by a large number of people or project such as Dickey Lincoln would surely put the Town into a disterous position. We do not want to be a Boom town, created by Dickey Lincoln. The Government is offering payment for lands and homes destroyed by Dickey Lincoln. What are they offering for the destruction of Towns???

The people concerned with the final decision should be aware of these facts and should realize that from our strong, town feeling and facts presented to you at the May 3 hearing that the line would be better situated somewheres else. If the people surveyed already have apower line and don't think it impacted them very seriously, give them another. It amazes me that politicians can overlook and already spoiled area and pass that up for unspoiled wilderness. Our woodlans are a natural, scenic beauty. They provide jobs for us, which are renewable, plus recreation. You have no right to interfere and spoil with that which we need to survive on.

Jackman is one of the few towns struggling to sell scenic beauty to vacationers. How can we possibly sell our area to visitors for fishing and hunting and scenery after a project like Dickey Lincoln.? Will there be any fish left in the streams that receive run-off after you spray herbicides?? Will our local scenery be anything to look at once it is traversed with a Transmission line????

Sincerely,
Carole Coley,
Box 146
Jackman, Maine

#10

UNION RIVER ELECTRIC

REA

COOPERATIVE, INC.

AURORA, MAINE

May 8, 1978

Mr. Larry L. Wilkinson
Dickey-Lincoln School Lakes Project
Federal Office Building Room 209
Bangor, Maine 04401

Dear Mr. Wilkinson,

The following are my written comments as abbreviated in my short presentation at the May 4th meeting in Augusta.

As manager of the Union River Electric Cooperative, Inc., one fact is of great concern to me. Although it is well known within the industry that there is a great need for more electrical capacity for the now close upon us "1980's" in the State of Maine as well as the rest of New England, there seems to be little concern about this need in the testimony given at the public meeting. One wonders at the lack of testimony from consumer groups who put forth a great deal of effort in electrical rate increase hearings to hold down the cost of electricity for this great State's electrical customers. The fact that the projected cost of KWH of Dickey-Lincoln is approximately $\frac{1}{2}$ of the projected cost of a KWH at the coal fired plant at Sears Island efore the last coal strike) should be of great interest to those people wishing to hold down the cost of electricity in the State of Maine. It would seem that groups knowledgeable of the availability of and the cost structure of electrical energy are not giving testimony for political reasons or because they are afraid of the competition in the wholesale power market. I believe some consideration should be given to the lack of testimony from these groups.

Another fact is that the growth of electrical energy is not up to estimates for 1977. Conservation, I am sure should be given credit for some of the lack of estimated growth. Another reason could be the fact that the R.E.A. and the Maine Public Utilities Commission has requested that electrical utilities refrain from promotional rates or advertisements, while other energy suppliers have not been so requested. It would seem likely that some of the lack of growth is from conversion instead of conservation. If in fact the lack of electrical growth as estimated is because of conversion instead of conservation, then as oil becomes scarcer and more expensive, then the growth pattern will likely return to the estimated rate.

I do not mean to imply that a home with electric heat has to put in an oil furnace to get conversion from the electric estimated growth. I expect it would be from a new home builder installing an oil furnace over electric heat mainly because of the type of publicity given to electric rates and rate hearings while oil just quietly increases a fraction of a cent at each delivery.

continued ——

Mr. Larry Wilkinson May 8, 1978

A supporting fact for this line of thought is that the other sources of energy are at or above their estimated growth for 1977. It does not seem practical to say that only the electrical customer understands the energy shortage enough to conserve it.

About the frequently discussed subject of peaking power and the amount of time of production at the water wheel, as a manager of an electric utility, I am concerned with the cost of power. This Cooperative's peak demand for the month of April 1978 was 33.7% of the total month cost of power including fuel charges. This illustrates the importance of peaking power from the economy viewpoint.

Some testimony given was on land values. I am a real estate broker, licensed in the State of Maine and a Plantation Tax Assessor, so I feel free to comment on the land values used in the Environmental Impact Statement. I am at this time offering for sale woodland of 10 acres or more for $450.00 per acre. I also have a buyer offering a price of $150.00 an acre for woodland, so it would seem that the land values used in the study were practical for this purpose.

In closing, I would like to thank you and the staff for permitting me to present my opinion on this very important project.

Sincerely,

David E. Honey

David E. Honey
Manager
Union River Electric Cooperative, Inc.

DEH/jal

#11

Comments on the Draft Environmental Impact Statement, Transmission Lines, Dickey-Lincoln School project

Prepared for public meeting sponsored by Department of Energy, May 4, 1978, by Mary M. Crow

My name is Mary Crow. I am the representative to the Maine Natural Resources Council of the Maine Division, American Association of University Women. The Maine Division, AAUW, approved a resolution opposing the Dickey and Lincoln School dams at its annual meeting a year ago. I supported that resolution--I oppose the building of the dams and the transmission line. Neither the Corps' Draft Environmental Impact Statement on the dams nor the Energy Department's on the transmission line has persuaded me otherwise.

Both draft statements have, in my opinion, two serious faults, which must somehow be corrected if the final environmental impact statements are to be useful to the people who decide whether to build. The first fault is that the statements try to provide mathematical proof for things which cannot be proven mathematically --they assign numerical ratings to abstract values like scenery which cannot be quantified. The second fault is the appalling lack of information about the land which would be affected by the dams and transmission line. Despite weeks of study and volumes of documents, the Army Engineers and the Department of Energy seem to have only the vaguest notions of the quality and quantity of soils, plants, and animals in the parts of Maine, New Hampshire, and Vermont that they plan to alter irretrievably.

The clearest illustration of inappropriate quantification in the transmission line DEIS is in the assessment of the environmental impacts of various possible routes. Appendix B, the three volumes

prepared by VTN Consolidated, is an extended exercise in the misuse of mathematics. VTN ends up with a numerical ranking for each proposed transmission corridor (Appendix B, Vol. 1, p. 168, and DEIS, Tables 8.03-3 and 8.03-4), and, despite the caveats on page 84 of Appendix B, Volume 1, the DEIS accepts these numbers as the justification, environmentally speaking, for the recommended corridor. The numbers are derived by assigning a numerical value to each degree of impact the proposed line might have on each of the resources studied. Even if quality could be reduced to meaningful, uniformly-accepted numbers--which it cannot--, VTN's judgment of impacts could easily be challenged. For example, they decided a transmission line would have only a moderate impact on a national scenic trail, like the Appalachian Trail, but a high impact on an intensive recreation area, like a golf course. Most of the golfers I know wouldn't even notice a transmission line unless it went into its crackling and hissing act while they were putting. Another example is the judgment that the more traffic on a highway, the greater the visual impact of transmission lines. That's nonsense; motorists on roads like US 201 and I-95 have to watch the traffic, not the scenery. The drivers who prefer to dawdle along deserted back roads are the ones who'll notice and resent transmission lines.

Furthermore, assignment of numbers was arbitrary; for instance, a high impact was given a value of 4, whether its high-ness consisted in negotiating about crossing an Indian reservation, or trying to run the line up a mountain, or destroying a deer yard.

And still furthermore, there was, here as elsewhere, a lack of adequate information about resources. Among the unknowns specifically mentioned are deer yards (Appendix B, Vol. 2, p. 56), endangered and threatened flowers (Appendix B, Vol. 2, p. 73 and Vol. 3, p. 32), ordinary non-endangered plants and animals (Appendix B, Vol. 3, p. 10), and anthropological and historic resources (Appendix B, Vol. 3, pp. 141, 143, 145, e.g.). VTN's attempt to compensate by, for instance, allowing for a moderate impact on any area suspected to be archaeologically valuable is generous, but it does not enhance the accuracy of their computations. Some of the allegedly available data are also doubtful, like the population distribution based on 1970 and 1972 figures (Appendix B, Vol. 3, pp. 74-80) and the out-of-date list of National Historic Register sites (Appendix B, Vol. 3, pp. 161-167).

To summarize my argument on this point, let me say that of the seven calculations listed on pages 169-170, Appendix B, Volume 1, only the first yields results likely to be valid in the sense that an independent observer could and would duplicate them. The other six calculations, despite their appearance of scientific objectivity, are subjective.

At this point a critic asks, "Then how do you expect the Energy Department to choose a route?" The first answer is that I prefer them not to. The second answer is that mathematical computations have some value as indicators, as long as the results are not presented, even by implication, as a scientifically proven decision challengeable only by other mathematicians. When the mathematicians' calculations are based on arbitrary numbers assigned to

rare plants that may or may not be there, the results are no more scientific than those obtained by the Roman priests who looked at chicken entrails--and the mathematicians don't have a chicken dinner left over.

The second major problem I mentioned, the lack of information, appears again in the analysis of the impacts of building the line in the recommended western corridor. Even for this comparatively small area--about 385 square miles (Appendix E, Vol. 1, pp. 1-2 and 2-2), contrasted with 32,000 square miles examined for all possible routes (DEIS, p. 2-1)--very little hard information has been obtained. For example, the existence of rare plants is guessed at, on the basis of the existence of favorable habitats (DEIS, pp. 2-52 and 2-53). The Center for Natural Areas, the contractors who wrote Appendix E, report that they were required to do all their field work between May 1 and July 1, and specifically recommend more search for rare plants (Appendix E, pp. 8-1 and 8-2). The numbers and kinds of wildlife were guessed on the same basis; the DEIS says on page 2-58:

> The type of vegetation, as well as its presence or absence, is acknowledged as being a crucial element in the distribution of wildlife. The cover type categories inventoried along the route, therefore, serve as the foundation for an assessment of wildlife potential. Other complex factors that influence wildlife abundance are not considered here.

Consequently, the so-called description of wildlife in section 2 of the DEIS is full of statements like such an area "is thought to be a bald eagle nesting area" (p. 2-71), or "Game species are probably more abundant here..." (p. 2-73), or such an area "may be important

to wintering deer..." (p. 2-75). Almost nothing is known about the use of the area by endangered wildlife species (p. 2-77).

We should expect, then, that section 3 of the DEIS, which tries to predict the environmental impacts of building and maintaining the transmission line, would also be vague and inexact, and so it is. Among the things not known are the effects of dividing forested areas into "habitat islands" (p. 3-46), and the effects on deer, on moose, and on most other animals (pp. 3-47 through 3-52). I think, though, that the description that most clearly shows the utter inadequacy of this whole discussion of impacts is the description of impacts on waterfowl (including some ten species of geese and ducks). The DEIS solemnly states, on pages 3-53 and 3-54, that the transmission line project might either increase or decrease their food supplies and it might either increase or decrease possible nesting sites. And it concludes, "Thus, although the extent of impacts to waterfowl populations is unknown, impacts could adversely effect [sic] waterfowl populations slightly." (p. 3-54)

Both of the general criticisms I have made apply to parts of the DEIS and appendices other than those I have mentioned, of course. However, expecting a time limit tonight, I have not prepared to address them. Instead, I would like to mention very briefly two specific problems which concern me.

The first is the proposal in the DEIS (pp. 1-24 to 1-26 and 3-17 and 3-18) to control vegetation on the line by herbicides, including aerial spraying. In light of recent questions about the adverse

effects of both the active and the inert ingredients in such sprays, and the controversy in Maine over spruce budworm spraying, these plans seem unsound from an ecological, a human-health, and a political perspective.

The second problem is the unresolved question of the biological effects of the electrical fields the transmission lines would cause (pp. 3-125 to 3-132). Until firm data are available, it seems desirable to postpone building transmission lines according to current specifications.

I have one more general concern, too, and that is the assumption that omissions in the EIS can be corrected by the contractors and construction crews. This is made explicit in the to-be-imposed requirement that if a construction crew finds an archaeological site, the contractor must stop work and report it and mitigation measures, including "minor redesign of the line" if needed, will be taken. Presumably the same procedure could be applicable to rare plants and so forth. However, in practice, not every contractor would recognize a Viking campsite (for instance) if he found one. And some who recognized it would rather bury it and say nothing than take responsibility for stopping work on a whole section of the line. And if a site were found which required more than a minor redesign of the line, I'm not sure that the Department of Energy would be any more cooperative than TVA was over the snail darter.

Consequently and in conclusion, I hope the final EIS, for both the transmission line and the dams, will be closer to reality, much more informative, and much more concise than the work we have seen so far.

Comment by John R. Goodwin,
coordinator, Maine Citizens
for Dickey-Lincoln

U. S. Department of Energy
meetings on Draft Environmental
Impact Statement addressing
transmission facilities for the
Dickey-Lincoln School Lakes Project
held at Jackman, Me., May 3, 1978, and
Augusta, Me., May 4, 1978

Thank you very much for this opportunity to discuss with you today the Dickey-Lincoln hydro-electric/flood control project proposed for Northern Maine on the St. John River.

My name is John Goodwin, and I am coordinator for Maine Citizens for Dickey-Lincoln, a group of Maine citizens from all walks of life and from throughout the state who believe that this project is vital to meeting the energy needs of Maine and the rest of the nation. It would be an extremely valuable resource today, and it will be even more valuable in the future as the cost of the alternatives continues to skyrocket.

We have very carefully studied the Environmental Impact Statement (EIS) concerning the transmission lines needed for the project, and find the negative impacts to be minimal.

The Department of Energy appears to have proposed a route which is the least costly and the least environmentally damaging of the alternatives before it.

Of the proposed 365-mile line, 206.8 miles will be in Maine. The major portion is one of 345KV which will go from the Dickey dam down alongside the western part of the state to the New Hampshire border. The length of this line 177 miles. A smaller, 138KV line, will go from Dickey to Fort Kent for a total of 29.4 miles.

The major impact, of course, will be caused by the 177-mile 345 KV line from Dickey to the New Hampshire border. This is a very major project, obviously, but the overall impact---social, economic, and environmental---is far more plus than minus. The benefits of the overall project, transmission lines included, very much outweigh the costs.

There are, of course, costs involved here as there are with any energy-producing project. Specifically here, we are talking about a 150-foot right of way for the lines, about 100 miles of access roads in Maine, and about 3,500 acres of land.

We must, however, put this in perspective. The 177 miles of 345KV lines proposed for this project are less than one-half the amou of such lines already in the state which pass through some of the mos heavily-populated areas of the state.

Central Maine Power Company itself has 177 miles of 345KV Lines in its system. Maine Electric Power Company (MEPCO), operates a 345KV line from Wiscasset to the New Brunswick border. The purpose of this line is to import power from Canada. New England has contracted for 400,000KW of electricity each year for ten years (beginning in 1976) from its New Brunswick neighbor. Overall, there are already about 3,000 miles of transmission lines in the state, so the additional mileage we're talking about here is not very great.

Outside the transmission line area about 100 miles of access roads will have to be constructed for this project. Some have said that this construction is to be done in a "wild area" of the state. This is hardly true, for in the northern part of the state there already exists over 6,000 miles of private roads which are used by the paper companies to haul timber. The mileage is constantly expanding as these firms move their cutting operations from one place to another.

Most of the area under discussion here is already characterized by quite high access, as a a glance at maps 4.2 through 4.5 in Appendix B, Map Volume, of the DEIS will show.

Furthermore, the DEIS reveals that "Temporary roads would be restored to the original contour of the land, drained, revegetated, and closed to vehicle use" once the construction project is completed. (P. 4-3).

The right of way for the transmission lines represents an "opportunity cost" of $4,495,214, according to the DEIS. This is the supposed worth of the timber that could be grown and harvested in the area over the 100-year life of the overall project. It's a very dubious figure, especially since the annual rate of inflation is assumed to be three per cent. But however approached, there is of course a minor loss of timber potential involved here which can be easily made up by better forestry management in the region.

The social impact of the project is very minimal. At any one time, we estimate that no more than 120 people working directly on the transmission lines will be operating from the Jackman area. Many of these people will be either commuting directly to the job sites daily or going back to their homes on weekends and holidays. Existing facilities in the Jackman area can accomodate some of these people whi others will bring their own facilities---that is, campers, trailers, and so forth. Special grants from the federal government are available specifically to aid communities which are impacted by construction projects of this sort. Also, the Congress right now is considering another special program to assist "boom impacted" areas which request aid.

The transmission lines by themselves, of course, are of no value. But they are obviously necessary to realize the enormous benefits from the Dickey-Lincoln project.

Forty-four per cent of the power from Dickey-Lincoln will remain in Maine. This will provide 25 per cent of the state's peaking power needs and enough electric power to serve more than 75,000 homes. This low-cost power will mean savings of about $18 million a year for Maine consumers. Additionally, the availability of low-cost and reliable power has sparked substantial economic growth in other areas of the country where it is available. There's no reason why Maine should be an exception.

This week we are in the midst of Sun Day activities. We must naturally develop solar energy as rapidly as possible. But we must remember that the technology for large-scale solar energy production does no yet exist at an acceptable cost. Even when it is, we will still need back-up power facilites, and hydro-electric power is ideal for this. Dickey-Lincoln, along with small and medium-sized hydro projects, and possibly tidal facilities, all represent sources of energy that are clean, renewable, low cost, and non-polluting.

The outstanding feature of Dickey-Lincoln is that it's a component of our future energy sources that can be and should be developed now to assure a better future for Maine today and in the future.

TJM · 12A

MAINE CITIZENS FOR DICKEY-LINCOLN

Environmental Impact Statement Comment and Response for Corps of Engineers' and Department of Energy's study of Dickey-Lincoln School Lakes project

June 10, 1978

Maine Citizens for Dickey-Lincoln, an organization of people from throughout the state who support this project, appeared before public hearings concerning the Corps of Engineers' Environmental Impact Statement relative to the dams involved and the Department of Energy's hearings on the impact of the transmission lines. In addition, written testimony was submitted in both instances.

This statement, addresses the project as a whole, in accordance with the Corps of Engineers decision to reopen the comment period for an additional sixty days after the publication of the transmission line EIS.

NEED FOR DICKEY-LINCOLN

There appears to be little doubt that Maine and the rest of New England will need substantially more electrical energy between now and the middle 1980s. Overall growth in demand in New England has been about five per cent. In Maine, during the past two years, demand has increased at a rate of seven per cent annually, according to E. W. Thurlow, head of Central Maine Power, the state's largest utility.

He has written, "By the mid-1980s...a significant base load electrical energy deficit in Maine is projected as demand for power outstrips the available supply. Unless the state continues to expand its generating capacity, Maine could be subject to power outages, power rationing and inordinately high energy costs."

The regional director of the U. S. Department of Energy, Robert Mitchell, has been even more emphatic about the need for more electric generating capacity.

Testifying at a Corps of Engineers' hearing on Dickey-Lincoln in the fall of 1977, he said, "At the present rate of growth of electrical consumption in New England, by the 1980s we, with all due realism, can expect that we will have brownouts and selected blackouts because we will not have the capacity to generate (enough) electricity."

The reason for the demand growth of electrical energy in Maine over the past two years has not been that individuals have become wasteful and profligate in their electrical usage. Indeed, quite the contrary is the case. Maine and the rest of New England have cut back on energy use by about 20 per cent since the mid-1970s. The average reduction in the rest of the nation has been about five per cent.

The primary increase in electrical energy usage in Maine has been in the business sector. This is because Maine businesses in the past couple of years have been recovering from the business recession of 1973 and 1974. This has meant substantial industrial expansion in the state and consequently, more energy use. During the first quarter of 1977, the pulp and paper companies in the state increased electrical consumption by 27 per cent.

The Bath Iron Works is another example. As this world-famous shipyard greatly expanded its operations over the past few years, it naturally greatly increased its energy usage.

All of this has meant more jobs and consequently more prosperity for Maine people. This kind of expansion is being encouraged by all responsible parties in Maine.

At the same time, it must be realized that industrial growth and expansion in the state naturally increases the demand for electrical ppwer.

While base load demand has been increasing in the state and region, so has the demand for peaking power. New England Power Pool (NEPOOL) planners predict a 75 per cent increase in the region's demand for peaking power between 1976-77 and 1987-88.

The Dickey-Lincoln hydro-electric/flood control project will meet 25 per cent of Maine's peaking power demands and 17 per cent of New England's should it come "on line" in the latter 1980s.

That in itself is a very good reason for going ahead with the construction of Dickey-Lincoln, for none of the conventional sources of electrical energy are as economical for producing peaking power as hydro-electric plants.

If Dickey-Lincoln is not built, then by the mid-1980s some -other, substantially more expensive, source of peaking power will have to be developed.

But Dickey-Lincoln is more than a source of peaking power. It will also produce 438 megawatt hours of intermediate power, ALL of which has been designated for Maine consumers.

This, together with the 100 megawatts of peaking power assigned to Maine, means that 44 per cent of all the energy generated at Dickey-Lincoln (533,000 mwh) will remain in Maine.

Maine's Department of Conservation, without taking into consideration the 100MW of peaking power, estimates very conservatively that this low-cost power will save Maine consumers more than $6 million a year. A study done by Eastern Maine Electric Coop, puts the saving at more than $12 million a year. The 100MW of peaking power from Dickey-Lincoln amounts to a saving of about $10 million annually in comparison with the most feasible alternative (a gas-fired turbine). So the total overall saving to Maine consumers as a result of building Dickey-Lincoln would amount to between $16 and $22 million a year.

The reason for this, of course, is that there is virtually no fuel cost involved in the generation of hydro-electric power. The "fuel", that is, the water, is free, renewable, non-polluting, and available year after year.

ALTERNATIVES TO DICKEY-LINCOLN

Much has been made about the alleged alternatives to Dickey-Lincoln. There are, of course, alternatives, but none of them produce the kind of power at so low a cost and with so available a resource (the water) as Dickey-Lincoln.

The Corps of Engineers, in its impact study, considered about two dozen alternatives. The one they found which came closest to Dickey-Lincoln was to use gas-fired turbines. But this, of course,

would increase the state's and region's dependence on oil at a time which such dependency should be cut back, not increased.

One supposed alternative which has been mentioned more often than others, and which is discussed in the Corps of Engineers' EIS in some detail, is that of pumped storage. It's been alleged that a pumped storage facility in Maine could produce as much energy as Dickey-Lincoln at about one-half the cost and by utilizing only a small fraction of the land Dickey-Lincoln requires.

The fallacy here is that a pumped storage facility presupposes great amounts of excess generating capacity to pump the water from one level to another. To get two units of electric energy out of such a facility, you have to put three in. The only way pumped storage would make sense in Maine would be to construct a second nuclear power plant in the state or another fossil-fueled plant.

Dickey-Lincoln is partially pumped storage (one of the four turbines at the site would be reversible), but this enhances the efficiency of the plant rather than decreases it since small mounts of excess power during off-peak times can be used to recycle the water from the lower (Lincoln School) dam back into the upper (Dickey) dam. This "re-regulation," as it's called, also lessens the environmental disrupti since it lessens the up-and-down levels of the impoundment areas behind the dams.

Nuclear power cannot be seen as an alternative to Dickey-Lincoln since such power plants are very inefficient for generating peaking power. They are, however, ideal for base load power.

Some project critics have taken the total energy-producing capabilities of Dickey-Lincoln and a large nuclear power plant and tried to compare them. It can't be done, for to do so is to confuse capacity with energy generating capability. They are not the same thing.

Maine Yankee, the nuclear power plant in Maine, has a capacity of about 830MW. Dickey-Lincoln capacity is 900MW (1,100 ultimate). In this simple---and false---comparison, one might conclude that Dickey-Lincoln would produce more energy than Maine Yankee. This is erroneous, for the reason that Maine Yankee is a base load plant which generates power around the clock except for shutdowns for refueling and maintenance.

Dickey-Lincoln, on the other hand, does not run all day. It runs when needed, but the capacity it has for these relatively short periods of time is enormous. As we said, it's enough peaking capacity to meet 18 per cent of New England's needs and 25 per cent of Maine's.

The larger Dickey dam at the project is exclusively for peaking power generation. The lower dam (Lincoln School), acts as the regulating dam and thus operates for much longer periods of time---up to eight or 12 hours daily and at times 24 hours. The average for the lower dam would be 10 hours seven days a week.

You do not construct a nuclear power plant to get peaking power capacity any more than you would put an extra room on the house to accomodate a visitor who comes only once a year.

This difference between capacity and energy-producing capability is discussed in some detail here because it is not clarified in the preliminary impact statements. The final Environmental Impact Statements should make this difference clear, both in the summary EIS and in the discussion of alternatives.

The preliminary environmental impact statements also do not make clear the difference between a flow-of-the-river hydro-electric facility and a project such as Dickey-Lincoln.

This is especially crucial, for many people have suggested that a number of small-scale hydro projects could take the place of Dickey-Lincoln.

This is not so, for these small-scale or low-head projects are useful primarily as base-load sources of energy. There is no back-up or impoundment of the water for use when needed. Sometimes these small-scale plants <u>are</u> used for peaking power by being held in reserve, but during this reserve period the water is simply running over a spillway and not being put to energy-producing use---a very expensive procedure.

As mentioned, however, small-scale hydro-electric projects are useful and efficient for generating base load power (especially durin the spring of the year), and we believe more of them should be developed in Maine. But they cannot be fairly compared to Dickey-Lincoln.

The final environmental impact statement should make very clear the distinction between the various types of hydro projects. It should in particular point out that while the low-head projects are useful only depending upon the level of the river, Dickey-Lincoln makes use of the river flow <u>and</u> the runoff from a large area.

Oil and coal have been suggested as alternatives to Dickey-Lincoln. But, again, these would be base load and not peaking power plants for the same reasons as outlined above in the discussion of the nuclear alternative.

Furthermore, Maine and the rest of New England should be moving away from these sources of energy which we do not have and toward energy sources we do have. This is especially true of oil. Most of the oil used in Maine and New England comes from foreign sources. It is getting scarce and very expensive. It will become more scarce and more expensive.

Recently it's been suggested that the world will not run out of oil, because it will always be available at a price. No doubt this is true, just as gold is available in any amount one wants at a price of more than $180 an ounce (early June, 1978). But this is hardly a rational approach to petroleum usage.

Solar and wind devices have been talked about as alternatives to Dickey-Lincoln. These are viable small technology sources for reducing overall demand from larger generating facilities, but the technology for larger-scale production of energy from these sources does not exist today.

Additionally, using solar means to heat homes and hot water will make a source of peaking power such as Dickey-Lincoln even more important as a back-up to these devices during those long periods of time when the sun doesn't shine in Maine and the remainder of New England.

A solar collector may bring about a reduction in total energy use while at the same time increase the demand for back-up or peaking power. Dickey-Lincoln would be ideal for meeting this demand.

The alternative section of the final environmental impact statement should address itself more fully to the limitations of conservation as an alternative to Dickey-Lincoln.

Load managment to flatten out the electric energy demand curve and conservation to lessen the overall use of power should certainly be a part of any sensible energy policy.

But growth in electric usage will still continue. For one thing, as mentioned earlier, an expanding population will create the need for more jobs. This means industrial, retail, and all sorts of business expansion. It means, too, a growth in the so-called "leisure industry" and various services. Obviously, more energy will be needed, and much of this can be and should be electric energy.

More can and must be done to conserve and use better what energy we have, but over the longer run we will still need more energy.

Finally, a word should be said about tidal power here, and the final environmental impact statement should address itself more fully to this alternative.

Many have said they are against Dickey-Lincoln but for the proposed Passamaquoddy Tidal Power Project on the grounds that the latter makes more economic sense. This is simply not true.

Even using the somewhat questionable 6-3/8 interest rate for the Dickey-Lincoln project, the cost-benefit ratio comes out 1.2 to 1. That is, from the beginning, Dickey-Lincoln will produce $1.20 in benefits for every $1 in costs.

A single-pool, All-United States Passamaquoddy Tidal Power Project (the Canadians don't appear at all interested in a joint project) would have a cost benefit ratio between .31 and .45 to 1.0 when only the power benefits are considered. (That is, less than half that of Dickey).

The benefit-cost ratio rises to between .55 and .77 to 1.00 when area redevelopment, fisheries-mariculture and recreation are incorporated as benefits. (See "Investigation of the Passamaquoddy Tidal Power Project," prepared for new England Division, Corps of Engineers, April, 1977).

Nevertheless, the Passamaquoddy Tidal Power Project makes economic sense on a long-term or life cycle basis. That is, over the life of the project, Passamaquoddy would more than pay for itself.

If this is so for Passamaquoddy, it's even more so for Dickey-Lincoln, for this project makes economic sense right now. It makes even more sense when evaluated on a life-cycle basis, and we understand such an evaluation is being done right now.

We strongly urge that the final environmental impact statement on the Dickey-Lincoln project include this life-cycle analysis so that the near- and long-term benefits of the project can be readily considered and understood.

It is our contention that Maine needs both Dickey-Lincoln and the Passmaquoddy project. These two projects, together with the small-scale or low-head plants, will go a long way toward making this state and region less dependent on foreign sources for its energy.

COST OF DICKEY-LINCOLN

The total project, taking into consideration the inflation expected between now and the completion date in the latter 1980s, will be about $1 billion.

It should be stressed that virtually all of this expenditre will be repaid to the taxpayers with interest through the sale of the power to to publicly- and privately-owned utilities. That is, it's an investment by the taxpayers and not a proposal to spend the money with little or no visible return.

It's an especially attractive investment for Maine. The state has less than a tenth of New England's population, yet it will receive 44 per cent of the power benefit from the project, about 75 per cent of the jobs involved in construction, and virtually all the spinoff effects caused by the availability of this low-cost power.

The final environmental impact statement should take into consideration the major points of President Carter's proposed energy and water policies.

For example, the suggested tax on domestic oil will greatly increase the price of this fuel for New England consumers. That must be considered in any true evaluation of the Dickey-Lincoln project.

The President's proposed water facilities policy contemplates retaining the 3-1/4 interest rate used in determining the cost-benefit ratios of such projects as Dickey-Lincoln. If the 3-1/4 interest rate is used instead of 6-3/8, the cost-benefit ratio for Dickey-Lincoln rises from 1.2 to 1 up to 2.1 to 1. The final impact statement should take this possibility or perhaps by then reality into account.

DICKEY-LINCOLN AND THE ENVIRONMENT

The major environmental impact of the project is the impoundment of 88,000 acres behind the Dickey dam. This is a major loss, and one we recognize.

But this must be put in the perspective of Maine and the nature of the state. Maine is 90 per cent forested. The acreage altered as a result of constructing Dickey-Lincoln amounts to less than one-half of one per cent of the state's forest land.

This loss of forest land must be weighed against the benefits of the projects. In doing that, it's clear that the benefits in this case very much outweight the costs.

Maine's Department of Conservation studied the project from Maine's viewpoint and concluded that Maine would economically benefit from the construction of Dickey-Lincoln. It went on to say:

> In terms of just the hard economics of today, at least those that can be quantified at the present time, the benefits of the project exceed the costs for Maine. This gap between the benefits and costs is likely to increase in the future because the power benefits from the Dickey-Lincoln project are going to increase with time. The operating costs of theDickey-Lincoln Dam project are insifnificant relative to the capital costs. This suggests that Dickey-Lincoln power costs will be relatively insensitive to inflation. On theother hand, alternative sources of power such as fossil fuel and nuclear will be very sensitive to inflation in fuel prices which appear inevitable. Therefore, the economic cost of not constructing the Dickey-Lincoln School project will almost certainly increase in the future.

The preliminary impact statement speaks of a $300 million "opportunity loss" involved in building the project. This is a very suspect figure in that it tries to estimate what this acreage <u>might</u> be worth to somebody over 100 years. It's like taking an acre of corn and saying that acre is worth the price of the corn crop times 100 plus the appreciated value of the land itself. Of course, things don't work that way.

Also to be considered is the "opportunity cost" to whom? Much of this land is owned by a Canadian conglomerate. Most of the cutting is done by Canadians, and 90 per cent of the saw logs taken from the region are processed in Canada by Canadians. So it would appear that most of the opportunity from this area is being exploited for the benefit of Canadians and not Maine people.

It is said that close to an additional 100,000 acres will be "cut off" and not reachable from the U.S. This area, it seems to us, would therefore make an ideal wildlife sanctuary which should make even the most ardent conservationist rejoice. An area of land which cannot be reached by man would be a sanctuary indeed.

But if it were deemed advisable to reach this land, arrangements could be made. For example, access would be available from the Canadian side. A land swap might be considered.

The final impact statement should address this possibility more thoroughly. Both U.S. and Canadian owners apparently will lose access to some forest land by construction of the dam. In this case, a land swap would appear to be an obvious benefit to both.

SOCIAL IMPACTS OF THE PROJECT

Appendix C of the Corps of Engineers' impact statement suggests some rather severe impacts which may not occur at all. It implies that those at the project during the peak employment period will be there for the life of the construction project. This, of course, is not so.

There is mention in Appendix "C" of the construction crews from outside the area not being able to get along with the people already living in the area.

This, it seems to us, underestimates the character of Maine people. Maine is not exactly new to large construction projects. Recent examples would be Maine Yankee atomic plant at Wiscasset and the paper mill expansions at Hinckly and Jay. In these instances, large numbers of construction workers did the work and left when it was done without completely disrupting the local communities. There's no reason to believe it would be much different at the Dickey-Lincoln construction site.

Indeed, many of the workers at the site will be the friends and neighbors of people who live in the Dickey-Lincoln region. The draft environmental impact statement itself indicates that more than 30 per cent of the construction workers will be from the local region---that is, they will go to the job site daily and be back at their own homes at night.

A careful reading of Appendix "C" of the Corps of Engineers impact statement indicates that much more can be done to mitigate what disruptions might be caused by construction of the project.

The report makes careful note that none of the localities in the area are prepared to handle the extra social services and costs that the project would bring about.

In fact, there is much that could be done to assure that the local communities are not faced with any great burdens or costs as a result of building the project.

For example, the CETA program, already well established in Aroostook County, is an ideal source of additional personnel which might be needed by the local communities to cope with some of the problems which could arise during the course of the dam's construction.

CETA could provide extra police, fire-fighting personnel, teachers, social workers and so forth who might be needed to provide various services to some of the construction workers and their families.

Temporary housing will be required for some of the workers at the site, especially for those who will be there for only a year or two. More permanent housing will be needed by those who will be at the site for the entire eight-year construction period.

The temporary housing---such as mobile homes and prefabricated houses---can be located in that part of the impoundment area which will be the last flooded. Thus, when the project's over, it can be removed and whatever cannot be removed will be flooded, thus leaving no residue.

Temporary and transportable sewage and water facilities are available and should be used. Once the project is completed, these facilities can then be turned over to the local communities for their use at little or no cost.

There need not be massive installations of various public utilities, for the technology exists for facilities that are transportable and temporary. For example, a package-type treatment plant such as the one at Falmouth, Me., would be the answer for sewage disposal. Drinking water would be available from ground wells.

The Congress is now considering special programs to assist "energy impacted" communities. Even, special aid is already available to communities within which large-scale energy-related construction or processing occurs. The Corps of Engineers, in its final impact statement, should consider all of these programs and outline specifically how each one could apply to the local communities in the Dickey-Lincoln area. For example, it might be possible for these communities to enter into an agreement with Federal authorities to receive at little or no cost some of the capital equipment needed at the site once construction is completed. A fire truck used at the temporary worker housing site, for instance, might be turned over to the local community once construction is completed. The same might also apply to a police cruiser, a medcial clinic and so forth.

Some of the workers will be looking for permanent housing to be used during the entire construction period of eight or nine years. Many people will be building their own homes with the idea of selling them once the project is completed and they move out. Some of these new homes will no doubt be purchased by the people who will be operating the dams once they go "on line." Others will be taken up by local residents on the lookout for better housing.

It should be stressed, however, that the number of people who will be at the job site during the entire construction period is relatively small compared with the total work force during the peak years.

Some of the impacts in Appendix "C" listed as "adverse" would more logically be considered as beneficial. Somebody switching from a minimum-wage job to work at the dam paying well over $5 per hour minimum would hardly consider this an "adverse impact" on his personal finances. Yet Appendix "C" implies just this.

The unemployed in Aroostook County will undoubtedly be puzzled over what is called the "opportunity loss" involved in constructing the dam. What are the opportunities in a County where the unemployment rate is routinely 12 to 16 per cent? It would up around 20 to 25 per cent without various federal programs which provide jobs.

Dickey-Lincoln will be a very welcome economic stimulus to the entire Northern Maine region.

RELOCATION OF FAMILIES

It's calculated that 161 families will have to be relocated as a result of the dam construction. Most of these people. although by no means all, are lifelong St. John Valley residents. Others are rdcent additions to the Valley, some from out of state. And still others are older people who have returned to the region after careers in other parts of Maine or other parts of the nation. Their attitudes toward relocating are thus varied.

Each property owner will be compensated for the full value of his land and buildings and will be eligible also for up to $15,000 in compensation for the inconvenience of moving.

Many residents of the area have already begun thinking about where they will locate their new homes. The Corps of Engineers has already been discussing with area residents and officials the details of relocation. Local and state officials have also been involved.

Many within the town of Allagash are exploring ways to keep the community as intact as possible. There is precedent in North Bonneville, Wash., for this possibility if residents in the area so choose.

But the relocation of 161 families should also be put in some kind of context in the final environmental impact statement. This location of a short distance should be compared to the fact that in the past fifteen years or so 13,000 people have had to leave Aroostook County: Not because they had some great desire to live in New York or Pennsylvania, but because there were no jobs for them in the County.

Construction of Dickey-Lincoln will in many ways stimulate the economy of Northern Maine and allow more people to remain there if they so choose to do so.

LABOR

According to the Corps' Environmental Impact Statement, 8 per cent of the workers at the construction site will be from Maine. take vigorous exception to this estimate. Our own calculations ndicate that more like 70 to 75 per cent of the needed construction ersonnel are available in Maine.

Appendix "C" of the Corps of Engineers' impact statement outlines

the methodology used to arrive at the employment figures as it concerns those workers who might come from Maine.

The principal flaw in the methodology is that it assumes the -overall rate of unemployment in Aroostook County indicates the available labor available. Further, it assumes that the official unemployment within a specific trade indicates the number of people available for -work in those trades.

We thus come to absurdities like this: "Based upon general levels of unemployment one cement finisher would be hired from Aroostook County." The fact is that it's really difficult to say how many cement finishers there are in the County for there have been no large construction jobs in the area in years. Unable to find work, they have gone into other, more temporary, work. They would, however, become availalbe once the construction project were begun.

The number of carpenters in the state is similarly understated. Appendix "C" says that the unemployment rate among carpenters in the County is 6.5 per cent and therefore only 17 are available for work in the County. This is untrue for two reasons: One, unemployment among carpenters and other building trades fluctuates. It may be low during the summer, but very high in the winter. Also, since there is so little work available in the County, many skilled carpenters are now employed in other, temporary, work.

The unemployment rate among operating engineers is said to be about four per cent. This is far too low and indicates an unfamiliarity with this trade on the part of those who made these estimates. Conversatio

with union officials and contractors indicate that there are far more than 33 operating engineers available for work at any one time in the state. Yet the impact statement uses this figure and says 526 others would have to be hired from out of state. Again, the unemployment rate within this trade is far higher than indicated by the impact statement. Also, many of the people in this trade have taken up other temporary jobs for lack of work in their trades.

It is unfortunate that "miscellaneous non-manual" is not broken down any more than it is. There is no real way to accurately tell which of these positions could be filled from within Maine and which from out of state.

Clerks, telephone operators, security guards, and so forth would not be difficult to recruit in Maine, especially since many of these positions might well be year round and permanent.

The Corps' impact statement also errs in assuming that that the only job transference will be from the unskilled and agricultural jobs in Aroostook County. That is, only the poorly paid in the County will want to leave their present jobs for work on the dam. It seems more likely that young, single and beginning workers from throughout the state will be willing to leave their low-paying jobs for work at the Dickey-Lincoln construction site.

As mentioned, our discussions with labor organizations and constractors throughout Maine and the rest of new England indicate that Maine people will be able to fill 70 to 75 per cent of the jobs at the construction site. This not only means more work for Maine residents, but also indicates that this fact will mitigate the cross-cultural problems suggested in the impact statement.

TRANSMISSION LINES

There appear to be no extraordinary or unacceptable impacts involved in the construction of the transmission lines necessary to carry Dickey-Lincoln power from the dam site into the New England grid.

The major line in Maine will be one of 345KV running 177.4 miles from Dickey to the New Hampshire border. This line will require 3,581 acres for the line itself and about 100 miles for the access roads needed during construction.

The impact statement done by the Department of Energy indicates that these access roads will, insofar as possible, be restored to their natural state once the construction work is completed.

At the very heighth of the line construction, a maximum of about 120 workers may be headquartered in the Jackman area. There are some facilities for these people in the town now, but others can be set up on a temporary basis as needed. For example, mobile homes, campers, pre-fabricated housing, and so forth.

Should the town need assistance to cope with this small influx of people, it is available from various federal sources. For example, CETA is an ideal vehicle for hiring on a temporary basis additional police, fire, teaching, and health personnel that might be needed. However, our study of the project indicates that any impact of constructing the transmission lines on Jackman or any other Maine community will be minimal.

The proposed 177.4-mile transmission line down the western side of the state should be put in a realistic context.

Construction of the lines will surely be less disruptive of the natural environment than the continual log cutting in the area.

For example, the transmission line and the 100 miles of access road should be compared to the fact that there are more than 6,000 miles of private logging roads in the northern part of the state right now. This log road mileage is constantly increasing as the paper companies continue to expand their operations. This is land cut over and hacked up without any thought of an environmental impact statement.

The modest (by comparison) cutting necessary for the transmission lines will, by contrast, be the most carefully studied and monitored project ever in northern Maine.

The suggestion that the transmission corridor will bring about an influx of coyotes and mad domestic dogs is so absurd as to defy comment or reaction. To imagine that is to also imagine that the mad dogs and coyotes are also roaming up and down the 6,000 miles of private roads which already exist in the area. There are already about 3,000 miles of transmission lines in the state, and there are no reports from any source that these corridors have attracted great numbers of coyotes and mad dogs.

BENFITS OF DICKEY-LINCOLN

Dickey-Lincoln would be an extremely valuable resource for the people of Maine today and it will be even more so in the future as the price of the alternatives continue to skyrocket (if they are available at all).

Of all the energy produced at the site, 44 per cent will remain in Maine. This is energy that the state needs and can use. It is clean energy, renewable, and low cost.

The project will also, of course, benefit the entire New England region by serving as a source of reliable and low-cost peaking power.

If Maine in particular is to begin cutting back on its dependence on mostly imported oil, it must begin developing alternatives. Dickey-Lincoln is the most deasible alternative that can be deeveloped right now, not at some vague time in the far distant future.

The immediate benefits of the jobs involved at the project are obvious. So, too, are the benefits to be derived from the low-cost power which will be generated at the site.

Perhaps not so obvious are the auxiliary benefits we can expect from the project. Industry, for example, has historically located near a source of low-cost and reliable power. Dickey-Lincoln will provide this, so there's every reason to expect that industry will look -more favorably upon Maine once the project is built and "on line."

Also, it should be kept in mind that Dickey-Lincoln is a multi-purpose project. Besides generating electricity, the dams will also serve to curb the flooding of the St. John. Periodically this river overflows -ts banks to cause millions of dollars woth of damage and threaten lives. Dickey-Lincoln will end this threat.

Overall, the project is economically and environmentally sound, and it should be built for the benefit of Maine and all New England.

Respectfully submitted,

John R. Goodwin

John R. Goodwin

Maine Citizens for Dickey-Lincoln

RESPONSE
OF
VALLEY RESIDENTS AGAINST DICKEY-LINCOLN
TO
TRANSMISSION LINE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Kathy Olson, Coordinator
RFD 1 Box 439
Fort Kent, ME 04743

1 MAY 1978

Since Valley Residents Against Dickey-Lincoln (VRADL) opposes the construction of the Dickey-Lincoln dams themselves, it follows that we oppose all transmission line construction as well! VRADL has already stated its reasons for opposition at the 20 October 1977 meeting held by the Army Corps of Engineers in Fort Kent. In our Position Statement we elaborated our concerns about the social, economic, and environmental devastation the entire project would cause to the St. John River Valley and to the lifestyle we value here. We continue our strong opposition to the entire Dickey-Lincoln project. Reading the Draft Environmental Impact Statement (DEIS) for the transmission lines only intensifies our concerns.

Many adverse impacts are cited in the transmission line DEIS and of special concern to VRADL are the following:

1) Adverse socioeconomic effects, already delineated in our Position Statement, would be further aggravated by the displacement of five more families and the importation of more construction workers. (DEIS, p 5-2)

2) Intrusion of transmission line corridors with 165-foot towers into large unspoiled vistas would radically alter the wilderness character of a large section of Maine woods. "The landscape of the study region is noted for its scenic or esthetic qualities. Such amenities as diverse physiographic features, abundant lakes, rivers and brooks, and extensive forests that color richly in the fall offer scenic characteristics found in few other locations. These resources stimulate high recreational use and contribute substantially to the region's economy." (DEIS, p 2-102) "The area is significant ... not only because it provides an expanse of undeveloped land ideal for primitive and natural environment related recreation activities but additionally as an important cultural symbol. These wildlands serve

as a symbol of wilderness value and, consequently, have a social function which transcends the economic functions which occur on them." (DEIS, p 3-82)

3) The proposed transmission lines between Dickey and Lincoln Dams and Fort Kent at the Fish River substation would create local adverse effects. The alternative route A-2, using link 2, traverses much forested and wild areas with great ecological impact on many streams and lakes and their plant and animal communities. Also, there would be great adverse visual impact as far as local people who enjoy this area are concerned. All in all, the alternative route (A-2) seems environmentally much more disruptive. Using link 1 in the proposed A-1 route makes use of an already more developed area; however, visual effects upon people living in this area would be substantial. (DEIS, pp 8-20 - 8-21) Either transmission line seems to add insult to injury since our area would receive no power from Dickey-Lincoln and yet we would be subjected to this massive destruction of the landscape.

4) Herbicide sprays used for maintenance of right-of-way along the transmission lines could cause possible damage to wildlife, non-target plants, and humans. 2,4,5-T, which has been widely used in such spray programs, contains a toxic by-product, dioxin, which has been implicated in causing birth defects; 2,4,5-T itself is strongly suspected to be a carcinogen. (Environmental Action, 5 Nov 1977, pp 11 - 13) In predicting mainly slightly positive effects of the right of way on wildlife, the DEIS admits "the magnitude and direction of all these impacts on habitat will strongly depend on the vegetative control methods used," (DEIS, p 3-58), and yet these control methods have not yet been determined! (DEIS, pp 1-24 - 1-25)

(5) We are concerned about possible health effects (on man, on wildlife, and on plants) as a result of living near high-voltage transmission lines. Although the DEIS tries to reassure us about the lack of evidence for health effects (DEIS, pp 3-124 - 3-132), there seem to be disagreements on test results from a number of experimenters. Long-term effects are hard to measure. Also, the annoyance, if not hazard, of shocks from conducting objects near the transmissions lines is a definite negative impact.

6) Erosion of land and sedimentation of streams during construction cannot be totally mitigated. (DEIS, p 5-1)

7) Increased pressures on wildlife and plant communities due to use of maintenance roads and transmission line rights-of-way by snowmobiles, motorbikes, and other all-terrain vehicles is also unmitigated. (DEIS, p 5-1)

The DEIS for the transmission lines only adds further justification for VRADL's strong opposition to this destructive project. We don't want the Army Corps of Engineers to build the dams in the first place, and we don't want the Department of Energy to plug them in!

#19A

MAY 24 1978

RFD 1, Box 439
Fort Kent, ME 04743
May 23, 1978

Department of Energy
Federal Building
202 Harlow Street
Bangor, Maine 04401

Dear Sir:

Please consider this as official comment on the Draft Environmental Impact Statement on the Dickey-Lincoln School Lakes Transmission Project, Maine, New Hampshire and Vermont. The following are questions and comments that should be answered and/or addressed in the Final Environmental Impact Statement: (# means paragraph)

p 1-3, # 3 It should be noted that at present we have no agreement with Canada to share increased power from Canadian dams that would result from operation of Lincoln School Dam. It is dishonest to count this as part of the project.

p 1-4, # 2 Are there no mitigations to keep Lincoln School Reservoir from flooding two miles of the Allagash River? What adverse effects will this have on the Allagash's wilderness waterway character? How will release of water from Dickey and/or fluctuations of Lincoln School Reservoir affect the mouth of the Allagash River?

p 1-6, # 3 Why were only engineering and economic considerations used to pick the "best" route from among the five? Why weren't environmental and field reconnaisance studies used as well in making the route choice?

p 1-7, # 8 How will the decision be made about who will construct the transmission lines?

p 1-16, # 2 Are property owners whose land is crossed by transmission lines compensated for loss of property value on any or all of their property affected by visual disturbance due to the lines? Why are not other property owners in the viewshed also compensated?

p 1-16, # 4 Will reseeding of construction roads not needed for access roads be part of the contract to guarantee it gets done?

p 1-18, # 1 The statement that "most of the new access roads would be on the right-of-way" doesn't seem to jibe with table 1.03-3 on page 1-20 where it shows 207 out of 445 miles are off the ROW.

p 1-18, # 4 Who determines what types of equipment to use and where sensitive areas are? Who monitors them?

p 1-19 Is there something missing from this table? What does the last column mean—there are no numbers?!

p 1-21, # 1 What happens if permission to survey is not granted?

p 1-24, # 5 More information is needed here! Who decides whether to use herbicides, what kinds, or whether to use aerial or selective spraying or cutting in order to keep rights-of-way clear? How much natural growth will be allowed along rights-of-way? How often will spraying or other vegetation management be done? (Section 3.06.1.3, pp 3-17 - 3-18 also deals with this.)

p 1-25, # 5 Aerial spraying seems very hazardous to non-target plants as well as animals. This paragraph states that aerial application is often preferred "when cost considerations are important." What guarantee is there that effects on wildlife will be considered in picking a vegetation control program, since economics usually wins over environmental considerations!?

p 2-60 A page reference has been omitted after "cover types".

p 2-79, # 5 The importance of the landscape to recreational value is stated. What effect will the visual impact of transmission lines have on the recreational value of this large section of Maine woods? Has the loss of some recreational value due to the transmission lines been included in the cost of the project?

p 3-18, # 2-4 What are the hazards of herbicides to man either directly or indirectly (through biological magnification)? 2,4,5-T (or dioxin in it) has been suspected of being a teratogen and 2, 4, 5-T itself may be carcinogenic! Does the public have any way of influencing the type of vegetation control used?

p 3-33, # 1 Why are only deer used as an indicator of wildlife use? A misleading picture of effects of transmission lines on all wildlife may emerge if only deer are considered in measuring wildlife use, since what favors deer may not be beneficial to other equally valuable wildlife (from an ecological point of view!)

p 3-66, table 3.08-12 How can impact on wildlife in rights-of-way be considered as over-all slightly positive when it's so dependent on the type of vegetation management used?! This is stated a number of times in the text (e. g., p 3-58, # 3). It seems dishonest to stress wildlife value when this is obviously a "best case" that is presented and if repeated spraying is used to kill plants in the ROW, the effect on wildlife would surely be negative(e. g., p 3-46, # 5 and p 3-34, # 5). Also, increased pressures due to snowmobiles and other all-terrain vehicles will certainly be adverse! (p 3-29, # 5 and p 3-47, # 2).

pp 3-58 & 3-59, tables 3.08-2 & 3.08-3 The fact that wildlife habitat impacts between Dickey and Fish River are slightly beneficial (table 3.08-2) does not seem to follow from table 3.08-3 where 72% of this route has a severe disturbance probability and 28% has high. Also, why does the statement under the table say about 75% of the route has high disturbance impact when the table shows 72% severe?

p 3-58, # 4 Deer yards could be positively or negatively impacted depending on how they are crossed. Who determines how they are crossed and that they are crossed with least damage to deer yards?

p 3-82, # 1 The line is visible to more people in Vermont and New Hampshire, but this doesn't mean that putting lines where there are fewer people causes less damage. The Wilderness character of an undeveloped area is greatly damaged by the building of transmission lines which cause the loss of unspoiled vistas.

p 3-108, # 1 & table 3.13-1 The text says the viewer impacts are generally moderate while the table shows 28.6% moderate, 51.4% high, and 13.2% severe (text says 13.2% high). Which is right? Also the table says 3.9% instead of 3.9 miles.

p 4-1, # 4 Who hires and pays for the inspectors?

p 4-6, pt. 1 Restricting public access by snowmobiles, etc. once roads are built into remote areas is a pipe dream!

p 4-9, pt. 2 "Maintenance of the right-of-way would be designed to be compatible with the owner's plans." Does this give the owner the right to determine the method of vegetation control used on his land, e. g., could he forbid the use of herbicides and have control done by selective cutting by hand?

p 4-10, pt. 2 "Where desirable, homes may be moved away from the right-of-way to an adjacent site." When will homes be moved at government expense—only when they are directly in the right-of-way, or when they are adversely affected by the near presence of the lines? Who makes the decision that action should be taken—the homeowner or the government? What recourse does the homeowner have if there is a disagreement?

p 4-13, pts. 2 & 3 To whom do residents conplain about radio or TV interference from the lines or grounding of metal structures under the lines? Will such processes be free to the affected residents?

p 5-2, # 1 The continued disturbance after construction is barely mentioned in the DEIS. Such activities as helicopter fly-overs to check lines and travel on maintenance roads by both authorized and recreational vehicles will certainly result in a negative impact on wildlife. Was this continuing disturbance factor considered in the postulation of effects on wildlife? (p 3-66) Note: "Continued human access disturbs most wildlife." (p 6-1)

Sincerely,

Kathy Olson

Kathy Olson, Coordinator,
Valley Residents Against
Dickey-Lincoln

#14

May 1, 1978

Eberhard Thiele, Ph.D.
RD 1, Box 30
Fort Kent, ME 04743

Comments on the Draft EIS on the Dickey-Lincoln School Lakes Dams and Transmission Lines.

It appears that my written testimony on the Draft EIS for the dam, presented at the Fort Kent hearing in ~~November~~ October, 1977, was not included in the hearing transcript. I shall, therefore, address myself today to the impact of the project as a whole.

The Dickey-Lincoln environmental impact statements have presented thousands of pages of facts about possible losses and gains. Yet in the end it will be personal values and political motives that will determine the project's future. This testimony reflects my personal values, but it will also present a practival matter that has not been addressed in any of the Draft EIS's - the impact of the project on the future of the University of Maine at Fort Kent.

My greatest concern stems from my assessment of the project area as one of this nation's unique and increasingly rare resources - extensive wildlands only lightly touched by the hand of man. In travel guides circulated throughout the U.S. and beyond, Northern Maine, and particularly the St. John Valley, is described as a place where concrete and asphalt give way to nature, where wild rivers still run free, where land and lifestyles are not yet blighted by urbanization.

I know that there have been intrusions by man, that the

Dickey-Lincoln project area is no longer a virgin wilderness. But logging scars heal. In a relatively few years the area can regain its wilderness character, if we so choose. Even now a wilderness experience can still be found in many sections of this vast forest region, including stretches of the St. John River which would be flooded.

Power-boating in the sight of a huge concrete structure along shorelines marked by extensive mudflats or barren strips of boulders, snowmobiling and jeeping on herbicide-sprayed lanes under a canopy of humming wires, hiking and driving in the sight of gigantic metal towers - none of this can begin to replace the unique recreational experience which this area now provides.

For our energy problem, there are many solutions. Other nations, living as well as we, have less than half of our per capita energy consumption - even without using the vast untapped renewable energy in sunlight, wind, biomass, and streams with small dams.

For the impairment of this last vast area in the East in which Easterners can find wildness and reprieve from urban pressure, for the loss of this last wild frontier, there is no solution, no alternative, no true mitigation. In a hundred - and perhaps in a thousand years - when our current energy crisis will be a matter of history, the scars and rubble of this gigantic project will continue to remind our descendants of our destructiveness. Long before then, however, Easterners, faced with rising fuel costs that prevent travel to the West, may curse the short-sighted ruin of this remnant of their

wildland heritage. The long-term public health costs associated with eliminating wildness can, unfortunately, not yet be quantified for consideration in the environmental impact review process. I suspect, however, that they far exceed any benefits the project can provide in its relatively short lifespan.

Even in looking at short-term economic concerns, I cannot help but feel that Dickey-Lincoln and its transmission lines may hurt this northern Maine area, notwithstanding a temporary influx of capital. Economic activity, at least in Fort Kent, the major town most impacted by the project, is relatively stable. The boom and bust cycle could easily replace this with a downward trend. When bust follows the short boom, residents of this area will not only be left with an impoverished environment, but may have to deal with such problems as higher property taxes to amortize a no longer needed physical public service system, inflated prices, and a reduction in permanent livelihoods in forestry and outdoor recreation. Perhaps most importantly, the option of developing a modest tourist industry based on the single aspect that makes this area unique, its remote wilderness appeal, will be forever impaired.

Another very practical concern, which both environmental impact statements have ignored, is the future of the University of Maine at Fort Kent. As the head of the degree program in Environmental Studies, I know that this program is one of the major attractions bringing students to this small campus. The folder advertising the program speaks of "farms, forests, northern wilderness, lakes, wild rivers and small, friendly rural communities. ..." The destruction of this

appeal by transmission lines, dams, substations and a network of access roads, will, in my view, pose a direct threat to the viability of the University of Maine at Fort Kent and the cultural and economic enrichment which this institution brings to this secluded valley. I sincerely hope that this concern will be addressed in the final impact statement.

Building the Dickey-Lincoln project would be a deliberate continuation of the string of environmental errors which we have made in the past. The only difference is that this time we would do it deliberately and callously - fully aware of the long-term environmental, cultural, and local economic impoverishment the project would create. I cannot help but perceive a sense of fear when I contemplate the broader implications of yet another gigantic sell-out of our natural heritage to a kind of progress to which, I thought, our nation and government no longer subscribe.

#15

MAY 18 1978

UNIVERSITY OF MAINE at Orono

Environmental Studies Center
Land and Water Resources Institute

Office of the Director
11 Coburn Hall
Orono, Maine 04473
207/581-7092

May 17, 1978

Department of Energy
Federal Building
202 Harlow Street
Bangor, Maine 04401

Dear Sir:

After careful review of the draft Environmental Impact Statement and supporting appendices regarding the transmission of power from Dickey-Lincoln School Lakes, I feel that several comments are appropriate.

First, let me commend DOE on a job well done. The EIS is remarkably comprehensive. However, there is one subject in particular which was barely addressed and which, considering the location of the proposed transmission route, must be faced squarely. This broad subject area concerns the concept of "wilderness." What constitutes wilderness, what is its significance on a local, state, and national level, and what is its value? These questions are largely unanswered, and to some extent they are largely unanswerable, at least quantitatively; regardless, they are of recognized importance and must be addressed.

A serious concern in Maine, as well as nationwide, is the ever-increasing loss of its wildlands. The magnitude and character of Maine's wildlands are unique in the lower forty-eight states and, as such, represent a significant portion of our national heritage. As pointed out on page 3-82 of the summary EIS,

> *The area is significant...not only because it provides an expanse of undeveloped land ideal for primitive and natural environment related activities but additionally as an important cultural symbol. These wildlands serve as a symbol of wilderness value and, consequently, have a social function which transcends the economic functions which occur on them.*

Thus, in my opinion, the basic issue is not how to mitigate the myriad impacts of construction along the preferred route, but whether or not transmission should occur along the preferred route at all. There are basically two potential routes for transmitting power from Dickey-Lincoln--a westerly and an easterly route. Tangible costs associated with the westerly route have been shown to be less than those associated with the

easterly route. This is the major reason for designating the westerly route as preferred. However, there are important intangible costs-- related to the value of wilderness-- associated with the westerly route which have not been assessed and which are assumed incalculable. These costs do not exist along the easterly route. It is of extreme importance that route location decisions not be made when unknowns or vague assumptions are involved; all important impacts must be quantified.

It is stated in Appendix A of the EIS, page 6, that "System studies indicate that each of the five plans is capable of integrating the entire output of Dickey into the New England transmission system." Thus, the feasibility of an easterly route has been documented. Further, all important impacts are quantifiable. Finally, an easterly route is still economical. It will not result in a significant reduction in the benefit/cost ratio for Dickey-Lincoln. For a project for which the ultimate price tag will likely be well over a billion dollars, the additional costs in adopting an easterly route can hardly be considered critical. Thus, until the value of wilderness can be quantified or even estimated reasonably well, there can be only one choice regarding transmission from Dickey-Lincol-- an easterly route must be taken.

While I vehemently oppose the construction of transmission lines along the westerly route, I recognize that the very real possibility still exists that the westerly route will be used. While the aesthetics of the area will suffer permanent damage in that case, remoteness-- a vital characteristic of wilderness-- need not be significantly affected. Several hundred miles of off-and-on right-of-way roads will be constructed and maintained to provide access to the transmission lines. It is probable that most of the off-right-of-way roads will be located in Maine due to a present lack of roads. In fact, from Dickey to the New Hampshire border, the proposed transmission route crosses only two hardtopped roads-- Route 27 between Eustis and Coburn Gore, and Route 201 near Jackman. Though there are many other road crossings in the Maine section, all are private unimproved paper company haul roads, which may or may not be maintained, depending on lumbering activities. Of critical importance here is the lack of public access. Most of these roads are either closed to public use entirely or open on a limited seasonal basis for a small fee. In any event, public access by land vehicle is extremely limited.

The question to be asked is "will access remain limited?" The answer is not to be found in the draft EIS. This issue must be addressed. A primary reason the area has retained its wilderness character is that the major landowners have curtailed access. Assuming that Dickey-Lincoln is approved and that the transmission lines are built along the westerly route, what type of activities will be allowed and/or encouraged along

the right-of-way and access roads? The EIS mentions impact from increased snowmobile use, and indicates that this type of use, if not encouraged, will at the least be allowed. How about summer vehicular activity? Will four-wheel-drive vehicles be allowed on the right-of-way? motorcycles? ORVs? How about on the off-right-of-way access roads? Traditionally, ORVs and motorcycles have been banned from the North Maine Woods, and many roads are closed to all vehicular travel. Will these "regulations" remain in effect? If so, who will be responsible for enforcement? The proposed transmission route will cross many paper company haul roads. For public safety, access must be restricted in areas of active lumbering operations. Will all these roads be gated and maintained? At whose expense?

Though the impact of a transmission line along the proposed route has been discussed in great detail, the impact of increased use of Maine's wildlands due to improved access has not been adequately addressed. It must be recognized that access to the corridor will potentially open up the majority of Maine's wildlands to vastly increased recreational use. This use is not limited to a 150-foot right-of-way or even to a "viewshed," but potentially involves literally thousands of square miles of Maine's-- and the nation's-- remaining wildlands. Policy decisions regarding access must be made now to allow quantification of this impact.

As a final point, a significant feature of Maine's landscape is its water, and naturally the proposed transmission route will cross many streams and rivers; perhaps as many as 150 crossings will be required in Maine alone. It is not clear in the draft EIS how the crossings will be made. One would assume that access roads will be constructed to circumvent some crossings, but certainly not all of them can be avoided with only 200 miles of access roads. Thus it seems probable that some stream crossings with light and heavy equipment will be made. The questions remaining are "how many?" and "how?" Will streams simply be forded? temporary bridges installed? permanent bridges? If access roads are lacking, one would assume that some type of permanent structure would be required for maintenance purposes, and thus permanent bridges would likely be installed. Again, these questions must be addressed before rational comment can be made.

In closing, I would like to stress that wilderness is a priceless national treasure. Yet we are continually dividing our wildlands into smaller and smaller parcels, apparently ignoring the fact that we are running out of wilderness. In some instances the loss of wilderness is unavoidable; there are no suitable alternatives. But with the Dickey-Lincoln transmission lines there is an alternative, one which is not only feasible but also economical. Thus, it seems to me that the interests of Maine and of the nation would best be served by transmission along an easterly route, preserving, at least for a time, a vast wilderness area which is symbolic of Maine.

Sincerely,

Mark L. Hutchins

Mark L. Hutchins
Research Associate

/snl

#16

MAY 19 1978

STATE OF VERMONT

AGENCY OF TRANSPORTATION

DEPARTMENTS OF:
Highway
Aeronautics
Motor Vehicles
Public Carriers

OFFICE OF THE SECRETARY
Montpelier, Vermont 05602

M E M O R A N D U M

TO: John E. Holmberg, State A-95 Coordinator

FROM: Donald H. Remick, Director of Transportation Planning

DATE: May 4, 1978

SUBJECT: Lincoln Transmission Proposals

This Agency has reviewed the Draft Environmental Impact Statement for the Dickey-Lincoln Transmission proposals as it affects Vermont's Transportation Systems. The following comments are offered.

In general, additional information on specific location of highway crossings and effects on airport operations are needed. There are several highway improvement projects planned for, which the transmission proposal or alternate will be intersecting. Locations of towers and conductors will need to be coordinated with this Agency to insure horizontal and vertical clearances on new, relocated and existing highways, airports, and railroads. Our concerns include:

Area	Involvement
1) Lower Waterford	Crossing Proposed I-93
2) Barnet	Proposed Highway Project US 5
3) Groton-Ryegate	Proposed Highway Project US 302
4) Groton	Groton State Forest Highway
5) New Hampshire-Vermont State Line to Graniteville	Crossing existing highways and road
Granite - Essex	
6) Berlin	Affects on the Barre-Montpelier Airport Operations
7) Moretown	Crossing proposed highway project VT 100B
8) Essex	Crossing of Vermont 117
9) Essex	Proposed new road, Essex Beltline
10) Graniteville to Essex	Crossing existing highways and roads

This memorandum may be forwarded to the applicant and they can contact me directly to coordinate our activities.

GVS/gs

MAY 15 1978

AA-PUR 307 100M 11-76

State Planning Office
Office of the Governor
Montpelier, Vermont 05602

RJR

MAY 19 1978

STATE OF VERMONT

OFFICE MEMO

TO: Larry Wilkerson, Dickey-Lincoln Project

FROM: John E. Holmberg, State A-95 Clearinghouse JEH

DATE: May 16, 1978

SUBJECT: A-95 Review, DEIS, Dickey-Lincoln School Lakes Project

- ☐ APPROVAL
- ☐ SIGNATURE
- ☐ COMMENT
- ☐ REVIEW
- ☐ PREPARE REPLY FOR MY SIGNATURE
- ☐ YOUR ACTION REQUESTED BY THIS DATE
- ☐ NOTE AND SEE ME
- ☐ NOTE AND RETURN
- ☐ NOTE AND FILE
- ☐ FOR YOUR INFORMATION
- ☐ PER CONVERSATION
- ☐ AS REQUESTED
- ☐ NECESSARY ACTION
- ☐ GIVE ME THE FACTS
- ☐ SUGGESTIONS REQUESTED

REMARKS:

Attached are comments on your project from the Vermont Agency of Transportation. Please respond to Mr. Remick to coordinate your projects and let the Clearinghouse have a copy of any correspondence.

JEH:en
encl.

#17

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
ATLANTA, GEORGIA 30333
TELEPHONE: (404) 633-3311

MAY 22 1978

May 19, 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
for Location & Engineering
U.S. Department of Energy
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

We have reviewed the draft environmental impact statement for the Dickey-Lincoln School Lakes Transmission Project. We are responding on behalf of the Public Health Service.

We noted that a determination has not yet been made on the procedures for the control of vegetation. The final environmental impact statement should include the control procedures which will be followed, methods of chemical applications, types of herbicides to be used, toxicity, and other related aspects of the control program.

Thank you for the opportunity to review this statement.

Sincerely yours,

William H. Foege, M.D.
Assistant Surgeon General
Director

#18

STATEMENT OF

SENATOR WILLIAM D. HATHAWAY

DICKEY-LINCOLN SCHOOL LAKES

TRANSMISSION PROJECT

Jackman, Maine

May 3, 1978

I appreciate this opportunity to present some brief remarks to underscore my continuing support for the Dickey-Lincoln Hydroelectric/flood control project on the St. John River.

You will be discussing more specifically the impact of the transmission corridors on the Jackman area during this hearing. These impacts are rightfully of great concern to the people of this area, and I hope that all of your concerns will receive a full airing. I would like to address, however, the overall project as to its energy, flood control and economic benefits for the people of Maine and New England.

It is appropriate to discuss Dickey-Lincoln today as this has been designated "Sun Day" by the United States Congress, a day to reaffirm our national commitment to development of renewable and non-polluting energy resources. Hydroelectric power is one of those resources. It is a safe and available technology which we can develop today, not years from now.

Hydroelectric power is economically feasible; it does not have to await a technological or market breakthrough to make it commercially available. While projects like Dickey-Lincoln involve considerable upfront costs, nearly all of these costs will be repaid to the taxpayers through the electrical rates. These rates will be at, or below, those currently charged in New England, and will not be subject to the now-familiar fuel price increases.

Under the marketing plans for the project, 533 million kilowatt hours of power will be sold in Maine. That is 44% of Dickey-Lincoln's power, and by conservative estimate can save Maine people $18 million per year in electrical costs. This is enough power to provide electricity to about 75,000 residential customers.

In addition to the power benefits, Dickey-Lincoln can provide construction jobs on both the dams and the transmission lines. Between 1/2 and 3/4 of these jobs can be filled by Maine people, on the local and regional level. These jobs will be available at wages equal to or above prevailing local wages.

The long-term economic benefits of the project are equally significant. Those who live in the St. John River Valley know the value of the project's flood protection. Devastating springtime floods will be prevented as the dams capture the spring runoff and store it for later use as electrical energy.

Companies and businesses looking for a stable and cheap energy supply have traditionally located near hydroelectric sources. Hydropower has fueled the economy of the Pacific Northwest, resulting in some of the lowest energy costs of any region in the country. Even when gas and oil were abundant and cheap, hydropower competed successfully. Today and in the future, hydropower will be even more valuable as oil and gas resources are depleted and ever higher priced.

In that regard, it is useful to put Dickey-Lincoln into a larger context of our energy consumption patterns. At the end of the transportation line, New England is more dependent upon oil to fuel its homes and factories than any other region of the country. Nearly 80% of that oil is from foreign sources.

In the U.S. as a whole, our dependency upon foreign oil has grown steadily since the Arab oil embargo. Despite the quadrupling of price, we are now dependent upon foreign countries for 50% of our oil supplies.

Dickey-Lincoln is not a cure-all for the reality of our energy vulnerability, either for New England or for the nation. It can, however, be one step among many to be taken which can lessen this growing dependency upon ever

more expensive, and less secure, sources of energy.

Dickey-Lincoln can be integrated into the development of future energy resources. It can be a cheap and reliable source of backup energy for homes and businesses which can make use of solar or wind or other technologies for part, but not all, of the time.

In terms of oil replacement, Dickey-Lincoln can provide the equivalent of 2.3 million barrels of oil per year, worth approximately $30 million at today's prices. That is only a small part of our $45 billion bill for imports. But it can help to ease these balance of payments problems.

These are some of the benefits of Dickey-Lincoln. There are, of course, impacts from the project. These impacts, while very real, need to be viewed in the context of the benefits, the impacts of <u>alternatives</u> to the project, and in the overall context of the resources of Maine where the principal impacts will be felt.

The loss of woodlands for the project -- and the fact that loss is less than 1% of Maine's woodlands -- has been well-documented. The loss of white-water canoeing on the St. John, the need to relocate residents of Allagash and St. Francis, and the impact on fish and wildlife of the reservoirs behind the dams has also been thoroughly explored. I shall not reiterate these impacts here tonight.

The impacts which may be of primary concern tonight are those which have been termed the socio-economic impacts. The possibility of negative impacts of line construction as a result of population increases, with accompanying strain on local services, has been raised. The draft Environmental Impact Statement addresses these issues, and officials familiar with them in some detail are here tonight.

Instead of a negative impact on Jackman residents and the Town, there would seem to be a substantial positive impact on the local economy. A large percentage of the line jobs, particularly those first available, can be filed by local people, or those within commuting distance. Historically line workers who do go long distances to take jobs do not bring their families with them for these jobs. Hence, there should be little or no strain on services such as schools resulting from the line construction

The wages, the purchase of supplies, the increase in spendable income in the area as well as a potential increase in tax revenues should bring economic gain during construction to Jackman. Since easement rights only will be acquired for the lines, there is predicted a net tax gain in the state in property taxes, since the land would be valued higher than under Maine's Tree Growth Tax law which applies to much of this land now. With planning, transmission line construction should be an economic plus for the people of Jackman.

The project's impact on Town services and life are rightfully of great concern to you and your officials. These hearings are an opportunity to air these concerns and to inform federal officials of any impacts which may not have been fully explored. There is more than adequate lead time to plan for these impacts, and to mitigate any possible negative impacts, at the local and regional level.

Overall, Dickey-Lincoln represents a sound environmental and economic choice for the people of Maine. Hydropower is a developed and known technology and the benefits of the project are clear. It is an opportunity to lessen our growing dependency upon energy sources which are less secure, more expensive and involve environmental hazards comparable or greater than those of hydroelectricity.

Dickey-Lincoln's development does not foreclose other alternatives, including conservation and electrical rate reform. Its flexibility will permit it to be well integrated into New England's energy future, including small hydropower, tidal, solar development, wood, wind, and conservation, as well as the fossil fuels and nuclear power. It is not a panacea. It is instead a major investment in Maine which can help quicken our region's path to expanded economic opportunities and a stable and reliable energy future.

I dislike the idea of Dickie-Lincoln;however I trust in the wisdom of United States Senator Bill Hathaway and do not oppose it even though I deplore the destruction of the Allagash Waterway Wilderness and the ugliness of transmission lines.

What I do oppose is the Corps of Engineers and Bureau of Reclamations Madison Avenue type package of Environmental Impact Studies and Social/Economic Studies which obviously didn't and has not let the affected communities develop imput.

I personally feel that nothing can be decided about Dickie-Lincoln until the State of Maine voters in the form of a referendum give their express consent just as in 1966 ~~what~~ # voted to make the Allagash Waterway a protected wilderness.

Signed,
Harvey A. Smith

Democratic Candidate for State Representative
District 96 (Stare of Maine)

Statement of Brooks B. Mills, Eddington, Maine, May 4, 1978

#20

DICKEY-LINCOLN
IN TERMS OF DOLLARS AND COMMON SENSE

Background - B.S. Cornell, 1953 - Agriculture - Soils. Economics.
M. F., Yale, 1957 - Forest Management
Three years Research Forester, U. S. Forest Service here in Maine.
Ten years a stockbroker with Loeb, Rhodes, Hornblower.
Seven Years income tax business with H. & R. Block and now self-employed.
Thirteen years as part, and now full-time, Tree Farmer on 500 acres of land.
Memberships: Maine Woodsmens Association, Maine Forest Products Council, Society of American Foresters, Past Director Maine Christmas Tree Association, ASCS Town Committeeman, Maine Organic Farmers and Gardeners Association. Written articles in Farmstead magazine, Yale Forest School Alumnae News and our farm operation was written up in Countryside magazine.

The St. John River Valley contains some of the finest forest land in Maine, over 1,000,000 acres of land in private ownership and under a system of forest management that has evolved with the markets and economic circumstances since 1840, almost 140 years. We are on the verge of a break-through in marketing and management opportunities in that the next few years may elevate this area into world-wide prominence as one of the largest and best managed forest resources anywhere.

Now we are talking, or the politicians are, at any rate, about flooding 80,000 acres of this area and removing additional acres as right-of-way to carry the hydropower to out-of-state markets. Less mentioned is the fact that this Dickey-Lincoln dam development will affect the economic viability as an economic management unit of nearly a million

acres in all, for the entire area depends on the system of roads that run through the St. John River Valley to provide the arteries of travel and transport that take the men and machines to the wood and bring the wood out to other men and machines who then make the myriad of products that we can derive from wood fibers.

What are these acres really worth in terms of timber stumpage dollars to the landowners and their foresters, wages for woodmen, truckers, values added by sawmills, and the other values added as the wood fiber resource goes into finished lumber, pulp, paper, particleboard, fuel wood, and the myriad of other end products that derive from wood fibers? Remember, wood fibers are really solar energy, locked up in a rather unique and renewable natural resource by the ultimate energy source for this planet - Old Sol - who works for us for free, up there from dawn to dusk, come rain or shine.

Let us confine ourselves to one concrete example, and then, let's further confine ourselves to just one tree species. White pine is a State of Maine tree, and well it might be. It was first recognized by the English who marked the tall trees with a broad arrow to reserve them for masts for the Queen's Navy and stirred up much the same controversy between government and settlers then, as Dickey-Lincoln is doing this very day. Pine was the first forest product cut then, in the days when the St. John River Valley was first reached by loggers with long-handled broad axes and teams of oxen, and remains the prize tree today. This tree is

unique in that its rate of growth, height and diameter size, allows it to store more solar energy per acre in a given period of time than any other native tree species. It also grows well nearly everywhere, so that when we evaluate Dickey-Lincoln in terms of future and potential values, we must be very much aware of the fact that foresters can, and most certainly will, endeavor to grow white pine wherever practicable.

Okay, you say, then what does all this fine rhetoric mean in dollars and cents, especially to the State of Maine? Here goes.

A 22 inch white pine that contains three 16 foot logs from the stump to an 8 inch diameter top, 48 feet of merchantable height, contains a cord of wood by pulpwood scale standards, or 500 board feet of lumber by sawlog scale standards. We are assuming a natural forest-grown tree, one stem, reasonably tall and straight, the type of tree that good forest management aims to produce with the cooperation of Mother Nature. Let us now make four separate economic evaluations for this hypothetical tree.

White pine is not worth as much for pulpwood stumpage as is spruce or fir, but many cords of pine pulpwood still go into mill wood yards, and this is a good outlet for small and poor quality trees that will not make sawlogs. At $5.00 per cord stumpage, this hypothetical tree we are talking about is worth $5.00.

Pine sawlog stumpage last summer in the Bangor area and

elsewhere was worth about $50.00 per thousand board feet. That was when sawlogs brought $100-$120 per thousand in the mill yard. For various reasons, not the least of which is the growing scarcity of good quality sawlogs - the Timber Resource Survey of the State, done in the 1950's by the U. S. Forest Service said back then that pine was being cut faster than it was growing - so it is understandable then that pine logs now sell as high $200 per thousand in some places. If that is so, this stumpage should also be higher, but let us stick with last year's prices in this example. At $50.00 per thousand, this 22 inch white pine we are talking about now becomes worth $25.

I, ~~some~~ as a landowner and tree farmer, and far from being satisfied with the options of selling stumpage alone. We have our logs custom sawn and then sell the lumber. We cut it ourselves, have a friend haul it to the local sawmill, where I help another friend saw it to grade, then haul it back home myself, stick, stack, airdry, and later sell it as rough lumber. A woods-run tree will grade out #3 common lumber, and 9-10 inch boards were worth $350 per thousand at a local sawmill last summer. When we back off sawmilling and logging costs of $60 and $70 per thousand respectively, we get down to $220 per thousand, or a bit over $100 value for our tree.

We like to refine this technique a little and prune all our good pine trees to 24 feet in height. We have pruned

all the sawlog quality white pine on the 320 of our 500 acres that are close to home. Pruning to 24 feet upgrades 60% of the log volume in a 3 log tree, and should be done ideally when the trees are under 8-10 inches in diameter to insure a small, knotty core and clear wood outside the pruning scars. With the high grade lumber created by pruning, we should be able to increase the value of this individual tree to $200. This is one of the best returns on forestry management input that I know of.

How many trees can you expect to grow on an acre? Most foresters will agree that 100 trees, a 20 by 20 foot spacing for crop trees, is a good and fair objective to shoot for. It may be higher with good sites and more intensive management. With that figure then, our per acre values appear like this: $500 -$2500 - $10,000 - $20,000.

We should now consider some added values that have been here all during the 60-80 year interval that it takes to grow this 22 inch tree. Thinnings in the forest stand that have removed firewood, pulpwood and small sawlogs of pine, as well as other species, have provided a forest resource plus jobs that have more than paid for themselves during this period. But let us, for the sake of simplicity, not put any specific dollar value on those values, but do not forget this plus either.

There are other values that have been created here as well. White pine pulpwood is worth about $25 per cord at many rail woodyards throughout the state. The $500 per acre

pulpwood valuation then becomes $2,500. When the wood is delivered to a wood yard, it can be valued at $35,000 when turned into newsprint at $350 per ton - which is one of the cheapest paper products in the industry.

Logging and sawmilling that costs me $130 a thousand add $6,500 to the value of the sawlog stumpage or the lumber values that I have previously given you. Now, we are looking at the folowing options: pulpwood- $500 - $2,500 - $37,500. Sawlogs - $2,500 - $9,000 - $16,500 - $26,500.

In this analysis, we are only taking rough lumber and newsprint, certainly far from the ultimate value product. A friend of mine who buys cedar boat planking from our tree farm sells his boats for between $1,500 and $2,000 and pays me about $50 for the lumber needed to build this boat. He tells me that he has to paymore for brass hardware than for the lumber, so that tells us that wood is about the smallest portion of the cost of anything derived from it.

Taking these values we have derived here and dividing them by the 80 years that it takes, conservatively speaking, to grow this 22 inch tree, you see that, ignoring compound interest, the land can possibly produce as much as $300 to $400 or more of income of varying kinds to many people, each year on each acre and under good forest management. And this is what we landowners, large and small, are coming to very quickly now, and will come to faster in the years ahead. On our few acres, we cannot take good enough care of our lands, we have not yet found the point of diminishing returns for

our forest management efforts.

I want to leave you, tonight, with a few thoughts to ponder over in parting. The Chief Forester, upstairs, isn't making land anymore. Land is worth more to feed people and animals and grow wood fiber for man's use than any other single use that I can possibly think of. You want to build houses where you can't grow food or trees economically. The St. John River Valley grows trees better than most places in the State of Maine. We should call it the "Green Chip Investment" in natural resources and jobs, plus tax revenues to run our schools and government for all the people of this great State of Maine. I think we should think twice, thrice, and even more, before we let any "Big Brother" from south of the Kittery Bridge dictate to us what will become of any single square inch of this, the truly GREAT STATE OF MAINE.

I can't resist taking one final, parting shot at Dickey-Lincoln and let us work with the Corps of Engineers own figures;

Reservoir - 88,000 acres

Dams, roads, etc. - 42,000 acres

Transmission lines - 5,800 acres

Wildlife management habitat - 100,000 acres

Total - 238, 500 acres

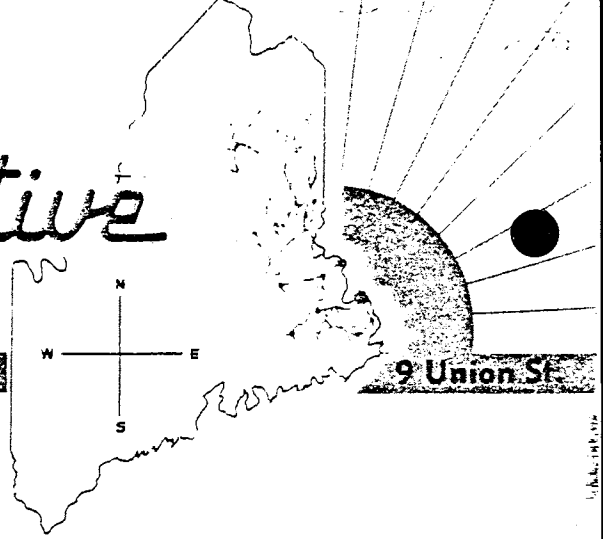
Let us then multiply this acreage by our #3 common lumber valuation, where the trees have been developed by nature, by guess and by gosh, at a value per acre of $16,500. This figure comes out at 3.935 billion dollars. We can more

double this figure if we choose to put all this beautiful white pine into newsprint, our lowest grade paper product, by the way. Taking the lower figure, this is about four times the entire cost of developing Dickey's facilities, according to the best Corps of Engineers estimate. The higher figure, the newsprint figure, would amount to about eight times this Engineers cost estimate.

Why swap a sure thing dollar for .25¢ worth of political promises? I really think that the entire Treasury Department couldn't print in a year's work - the paper money to equal the real value to the State of Maine and to the United States as a whole of this entire St. John River Valley without and I repeat, without Dickey-Lincoln. Amen and thank you.

Brooks B. Mills, Tree Farmer

Eastern Maine Electric Co-operative
INCORPORATED
Box 425 Calais, Maine 04619 Tel. 207-454-7555 9 Union St.



STATEMENT OF

ROBERT V. CLARK, GENERAL MANAGER

EASTERN MAINE ELECTRIC COOPERATIVE, INC.

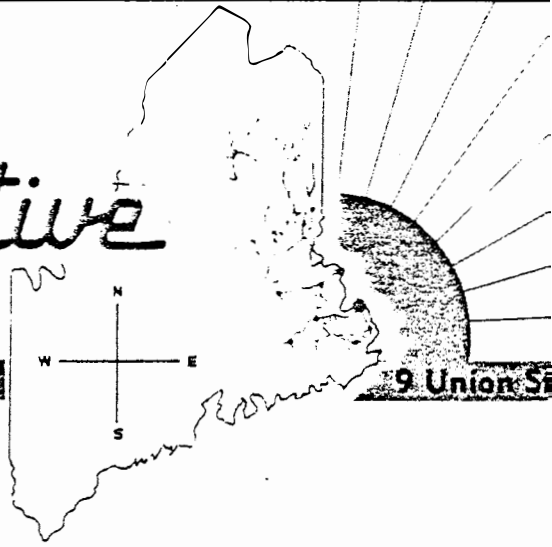
AUGUSTA, MAINE

MAY 4, 1978

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Eastern Maine
Electric Co-operative
INCORPORATED
Box 425 Calais, Maine 04619 Tel 207-454-7555 9 Union St



STATEMENT OF
ROBERT V. CLARK, GENERAL MANAGER
EASTERN MAINE ELECTRIC COOPERATIVE, INC.
AUGUSTA, MAINE
MAY 4, 1978

THANK YOU FOR THIS OPPORTUNITY TO AGAIN DISCUSS THE DICKEY-LINCOLN HYDRO ELECTRIC PROJECT IN NORTHERN MAINE AND ALSO TO DISCUSS THE PROPOSED TRANSMISSION LINE ASSOCIATED WITH THE DICKEY-LINCOLN PROJECT. THIS PROJECT, WE BELIEVE, IS NOT ONLY VITAL TO THE NEEDS OF THE MAINE CITIZENS WE SERVE WITH ELECTRICITY, AND OUR COOPERATIVE SERVES APPROXIMATELY 30,000 PEOPLE THROUGH 9,000 SERVICE CONNECTIONS IN EASTERN MAINE, BUT ALSO TO ALL MAINE CITIZENS.

ONE MAINE ELECTRIC CO-OP MANAGER TOLD ME RECENTLY THAT MORE THAN TWENTY PERCENT OF THE CONSUMERS ON HIS SYSTEM PAID THEIR

BILLS FROM PENSIONS. I DON'T KNOW WHAT PERCENTAGE OF OUR EMEC CONSUMERS ARE IN A LIKE SITUATION, BUT I DO KNOW THAT OUR UTILITY SERVES MANY LOW INCOME FAMILIES IN EASTERN WASHINGTON, NORTHERN PENOBSCOT AND SOUTHERN AROOSTOOK COUNTIES. YOUR STUDIES SHOW THAT THE ROUND THE CLOCK LOAD FACTOR ENERGY FROM DICKEY-LINCOLN WILL HELP THEM IMMENSELY. MONEY SAVED ON THEIR POWER BILLS CAN GO INTO FOOD AND OTHER STAPLES.

AT THIS TIME, MOST OF OUR ELECTRIC POWER COMES FROM THERMAL PLANTS IN CANADA. WE HAVE HAD LITTLE OPPORTUNITY IN THE PAST OR PRESENT TO SHARE IN THE EXISTING HYDRO POWER WEALTH OF MAINE. INDUSTRIES AND LARGE UTILITIES HAVE HAD CONTROL OF THIS SOURCE OF LOW COST ENERGY FOR A GREAT MANY YEARS. ALTHOUGH DICKEY-LINCOLN ENERGY PROBABLY CANNOT MATCH THE COSTS OF ENERGY FROM THE MANY EXISTING MAINE RIVER HYDRO PLANTS BUILT MANY YEARS AGO, IT NONETHELESS REPRESENTS A GREAT SAVING FOR OUR SYSTEM. NEEDLESS TO SAY, OUR RELATIVELY SMALL UTILITY SYSTEM WOULD USE BUT A FRACTION OF THE TOTAL DICKEY-LINCOLN CAPACITY. OTHERS THROUGHOUT MAINE AND NEW ENGLAND WOULD ALSO BENEFIT FROM THE PROJECT, BOTH DIRECTLY AND INDIRECTLY.

TRANSMISSION LINE COMMENT

IT WOULD HAVE BEEN OUR PREFERENCE INITIALLY TO HAVE THE DICKEY-LINCOLN TRANSMISSION LINE FOLLOW THE EASTERN COURSE. WE FELT THAT THIS ROUTE WOULD BETTER ALLOW A "USE DOUBLING" OF THE TRANSMISSION LINE BY MOVING POWER OTHER THAN THAT GENERATED BY DICKEY-LINCOLN INTO NORTHERN MAINE AND THUS, PERHAPS, AVOID OR DELAY ADDITIONAL TRANSMISSION LINE CONSTRUCTION IN THE FUTURE. YOUR REPORT INDICATES MORE COST AND ENVIRONMENTAL DIFFICULTY WITH THE EASTERN ROUTE SO OUR PREFERENCE NO LONGER REMAINS FULLY VALID UNDER THE CIRCUMSTANCES THAT EXIST. WE DO APPRECIATE YOUR HAVING INVESTIGATED THE EASTERN ROUTE THOROUGHLY. IT IS INTERESTING TO NOTE THAT AT THE PRESENT TIME, ALL DELIVERIES OF POWER IN QUANTITY INTO NORTHERN MAINE, INCLUDING MAINE YANKEE POWER, MUST BE WHEELED THROUGH CANADA AS NO DIRECT U.S. TRANSMISSION ROUTE NOW EXISTS. POWER FOR THE CUSTOMERS OF THE HOULTON AND VAN BUREN MUNICIPAL ELECTRIC SYSTEMS, THE MAINE PUBLIC SERVICE COMPANY AND MUCH OF THE EASTERN MAINE ELECTRIC COOPERATIVE SYSTEM IS DELIVERED VIA CANADA. DICKEY-LINCOLN'S 138KW LINE TO FORT KENT PROBABLY WILL BECOME THE FIRST ALL AMERICAN TRANSMISSION ROUTE INTO NORTHERN MAINE.

COMMENT REGARDING FUTURE VALUE OF WOOD

WE BELIEVE THAT THE PUBLIC SHOULD CLEARLY UNDERSTAND THAT THERE WILL BE OPPORTUNITY TO CLEAR CUT THE ENTIRE 80,000 ACRES AFFECTED BY THE POND BEFORE IT IS FLOODED. AFTER CLEAR CUTTING, THE HARVESTING FOR THE NEXT 30 OR 40 YEARS IS COMPLETED EVEN IF THE DAM IS NOT CONSTRUCTED. FROM THE YEAR 2020, OR SO, ON INTO THE FUTURE, THERE WOULD BE SOME LOSS IN WOOD VALUE. THE LOSS IN WOOD VALUE WOULD NOT COME CLOSE TO MATCHING THE GAIN IN VALUE FROM THE ELECTRIC POWER AND ENERGY GENERATED BY DICKEY-LINCOLN. IT IS ALSO INTERESTING TO NOTE, HOWEVER, THAT MAINE'S FORESTED LAND HAS INCREASED OVER TEN PERCENT THESE PAST SEVERAL DECADES TO A POINT WHERE OVER 90% OF MAINE LAND IS NOW FORESTED, AND THE TREND IS CONTINUING TODAY.

THERE ARE ALSO ENVIRONMENTAL ADVANTAGES

IT SEEMS THAT TOO MUCH EMPHASIS HAS BEEN GIVEN TO NEGATIVE STATEMENTS IN A NUMBER OF SECTIONS OF THE REPORTS AND SUMMARIES, ESPECIALLY IN THOSE AREAS DEALING WITH ENVIRONMENTAL MATTERS.

IT ISN'T SO MUCH WHAT IS SAID THAT BOTHERS, IT'S WHAT IS NOT SAID AFTERWARD TO CREATE A BALANCED VIEWPOINT. FOR EXAMPLE, THE VERY FIRST SENTENCE ON PAGE 11 OF THE OCTOBER, 1977 PUBLIC INFORMATION BROCHURE SAYS "HYDRO ELECTRIC PROJECTS HAVE ENVIRONMENTAL DISADVANTAGES." BREATHING ALSO HAS ENVIRONMENTAL DISADVANTAGES, BUT I WOULD HASTEN TO SAY THAT THERE ARE ALSO CONSIDERABLE ADVANTAGES TO BREATHING. SO ARE THERE MANY ENVIRONMENTAL ADVANTAGES TO HYDROELECTRIC PROJECTS. LET'S EXPLORE A FEW ENVIRONMENTAL ADVANTAGES THAT COULD HAVE BEEN MENTIONED IN THIS IMPORTANT PUBLIC INFORMATION BROCHURE.

1. THE STOPPING OF SUBSTANTIAL FARM LAND EROSION THROUGHOUT THE ENTIRE ST. JOHN RIVER VALLEY.

2. THE ELIMINATION OF OTHER FLOOD DAMAGE TO PROPERTY THROUGHOUT THE VALLEY.

3. THE CREATION OF A LARGE, COLD, DEEPWATER LAKE SUITABLE FOR MANY SPECIES OF FISH ALREADY FAVORITES WITH MAINE ANGLERS.

4. BOAT LAUNCHING AND FAMILY AREAS NEAR THE DAM SITE.

5. CAMPING SITES ALL AROUND THE VAST LAKE FOR ACCESS BY BOAT.

6. BETTER USE OF WATER IN THE ENTIRE RIVER VALLEY WITH AN END TO THE FLOOD TO THE SEA IN THE SPRING AND A VERY LOW FLOW THEREAFTER.

I'LL WAGER THAT THE VAST MAJORITY OF MAINE CITIZENS WOULD FAVOR USING THE LAKE WITH ITS MANY CAMPING FACILITIES BECAUSE MOST DO NOT HAVE THE SKILL TO HANDLE WHITE WATER CANOEING. OF COURSE, IF THEY DO WANT WHITE WATER, THE ENTIRE ALLAGASH RIVER WATERWAY IS AVAILABLE. IF THEY WANT OTHER EXCEPTIONAL CANOE TRIPS WHERE VARYING DEGREES OF SKILL ARE REQUIRED, WE HAVE OVER 1400 MILES OF CANOE TRIPS IN VARIOUS RIVERS THROUGHOUT MAINE.

YES, HYDROELECTRIC DAMS HAVE SOME ENVIRONMENTAL DISADVANTAGES BUT THEY HAVE MANY ENVIRONMENTAL ADVANTAGES THAT FOR MOST CITIZENS MAY BE OF GREATER VALUE. THESE BALANCES HAVE NOT BEEN PROPERLY EXPLAINED TO MOST MAINE CITIZENS.

OF COURSE, BESIDES ENVIRONMENT, THE MAIN PURPOSE FOR WHICH DICKEY-LINCOLN WAS AUTHORIZED BY CONGRESS MUST BE CONSIDERED. THE NET ADVANTAGES HERE ARE MOST COMPELLING.

1. CHEAPER POWER.

2. A RENEWABLE FUEL, WATER.

3. A CLEAN FUEL, WATER.

4. FULL-TIME 900 MW EMERGENCY PLANT.

5. HELPS AMERICA'S BALANCE OF PAYMENT DEFICIT.

6. CREATES JOBS AND ECONOMIC BOOST FOR AROOSTOOK COUNTY AND ALL OF MAINE.

7. SAVES FOSSIL FUEL FROM BEING IMPORTED AND BURNED.

WE APPRECIATE THE OPPORTUNITY TO REPORT ABOUT OUR VIEWS REGARDING THE DICKEY-LINCOLN PROJECT AND THE ASSOCIATED TRANSMISSION LINE. WE HOPE YOU AND THE CONGRESS WILL ACT FAVORABLY ON THE PROJECT AS EXPEDITIOUSLY AS POSSIBLE.

STATEMENT

APPENDIX

THIS SURVEY SEEMS TO INDICATE THAT MAINE PEOPLE LOVE THE VERY ACTIVITIES THAT THE DICKEY-LINCOLN SCHOOL LAKES WILL OFFER.

4/10/77 Bangor Daily

Mainers love picnics best of all, study finds

Going out into the country for a picnic was the most popular outdoor summer activity in Maine in 1976, but apparently more active pastimes are becoming more popular in the state.

Swimming was the activity which took up the greatest part of a typical Mainer's leisure time in the summer of 1976, according to a survey commissioned by the state Bureau of Parks and Recreation of the Department of Conservation.

The most popular winter sport during the winter of 1976-77 was snowmobiling, followed by ice skating, jogging and running; basketball, ice skating, and skiing, both downhill and c osscountry.

Other popular summer activities included bicycling, walking, and motorboating.

The survey was conducted in the spring of 1977 by Northeast Markets Inc., w ich conducted a series of 1,500 telephone interviews with people from various parts of the state.

The major purpose of the survey was to provide fact and figures which could be used to prepare and update the Maine Statewide Comprehensive Outdoor Recreation Plan, required if Maine is to benefit from the Federal Land and Conservation Fund. The fund provides matching money for projects involving recreation areas and facilities.

The study suggests that four factors will help determine the future of outdoor recreation in Maine.

First, Maine's population is getting older: in 1970, 44 percent of the state's population was under 22; by 1990, only 30 percent will be under that age.

The other three major factors which could affect the development of outdoor recreation include continued in - migrat on from outside the state, continued high cost of energy, and increased leisure time.

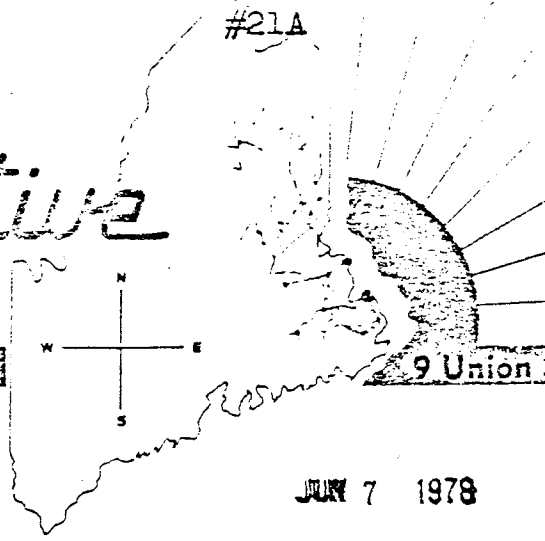
The survey predicts that because of these factors, crosscountry skiing will replace snowmobiling as the most popular winter sport. Snowmobiling will be ranked second, followed by ice skating and downhill skiing.

Jogging, the survey suggests, could become "immensely popular."

#21A

Eastern Maine
Electric Co-operative
INCORPORATED

Box 425 Calais, Maine 04619 Tel. 207-454-7555 9 Union



JUN 7 1978

June 5, 1978

Re: Additional Comments Supplementary
Testimony at Augusta 5/4/78

Colonel John P. Chandler
Department of the Army
New England Division
Corps of Engineers
424 Trapelo Road
Waltham, Ma. 02154

Dear Colonel Chandler:

We have not been convinced that it is good for America to go too far, or to go too far too quickly, in solving America's environmental problems. It is also vital to sort out real environmental problems from imagined environmental problems.

It is vital because America is in the midst of an energy challenge. A challenge that will soon be turning into a crisis. A challenge that will last for at least two score years. During this period we must regear our thinking and our way of life because during this period we will be too dependent upon the whims of international politics. The degree to which we must make these changes depends upon our scientific ability to develop new energy sources not dependent upon foreign sources. Even beyond discovery, and some processes are already known, is the required national technical ability, political ability, and intestinal fortitude to see the processes developed for mass use. This latter process takes time.

No single energy source will be sufficient to see us through the crisis years. We must develop all water power, large and small, to the maximum and we must develop coal, wood and atomic fuel to maximum reasonable proportions. Solar power, wind power

and other exotic sources also need to be a part of our "Bridge to Tomorrow" period. Indeed also we must conserve as much as we can as fast as we can.

Dickey-Lincoln is an important part of our National power and energy requirements of the future. It is easy to say that a project is too small, too costly or too "something or other" when you are against it. The same can be said for all single projects we may develop in America, regardless of the fuel type. In a sense, to allow one to be killed off for shallow reasons is to allow all to be killed off, one at a time.

This project means a great deal to Maine. It means a great deal to the people we serve with electricity, both in cost and as an energy supply available here in Maine. We now buy most of our power from a foreign source. Since out area is one of the so-called low income areas of our State and Nation, such could add significance to the value of the project. We prefer, however, to look at Dickey-Lincoln as a great Hydro-Electric Project and a great multi-purpose project. Following are ten of many reasons for our support of this great multi-purpose project.

1. It will save, by storage, the fresh, clean water of the St. John River for man's use.

2. It will stop spring flooding, land erosion and the wasting of a precious commodity, water.

3. It will create a beautiful lake. Dickey-Lincoln Lake can provide one of the most beautiful boating and camping trips available anywhere.

4. It retains the Allagash River in its present natural state for those who enjoy whitewater canoeing. About 100 miles of the 1400 miles of this type of canoeing in Maine are located on the Allagash River; thus, both lake and river recreation will be available in the area for all Maine people to enjoy.

5. The 300 foot lake depth will provide plenty of cold water for the type of lake fishing Maine people enjoy. Brook fishing will also be available in the many streams feeding into Dickey-Lincoln Lake.

6. It will provide many good jobs during the 8 to 10 year construction period. Jobs needed in northern Maine. Many permanent jobs operating and maintaining the dams and systems will also be available.

7. It will provide about 438 million KWH of around the clock electricity for Maine consumers. This is enough electricity

to serve 20 communities the size of the City of Calais with all electricity requirements.

8. It will also provide 25% of all the peaking power needs of Maine 10 years hence, and it will provide 17% of all the peaking power needs of New England.

9. It can save us from having to purchase 100,000,000 gallons of oil annually from foreign oil sources. At 33 cents per gallon, this amounts to $33,000,000 every year. And later, the oil prices will be higher and higher.

10. Last but not least, it will save Maine consumers many dollars on their electric bills. The Dickey-Lincoln power will replace power costing almost twice as much. As years go on, the cost of falling water will not be affected by inflation as will coal or oil, so Dickey-Lincoln can't help but save more and more as years go by.

Yes, Dickey-Lincoln will help our System, but it will also help Maine and the Nation to solve an energy problem that must be solved to keep our Nation viable and strong. These factors are vividly brought out in a recent ad prepared by the National Rural Electric Cooperative Association, an association of nearly 1000 Electric Cooperative's across the Country including the Eastern Maine Electric Cooperative. A copy is attached.

We urge you to develop a strong posture in support of the construction of the Dickey-Lincoln Hydro-Electric Project at the earliest possible date.

Sincerely,

Robert V. Clark
General Manager

RVC/dd

cc: Larry L. Wickerson
Department of Energy
Federal Building, Rm. 209
Bangor, Maine 04401

#22

Statement 5/4/78 - Augusta Civic Circle Public Meeting

On the Financial Feasibility Study for Electric Power dated November 1976, U.S. Department of the Interior Southeastern Power administration, Elberton, Georgia

Dickey - Lincoln School Project

Found On page 7 Projections of preference customer loads are given for Maine as 1974 as 42 MW and for 1996 as 1997 MW and Total Loads 1974 as 3,160 MW and for 1996 as 3,844

My question is where is this increase in preference Customers in Maine coming from in Maine.

Dean P. Morrell
Rte 3
Winthrop, Maine 04364

Dickey-Lincoln and Its Transmission Lines

Dickey-Lincoln has been made a complex of confusing issues. The dams are worthless without verylong, expensive and destructive economically and environmentally transmission tines, but the requirements and cost of transmissions lines and other items have been studiously avoided until recently in the environmental impact statements issued to the public, until long after the public and our congressmen have been called on to decide whether to favor or reject Dickey-Lincoln. This is uncalled for. For instance 88,000 acres of forest land has been put forth at every opportunity as the forest destruction resulting from the project (the actual water area o f the reservoir), yet the reservoir area itself is to have a marginal elevation of three feet cleared and kept clear all around the 88,0000 acres, and this does not take into account the area occupied by the dams, Lincoln reservoir, part of the sources for material for the dams, and area for the numerous facilities. Foresters come forth with a figure of 127,000 acres required in that area. To this must be added the area for the transmission lines, access and maintenance roads, etc. The total some foresters have arrived at is 135,000 acres. To be realistic we must face the fact that an even larger area is nearly wholly cut off from Maine by the reservoir and must be charged against the project. Maine already has seventeen of the large dams, which flood a large acreage. Leading foresters have figured that the value of the timber directly destroyed for paper, lumber, fuel, and for products manufactured from wood greatly exceeds the value of Dickey-Lincoln for energy. These are established activities and uses throughout a large part of Maine affecting a considerable portion of the Maine people. These values are increasing rapidly with the large expansion in the paper industry, demand for lumber and wood for manufacturing, both commercial and home wood burning for energy, and a large increase in the use of wild lands for backpacking and other recreational uses. All are growing and desirable.

The proposed recreational development about the Dickey-Lincoln dam area, based on southern dams where conditions are very different, I label fantastic. I have been about dams across Maine from Kellyland on the St. Croix to Aziscohos near the New Hampshire border, and I have never seen even one motel to care for the visitors. The fluctuating waters of such impoundments simply cannot compete with natural waters. The effect of Dickey-Lincoln on the greatest area of winter deer yards in Maine has been greatly minimized. It is the outstanding area used by deer moving from an unknown distance. The proposed substitute area cannot be expected to approach a replacement. The St. John area affected by the project is an outstanding brook trout area in Maine. That most of this will be lost seems to be conceded. I feel that there has been a complete failure to support a workable food chain in the Dickey Reservoir; without a food chain there will be few fish. A bit of sport fishing is possible if the State of Maine supports a fish hatchery and other procedures year after year. Even trash fish must eat, and those will be few in numbers. Transmission lines which have been cut and maintained in Maine have very little woody vegetation high enough to provide deer browse and in this study a series of measures were suggeste for lessening the amount of herbicides carried into streams and lakes; elsewhere high claims are made for the amount of deer browse the right-of-way will produce. Then at the May 4 meeting in Augusta, we were told that probably nothing would be done until the taller trees began to reach the transmission lines (carried

by 165-foot-tall towers)when these would be cut. Where do the deer browse? The Moore reservoir in the Connecticut River is one of the older reservoirs. The statements regarding this in DOE-EIS-D re links 39 and 42-3, pages 372 to 386 emphasize the barrenness and sterility of fluctuating artificial reservoirs. Some of the proposals for mitigating losses to birds or for attracting them seem amusing. The above are some of the losses to Maine from building Dickey-Lincoln. Some of the recent estimates on the cost of Dickey-Lincoln are [illegible] of 1 to 1.2 billion dollars, entirely too much for its benefits.

Upon completion of my Ph.D., I spent 37 years in charge of the Maine Forest Service Laboratory upon research work and public contact work. I have had supervision over or contact with many other workers. On my own time my interests have been insects, plants, birds and other life. In connection with official work or my own interests, I have continually visited diverse parts of Maine, favoring the more remote areas. Since my retirement I have spent a period in each of six years in northern Aroostook County, under contract following the spray planes recording any observable effect on any species of life. Yearly lists of what I found are the basis of part of my information on what actually occurs in northern Maine. Private trips and trips with Josselyn Botanical Society members have expanded this coverage. Maine is said to have 17 large dams and hundreds of smaller ones. These flood a large acreage for power production, and most have fluctuating water levels similar to the proposed Dickey-Lincoln project. Speaking especially as an ecologist, biologist, entomologist and botanist, I feel that the greatest shortcoming in the environmental studies conducted by the Army Corps of Engineers has been the scaty or lack of on-the-ground studies of the area encompassed by the project and its necessary transmission lines. The large existing dams extend from Kellyland on the St. Croix to Azixcohos next the New Hampshire border. The last has been in service about 63 years. I have worked about or near most of these larger dams. From my reading of the Impact Statements and their Appendices, and from attending public meetings, I feel that the on-the-ground studies of the project areas and of existing dams have been virtually ignored. In these respects the Environmental Studies issued by Dickey-Lincoln sound too largely like library and published resource evaluations. There are long detailed explanations of the procedures followed, and page after page to record some repetitious detail, but the sort of information I look for is lacking.

The statements on the transmission line record a large number of wet areas, cedar swamps, ledges and cliffs, particular rock outcrops all of which are of potential importance as habitats for rare or endangered plants; but not one species of rare or endangered plant did I find named as being found. Such species undoubtedly exist on but a small number of such areas; therefore their preservation should be provided for. It is quite possible one shrub, Shepherdia canadensis, Buffalo Berry, occurs up there. Certainly rare herbaceous plants do occur there as well as in the impoundment area. Last June a lady who had just returned from a canoe trip down the St. John brought to me for identification a specimen of Calypso bulbosa, The Fairy Orchid, collected near the middle of the proposed Dickey reservoir. Air flights over such areas can yield information on the forest types, but certainly little or nothing on ground vegetation. The endangered and rare plants in the forest would be in addition to the special plants within the banks of the St. John River.

By far the largest group of life, both in number of species and numbers of individuals in the area - the Arthropods (insects and their allies) comprise over 90% of all animal life in the area. All these receive no mention, except the spruce budworm in its incidental effect on timber resources, game, fish and birds. (Records of two rare insects on Boundary Bald Mountain are mentioned but this is off the right-of-way.) From a few to a number of species of insects are to be expected associated with each species of plant. Part of these species can exist only in association with one species of plant or with a few closely related species. We have every reason to believe that if the endangered and rare plants in the bed of the St. John River are destroyed, some insects will also be lost. We know not what benefit to the world these plants and insects may prove to be, if permitted to live. The law requires an overall environmental impact statement. An examination of the impact statements and added studies for the Dickey-Lincoln project shows that this has not been fulfilled. For various reasons I have not been satisfied with answers given to questions at public meetings. At the recent May 4 meeting a question was asked regarding siltation in the Dickey reservoir. The load of erosion carried in by the swift flowing streams was mentioned, and the statement that the records of the Dickey Gauging Station showed this to be minor. This was no answer at all because this Station gauged little or no more than the water flow and the material in solution. Erosion by the streams (most of them turbulent), rain, melting snow, grinding ice, wave action, frost action, and wind acting on the drainage basin, the surrounding cleared area, and the drawdown area are highly important. Also of great importance is the tens of thousands of revulets from the cleared area crossing the area exposed by drawdown, each carrying its load of material.

Of course southern New England wants more electricity. What part of this nation is entirely satisfied with what it has? They should have known since early in this century, since the Teapot Dome oil scandal, that our oil sources are finite. We are not going to build any swift-water rivers - shouldn't Maine keep one, especially one with so many other outstanding features? Many have pointed out the need for developing other sources of energy, but southern New England has multiplied its use of electricity over ten times in the last half century, disregarding the day of reckoning. Suppose Dickey-Lincoln is built, before a kilowatt of electricity flows from it, eyes will be turned on Maine for the next river to be raped. There are many alternatives. Claims are being made that insulation of homes and other buildings, with all of the money Dickey-Lincoln is costing and will cost will save more money than Dickey-Lincoln is worth. There are many other alternatives. The only conclusion one can reach is that Maine will lose far more than it would ever receive from the Dickey-Lincoln project.

Auburn E. Brower, Ph.D.

#24

5/4/78

ELIZABETH COAK
R.R. 1 BOX 62
WOOLWICH, ME.
04579

#1

Senator Hathaway states that Maine needs Dickey-Lincoln more now than it did a dozen years ago. The Public Utilities is holding up the Searsport Power Plant saying does Maine really need it. Why is not Central Maine going ahead with Searsport. When you have large amounts of light you have more potential high pressure. To get the same amount of solar is impossible. Even for a smaller amount you would have to have miles and miles of reflectors out in the desert. You need a high head and there are very few left in Maine. The thing with hydro is if you have a high head and we have never had very high head like the ones out West where you can get a 50 foot head. You use less water with a high head. For the same amount of water, with this high head, you get more power.

Dickey-Lincoln would be a peaking unit. It would not provide 24 hours a day power and therefore it would be used intermittently. You have transmission line loss. You send out so many kilowatts but you do not receive the same amount at the end of the line. Searsport is not so far away as Allagash and St. Francis.

The government would handle the loans on a low percentage rate. You would think it was a good deal with cheap electricity but the costs would be concealed and you would still be paying for it.

Elizabeth H. Doak

with information supplied by Carroll Morse.

Elizabeth H Doak- #2

The Dickey-Lincoln project would produce 1.4 billion kilowatt hours, with only 1/2 of this power, 44% provided to Maine.

The estimated cost is $690.3 million. It could go as high as 1 billion.

Central Maine Power's sales of electricity for the first quarter of 1978 totaled 1.6 billion kilowatt hours. This three months output dwarfs Dickey-Lincoln's yearly output.

88 thousand acres of land will be flooded. 161 families will have to be relocated at government expense. Forest and wild life habitat and 278 miles of rivers and streams including 57 miles of the St. John River will be inundated. The towns of Allagash and St. Francis would be no more. The state is already slashed all over with electric high tension swarths ~~from to~~ and through highways from town to town. What difference will it make to lose 127,000 ~~x~~ more acres of Maine. Wild life needs great areas to survive. Our "Progress" has already made wildlife a scarce article. We get along fine without the buffalo, we'll not miss the deer.

#25

SPORTSMAN'S ALLIANCE of MAINE

Mailing address - P.O. Box 2783, Augusta, Maine 04330
Office - 21 Western Ave., Augusta, Maine 04330 - Telephone (207) 622-5503

M. Tieche Shelton, Jr.
Executive Director

COMMENTS ON THE DICKEY-LINCOLN HYDROELECTRIC PROJECT, MAY 4, 1978

PREPARED BY: M. TIECHE SHELTON, JR.
EXECUTIVE DIRECTOR
SPORTSMAN'S ALLIANCE OF MAINE

The Sportsman's Alliance of Maine wishes to re-emphasize its opposition to the entire concept of the Dickey-Lincoln proposal. We would, at this time like to re-submit our statement opposing the project which was previously entered into the record on December 6, 1977.

It is apparent in the last few days, the contribution the project will make to our future energy needs is miniscule. Statements made during Sun Day observances yesterday, the revelation that Central Maine Power Co. may propose the largest nuclear power plant in the nations history in Richmond in the 1990's; the rejection on May 2, 1978, of the House Appropriations subcommittee of $1.76 million in funding to begin design work on this project (yet approved $610,000 to continue feasibility studies on the Passamaquoddy Bay Tidal project); the failure of Congress to adopt a national energy policy; the failure to introduce alternative conservation measures; all tend to strenthen our opposition. The renewable timber resources, the people of Maine, our wildlife, fisheries, and recreation potential are far to valuable to be destroyed by this proposed hydroelectric project, and the questionable role it will play in this nations future energy needs.

The sportsmen of Maine in answering a questionaire in a recent Maine Sportsman publication, agreed with our position, with 83% voting against the project.

In conclusion, we can only state the additional negative impact from the transmission lines only adds to our origional position as stated by our past testimony.

Respectfully submitted,

M. Tieche Shelton

M. Tieche Shelton, Jr.
Executvie Director
S.A.M.

MTS,JR/crk

#26

VAN BUREN LIGHT AND POWER DISTRICT
67 MAIN STREET
VAN BUREN, MAINE 04785

This is to state the position of the Van Buren Light & Power District regarding the proposed Dickey-Lincoln Hydro-electric Project.

The Van Buren Light & Power District is a publicly owned electric utility that serves some 4,000 people in Van Buren and part of Hamlin. We purchase our power wholesale from Maine Public Service Company and resell it to our District customers.

In dealing with Maine Public Service Company, we have found that the cheapest power rates have resulted when they have been able to purchase excess hydroelectric power from Canada and resell it to us. To some extent we have profited in past years from the Canadian government investment in hydroelectric power.

We don't know what a lousewort is and don't pretend to know what is best for New England, the state of Maine or even northern Maine. But we do know the Van Buren Community and we do know that the Dickey-Lincoln Hydroelectric project would be an immense benefit for the community and valley.

The community over the past 40 years has suffered a dis-placement and relocation affecting thousands of families. Each year a majority of our youth are forced to leave their home area to find employment.

Dickey-Lincoln to the Van Buren Light & Power District means that as a publicly owned cooperative we can buy surplus power at bargain rates. To the Van Buren community this means more industry is attracted, more jobs and more of our people will be spared having to relocate to cities for employment.

STATEMENT OF

Louis Parent, Manager

Van Buren Light and Power District

at

Augusta, Maine

May 4, 1978

My name is Louis Parent. I am the manager of the Van Buren Light and Power District which serves the electric consumers in Van Buren, Maine. Van Buren, as you know, is located on the St. John River in Northern Maine. I want to thank you for this opportunity to testify on behalf of the construction of the Dickey-Lincoln hydroelectric project in northern Maine.

Any energy proposal can be picked apart when viewed out of context. In the name of "environmentalism" many reasons have been cited for not building Dickey-Lincoln. But at some point we must be realistic. We must put Dickey-Lincoln into context. We must weigh the costs and benefits and our need for electricity. The Army Corps of Engineers examined and evaluated dozens of alternatives to Dickey-Lincoln and found that none could provide the range of benefits that Dickey-Lincoln would provide.

We need more electric power. It's that simple. Dickey-Lincoln would provide this electricity at a more economical price than any alternative. Conservation, new rate designs, and development of small-scale hydroelectric and solar power are needed not as alternatives to Dickey-Lincoln but in addition to Dickey-Lincoln. Without judicious power projects like Dickey-Lincoln, we might face a new "dark age". a future characterized by catastrophic power shortages and economic paralysis.

Water is the key to Dickey-Lincoln's low-cost energy. The hydro power provided by this 900 megawatt facility would put the brakes on rising electric costs because water, the fuel that would drive Dickey's turbines is clean, renewable, reliable and virtually free. The same cannot be said for fossil fuels, such as oil and coal, that we now rely on to generate power. The price of these fuels just keeps going up.

We must consider how to best use our natural resources, and in this case, our water resources. Those who call themselves "environmentalists" favor the status quo. They want things in Aroostook County to remain pretty much as they are or go a step or two backward. But it's time to debunk a few of their myths and take a hard look at the facts, or we will be taking some giant steps backward in-so-far as jobs and business are concerned.

First, the project area is not a pristine wilderness. It is scarred. Much of the land is controlled by private, Canadian lumber interests. Clear cutting of forested areas means stripping the land of most of its growth and creating serious environmental problems. This land is subject to a very fast runoff at snow melting time which creates dangerous flooding conditions downstream. In the past the small roots of the forests held back some of this water but even then flooding conditions existed. Now, with flashier and thus greater flood waters more flooding and farmland erosion is taking place.

Second, Aroostook County is an area sorely in need of economic revitalization. More than 13,000 families were driven from their homes by the lack of economic opportunities. That's the way it really is. But if we build Dickey-Lincoln it doesn't have to stay this way.

Dickey-Lincoln, one of the most thoroughly studied and well-planned projects of its kind, would provide varied and beneficial uses for these water and land resources.

Besides economically priced electric power, Dickey-Lincoln would provide jobs, flood control and recreation facilities. It could serve as the catalyst for economic revitalization of Maine, and through its network of transmission lines aid the economic development of the other New England states as well. Since Dickey-Lincoln transmission lines will carry power in either direction, Aroostook County, for the first time will be able to bring power in from the Coast in bulk, without wheeling through Canada.

Let us make the decision to build Dickey-Lincoln based on facts not hysteria. And the facts- low cost, clean, abundant electric power, enhanced employment opportunities, and flood control- provide the compelling arguments in favor of Dickey-Lincoln. Thank you for the opportunity to share this viewpoint with the public and representatives of the Department of Energy.

National Wildlife Federation

1412 16TH ST., N.W., WASHINGTON, D.C. 20036 Phone: 202—797-6800

TESTIMONY OF THE NATIONAL WILDLIFE FEDERATION
AT A PUBLIC HEARING ON THE TRANSMISSION LINES
FOR THE PROPOSED DICKEY-LINCOLN PROJECT,
MONTPELIER, VERMONT, MAY 10, 1978.

Good evening, Mr. Chairman, ladies and gentlemen. My name is Warner Shedd, and I am the Northeastern Regional Executive of the National Wildlife Federation. The Federation is a private, non-profit conservation organization dedicated to educating the American people to the importance of the restoration, wise use, conservation, and scientific management of natural resources. NWF has an affiliate organization in each of the 50 states, plus Guam, Puerto Rico, and the Virgin Islands. These affiliates, in turn, are made up of local groups and individuals who, when combined with our Associate Members and other supporters, number an estimated 3½ million people.

GENERAL COMMENTS.

National Wildlife Federation reiterates its total opposition to Dickey-Lincoln. As we have previously testified, the project is not even economically sound, to say nothing of the social disruption and destruction of natural resources which it would cause. It is obvious that if Dickey-Lincoln is built, there will have to be transmission lines, and if there is no Dickey-Lincoln, there will be no transmission lines. Thus it is impossible to consider the transmission lines and the Dickey and Lincoln School dams as separate issues. However, we shall at least attempt to make a few comments dealing specifically with the transmission lines.

TRANSMISSION LINE ROUTES.

Trying to select a route for the Dickey-Lincoln transmission lines is like asking a man which tentacle of the giant octopus he would rather be strangled by! No matter which route is selected, the result will be enormous environmental destruction. Unlike the Dickey-Lincoln dams, whose environmental effect would include immense loss of forest land and wildlife habitat, the major effect of the transmission lines will be the visual or aesthetic impact, plus the opening of a vast amount of wild country to almost uncontrolled access by motorized vehicles.

Although any route for the transmission lines will be extremely undesirable, it makes some degree of sense to choose the one which will be least harmful. Frankly, despite a conscientious effort and a great deal of study by the Department of Energy, we believe that the information provided is inadequate for us to make any judgment as to which route would be preferable. A vast number of answers have been provided in the DEIS; the trouble appears to be that many of the right questions were not asked, or at least were not asked in the right way.

A major problem, perhaps the major problem, is the attempt to evaluate subjective qualities strictly in numerical terms. One of the greatest effects of the transmission lines will be their visual impact. Since visual impact is largely a subjective reaction, the attempt to measure this impact simply by estimating the total number of people who will see the lines along each route is automatically doomed to failure. What

is missing is the attempt to measure the extent of the impact on the individual in different settings.

For example, a person driving along a busy paved highway where there are many signs of human activity may scarcely notice the lines. Thus, even though the lines may be seen by many people, their visual impact may be light. On the other hand, a person driving along a scenic back road may be jarred considerably by the intrusion of the line, and a person trying to get away from it all in the back country may feel completely frustrated and cheated by the sudden sight of a huge transmission line.

We can appreciate the fact that those responsible for the DEIS would feel they were leaving themselves open to criticism by making a judgment based solely on subjective criteria. However, since the visual impact is subjective to a considerable degree, it is absolutely necessary that there also be a subjective study of the visual impact of the various routes considered in the DEIS; this study should be performed by people with a recognized sensitivity to such things as natural beauty and the values of recreation in a wild setting.

Although we are unable to make any judgments at this time as to the least damaging route, it at least seems possible that the more southerly route shown in Plans A and B would be preferable because they would violate the integrity of so much less wild country than the proposed route.

It seems likely that a major reason for rejecting the more southerly routes is their greater length and higher cost. I submit that monetary cost should not be a major consideration in the choice of a route. Since Dickey-Lincoln is economically unsound to begin with, and will ultimately have a benefit to cost ratio of less than 1 to 1 if all the hidden and not-so-hidden subsidies are added to the cost, the project might as well be a little larger economic loss if this will result in less destruction of natural resources, including intrusion into uninhabited forest land.

It is also our view that the great length of the Dickey-Lincoln transmission lines, even for the shortest possible routes, shows the bankruptcy of our energy planning. Instead of the narrow, old-fashioned thinking which can only propose energy solutions such as Dickey-Lincoln which are hundreds of miles from consumers, we need imaginative planning which will seriously consider alternatives. In the case of Dickey-Lincoln, this means something more than a pro forma consideration of a mix of energy conservation, off-peak pricing, small site hydro power, wood-fired generating plants, solar hot water heaters, and insulation of existing housing.

ACCESS.

Construction of the Dickey-Lincoln transmission lines, especially if the proposed route is followed, will require a substantial network of access and maintenance roads. After careful study, we have concluded that there is no practical way to prevent a substantial portion of these roads and the transmission line route itself from being used by motorized vehicles.

Given the propensity of a portion of the American public for going wherever possible with vehicles of various sorts, the net result will be the destruction of recreation in terrain remote from the noises and signs of civilization. This destruction will occur throughout the major portion of what has accurately been described as the largest

remaining uninhabited tract of forest land in the Northeast. This will undoubtedly be the most ruinous single effect of the transmission lines. Those who insist on driving into the middle of their outdoor recreation area already have most of the Northeast available to them. On the other hand, the large and rapidly growing number of people who seek solitude, quiet, and a wild setting are being forced into an ever-diminishing acreage of remote country. To open so huge an area of northern New England to virtually uncontrolled vehicular travel is quite simply to cause irreparable devastation to remote-area recreation opportunities in the Northeast. This band of remote, uninhabited country stretching across the northern tip of New England is all we have left. It cannot be replaced, and to destroy it is unthinkable!

In this connection, I would like to take the opportunity to refute a contemptible untruth being spread by some of the proponents of Dickey-Lincon. This untruth holds that conservationists, by design or through ignorance, are portraying the remote country of northern New England as a virgin wilderness, when in fact it is merely logged over land covered with logging roads. The truth is that conservationists have <u>never</u> claimed that the Dickey-Lincoln area is pristine wilderness. However, it is equally true that this great uninhabited forest tract is presently so inaccessible in most areas to vehicles other than those connected with logging operations, has so many areas too rough to be logged economically, and is logged so infrequently that it is possible to wander for days without seeing or hearing a sign of civilization other than a few long-disused logging roads. As conservationists, we recognize the true nature of this resource, and know full well exactly what will be destroyed if Dickey-Lincoln is built.

<u>MAINTENANCE</u>.

We are seriously concerned by the suggestion that maintenance of the right of way might be turned over to various local utilities. While some of them would undoubtedly do an excellent job of maintenance compatible with enhancement of wildlife habitat, it is equally certain that others would simply kill every broad-leaved plant in the right of way with periodic applications of herbicides. This must not be allowed to happen. Either the Department of Energy should retain responsibility for maintenance under clear, written guidelines or maintenance should be turned over to local utilities only under regulations which forbid the use of herbicides.

<u>RELATIONSHIP OF TRANSMISSION LINES TO THE DICKEY-LINCOLN DAMS</u>.

At this point we would like to call attention to the fact that the Corps of Engineers has re-opened the opportunity for comments regarding the dams themselves, yet the Corps has failed to provide supplementary documents on which such comments might be based. Specifically, supplemental material is needed which discusses the relationship between the transmission lines and the Dickey-Lincoln project compared with transmission lines which might be needed if alternatives to Dickey-Lincoln were used.

<u>ADDITIONAL COMMENTS</u>.

This completes our testimony for this evening. However, NWF will file additional and more detailed written comments, especially in regard to mitigation of damages to wildlife and wildlife habitat.

Thank you very much for the opportunity to present our views at this hearing.

#28

RBR

THE ASSOCIATION OF AROOSTOOK INDIANS, INC.

P. O. Box 223
HOULTON, MAINE 04730

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CONTROL NO. _____

DUE DATE _____

May 4, 1978

Mr. Robert Mitchell, Regional Director
Department of Energy
150 Causeway Street
Boston, Massachusetts

Col. John Chandler
U.S. Army Corps of Engineers
Waltham, Massachusetts

Dear Sirs:

Enclosed is a copy of testimony on the Dickey-Lincoln dam and power corridor which we had hoped to deliver today in Augusta. We have decided to send this information to you for inclusion in the record, however, because we believe that the delivery of this testimony in a large public hearing could be misunderstood and misrepresented under the current circumstances.

The negotiations on tribal land issues is at a crucial point and will continue to be through the upcoming deadline. The action of the House of Representatives on the Dickey-Lincoln project yesterday is also an important factor in our concerns. We do not want our statement to be confused as intrusion on current tribal-state discussions on land issues or as criticism of Dickey-Lincoln on its merits.

Please take this testimony into consideration in developing any environmental impact reports on Dickey-Lincoln and related developments.

Sincerely,

Maynard Polchies

Maynard Polchies, President

cc: Governor Francis Nicholas
Governor John Stevens
Governor Nicholas Sapiel

TESTIMONY OF MAYNARD POLCHIES, PRESIDENT OF THE ASSOCIATION OF AROOSTOOK INDIANS TO THE DEPARTMENT OF ENERGY PUBLIC HEARING FOR THE DICKEY-LINCOLN TRANSMISSION SYSTEM.

MY NAME IS MAYNARD POLCHIES. I AM A MALISEET INDIAN FROM THE WOODSTOCK BAND. MY FAMILY HAS LIVED IN AROOSTOOK COUNTY FOR GENERATIONS AS HAVE OUR ANCESTORS. THE WORD AROOSTOOK IS A CORRUPTION OF THE MALISEET WORD FOR THE ST. JOHN RIVER. MY PEOPLE HAVE LONG BEEN KNOWN AS THE ST. JOHN RIVER INDIANS, WULOOSTOOK IN MALISEET.

I AM HERE TODAY TO SPEAK FOR THE ASSOCIATION OF AROOSTOOK INDIANS WHICH REPRESENTS THE 1,250 MALISEET AND MICMAC PEOPLE LIVING IN NORTHERN MAINE. WE ARE CONCERNED THE DEVELOPMENT OF THE DICKEY-LINCOLN HYDROELECTRIC DAM AND ITS POWER CORRIDORS MAY EFFECT THE LEGAL AND HISTORIC RIGHTS OF OUR PEOPLE AND TO ASK THAT YOU ADDRESS THESE CONCERNS IN ANY ENVIRONMENTAL IMPACT STUDY TO BE ISSUED ON THIS PROJECT.

AS HAS BEEN POINTED OUT BY ATTORNEY GENERAL JOSEPH BRENNAN AND OTHERS, AROOSTOOK COUNTY INCLUDES MUCH OF THE ABORIGINAL TERRITORY OF THE MALISEET PEOPLE. I CAN NOT GIVE YOU THE DETAILS OF MALISEET BORDERS, BUT IT IS A WELL KNOWN FACT THAT MALISEET TERRITORY EXTENDED OVER MOST OF THE ST. JOHN WATERSHED. WHILE OUR BROTHER TRIBES HAVE PURSUED THEIR CLAIMS TO NEIGHBORING AREAS, WE HAVE REMAINED GENERALLY SILENT. WE DO NOT KNOW OF THE EXTENT OF ANY CLAIM THAT WE COULD POSSIBLY MAKE. WE HAVE NOT RECEIVED EXPERT LEGAL COUNSEL NOR ANY TRUST PROTECTION FROM THE FEDERAL GOVERNMENT. ALTHOUGH SEVERAL MALISEETS HAVE MADE STATEMENTS ON THIS MATTER, OUR TRIBAL GOVERNMENTS HAVE NOT MADE THEIR VIEWS KNOWN.

I MUST TELL YOU, THAT THE PLANS OF THE GOVERNMENT TO DEVELOP DICKEY-LINCOLN DO RAISE A CONCERN TO THE MALISEET AND MICMAC PEOPLE IN AROOSTOOK. WE UNDERSTAND THAT FEDERAL PURCHASE CAN EXTINGUISH ABORIGINAL TITLE TO INDIAN LANDS. THE LOCAL NEWSPAPERS HAVE REPORTED THAT THE WEBSTER-ASHBURTON TREATY EXTINGUISHED ABORIGINAL

TITLE TO MUCH OF EASTERN AROOSTOOK COUNTY, COMPRISING MOST OF THE LANDS NOW SETTLED BY NON-INDIANS. IT DID SO WITHOUT SPECIFIC MENTION OF INDIAN TITLE AND WITHOUT CONSULTATION WITH OUR PEOPLE. THE INDIAN PEOPLE OF AROOSTOOK COUNTY DO NOT WISH TO GO THROUGH SUCH A UNILATERAL LOSS OF RIGHTS AGAIN, IF THIS IS IN FACT THE LAW. WE THEREFORE WELCOME THIS OPPORTUNITY TO ALERT REPRESENTATIVES OF THE FEDERAL GOVERNMENT TO THIS ISSUE.

WE HOPE THAT THIS DISCUSSION WILL PROVIDE AN OPPORTUNITY TO RAISE THE ISSUE OF THE LEGAL STATUS OF MALISEETS AND MICMACS IN MAINE AND ELSEWHERE IN NEW ENGLAND. OUR PEOPLE HAVE A LONG TREATY RELATIONSHIP WITH MASSACHUSETTS AND THE UNITED STATES. IN 1777 WE SIGNED A TREATY OF PEACE AND FRIENDSHIP WITH CONGRESS. IN 1776 WE SIGNED A TREATY IN WATERTOWN, MASSCHUSETTS WITH THAT COMMONWEALTH. IN 1794 WE WERE RECOGNIZED UNDER THE TREATY BETWEEN THE PASSAMAQUODDIES AND MASSACHUSETTS. THE JAY TREATY OF 1794 AND THE TREATY OF GHENT OF 1814 RECOGNIZED THAT THE U.S.- CANADIAN BORDER DOES NOT EFFECT OUR RIGHTS OR TRIBAL ORGANIZATION.

IN RECENT YEARS MAINE HAS DEALT WITH OUR PEOPLE BY ESTABLISHING AN OFFICE OF THE DEPARTMENT OF INDIAN AFFAIRS IN HOULTON, AND BY EXTENDING HUNTING AND FISHING RIGHTS AND SCHOLARSHIPS TO US. MASSACHUSETTS GOVERNOR DUKAKIS ISSUED AN EXECUTIVE ORDER RECOGNIZING THE COMMONWEALTH'S TREATY RESPONSIBILITIES TO OUR PEOPLE RESIDING IN THAT STATE. THE FEDERAL GOVERNMENT HAS NOT TAKEN SIMILAR STEPS TO FORMALLY RECOGNIZE US. AAI DOES RECEIVE SOME SHORT TERM CATEGORICAL GRANTS FOR EMERGENCY ENERGY NEEDS, ALCOHOLISM AND SO ON. IT IS POSSIBLE THAT WE MAY RECEIVE SOME BENEFITS THROUGH SOCIAL SERVICE PROGRAMS RECEIVED BY THE OTHER TRIBES FROM THE BUREAU OF INDIAN AFFAIRS, BUT ONLY TO THE EXTENT THOSE TRIBES CAN SPARE THESE RESOURCES. SUCH SERVICES WILL NOT BE EXTENDED TO US AS A MATTER OF FEDERAL OBLIGATION. THE FEDERAL GOVERNMENT HAS NOT ENDEAVORED TO RETURN TO US EVEN A SMALL PORTION OF OUR HISTORIC LANDS.

I HAVE TO ADMIT THAT WE WERE HESITANT TO SUBMIT TESTIMONY TO YOU TODAY. THE IMPACT OF TRIBAL LAND CLAIMS BY OUR BROTHERS TO THE SOUTH HAS FRIGHTENED MANY NON-INDIAN PEOPLE IN AROOSTOOK TO A POINT OF UNREASONED ANGER. WE SUPPORT OUR RELATIVES IN THEIR STRUGGLE TO ASSERT THEIR LEGAL RIGHTS, BUT WE WANT TO MAKE IT CLEAR THAT WE STAND TO GAIN NOTHING FROM THEIR ACTIONS. NEVER THE LESS, MALISEET AND MICMAC PEOPLE ARE SUBJECTED TO MANY ABUSES FROM WHITE PEOPLE IN AROOSTOOK COUNTY BECAUSE OF THESE CLAIMS.

WE REALIZE THAT EVEN BY RAISING THE ISSUE OF MALISEET LAND RIGHTS IN AROOSTOOK COUNTY, EVEN IF THESE TURN OUT TO BE LIMITED IN NATURE AND AWAY FROM SETTLED AREAS, THAT OUR PEOPLE MAY BE SUBJECTED TO FURTHER ABUSE. THE POSSIBILITY THAT ABORGINAL TITLE TO MORE AREAS IN AROOSTOOK COUNTY COULD BE EXTINGUISHED WITHOUT CONSULTATION WITH US, HOWEVER, IS EQUALLY THREATENING. IN EITHER INSTANCE THE MALISEET AND MICMAC PEOPLE LIVING HERE HAVE MUCH TO LOSE. WE ARE FORCED TO SPEAK OUT FOR THE INTERESTS OF OUR CHILDREN AND OF THEIR CHILDREN.

WE SEEK A GUARANTEE OF OUR STATUS AS NORTH AMERICAN INDIANS. WE SEEK A FRIENDLY RESOLUTION OF ANY PROBLEM THAT EXISTS BETWEEN US. WE ASK THAT NO UNILATERAL ACTION BE TAKEN IN THE DEVELOPMENT OF DICKEY-LINCOLN THAT MAY DENY THE INDIAN PEOPLE OF AROOSTOOK ANY RIGHTS WE HAVE UNDER YOUR LAW AND UNDER WHAT IS JUST. PLEASE INCLUDE THESE CONCERNS IN YOUR REPORT. THANK-YOU.

#27 WP

STATEMENT BY MELDRIM THOMSON, JR., GOVERNOR, STATE OF NEW HAMPSHIRE CONCERNING THE PROPOSED DICKEY-LINCOLN SCHOOL LAKES HYDROELECTRIC PROJECT

Mr. Chairman,

New England and New Hampshire have, over a long period of years, suffered under the burden of excessively high electricity rates as a result of our geographical location far distant from energy sources necessary to fuel our power generation plants and thus provide sufficient electrical energy to heat and light our homes and to sustain our industries.

Recent events including the OPEC embargo of 1973 and subsequent unconscionable and continuing increases in necessary supply and price of foreign oil upon which we are substantially dependent for our power needs have compounded this problem to an untenable degree.

It is equally significant that this dependence upon uncertain sources located in politically volatile nations endangers and places in grave jeopardy the health and well being of our citizens as well as the jobs provided by our industries.

Just this past week the U. S. Department of Energy, in a strongly worded annual report to the Congress, pointed up the continuing and increasing dependence upon foreign oil required to supply the energy needs of this nation.

In 1972, our annual foreign oil imports amounted to twenty-nine percent of our needs, while in 1977 foreign oil imports had risen to over forty-seven percent of our energy needs.

Moreover, in 1972 annual cost for oil imports was $4.6 billion while in 1977 it amounted to $45 billion.

This has resulted in our balance of foreign trade to increase from a deficit of $6 billion in 1972 to a deficit in excess of $31 billion in 1977.

The Department of Energy report indicates that our continued reliance on foreign oil imports without taking steps domestically to provide our own energy sources will continue to increase markedly together with attendant inflationary effects which place impossible burdens on our individual electric rate payers.

In recent year there has been considerable discussion concerning domestic energy potential available from the construction and expansion of hydroelectric facilities where feasible.

However, it appears that discussions of hydroelectric power development are somewhat similar, as the late Mark Twain once said, as discussions about the weather. "Everybody talks about it, but nobody ever does anything about it."

A failure to develop regional energy sources wherever possible which will lead us in the direction of regional energy independence at prices that our people can afford and under terms which will allow our industries to expand and remain competitive with other sections of the nation can only be characterized as regional suicide.

I cannot urge too strongly that the Administration and the Congress move forward swiftly to implement this project and thus provide to our citizens the immense benefits which are inherent in this undertaking.

In essence, our New England and New Hampshire energy needs must be met by the development and employment of energy sources wherever they can be found. It will not be enough to place our long term reliance on one single source such as nuclear power, off shore oil drilling, or future development of solar, wind and other possibilities which may be provided in the decades ahead.

Our New England economy and the needs of our individual citizens in their daily lives requires a broad energy mix which must come from all sources available.

#30 LM

My name is Guy L. Krapp. I am town manager for Wolfeboro, New Hampshire, a position which makes me responsible for the day-to-day operation of our community's municipally-owned electric utility. I am grateful for the opportunity you have given me to speak today in favor of the proposed Dickey-Lincoln Hydro-electric Project on the St. John River in northern Maine.

Dickey-Lincoln would mean significant financial savings for the Wolfeboro utility and for the 8,000 or so consumers in Wolfeboro and parts of Alton, Tuftonboro, Ossipee and Brookfield, who receive their electric service from our utility. The simple fact, confirmed in study after study, is that Dickey would provide power at prices lower than any feasible alternative. Needless to say, our utility and our consumers--like utilities and consumers all across New Hampshire and the rest of New England--want and need the cheapest possible supplies of electric power.

Dickey would do two things that must be done. One, it would help stabilize our electric rates, which are already the highest in the nation and which are rising more rapidly than they are anywhere else in the nation. And two, it would help insure adequate power supplies for the future.

I would like to press this second point a bit. Increasingly, the most basic question within the electric utility industry deals less with the cost of electric power than with the very availability of that power. It is, in my view, unrealistic to believe that we can avoid a catastrophic power shortage in the 1980's and 1990's without new power plants. We are going to need new

plants. We may minimize the need for new construction with conservation, with new rate structures, with the development of new alternative energy sources. But these things, as valuable as they may prove to be, are not sufficient in themselves to meet the growing demand for electric power. We will need these things and well-planned new construction projects, like Dickey-Lincoln, to meet our future energy needs.

As for the environmental arguments against Dickey-Lincoln, we should keep in mind that an environmentalist can always find conditions which might be better if a project were not undertaken. But this does not prove that the project should be abandoned. At some point, it is imperative that we consider not only the costs of a project but also its benefits. We must, if we are to make our decisions rationally, weigh the costs against the benefits. And we must make our decisions on the basis of providing the greatest good for the greatest number.

It is obvious that more people would be served by building Dickey-Lincoln than by not building it. If we build it, we provide desperately needed low-cost power for every consumer in New England as well as jobs for thousands of people and flood control for the protection of entire towns in northern Maine. On the other hand, if we don't build it, we serve the interests of a mere handful of people--an elite minority--who make use of the relatively miniscule wilderness areas that would be altered by Dickey-Lincoln and its transmission facilities.

Dickey represents a vital component in the development of a clean, safe, self-renewing and inflation-proof energy supply system that would aid in reducing our region's economically damaging dependence on expensive imported oil. The primary reason for New England's high electric rates involves our use of imported oil to generate most of our electric power. Dickey, by using the water-power of the St John River to generate electricity, would help us diminish our costly reliance on foreign oil imports.

To be more specific, it would take 2.3 million barrels of oil per year to generate the same amount of power that Dickey would generate with water-power. At today's prices, those 2.3 million barrels are worth $30 million. This means if the oil prices were to remain at their present level for the 100 year lifetime of Dickey-Lincoln--and everyone knows oil prices are skyrocketing--the savings would be three times greater than the highest projected cost of building Dickey

How can we afford <u>not</u> to build Dickey-Lincoln?

Thank you for the opportunity to address this hearing.

May 15, 1978

Massachusetts Municipal Wholesale Electric Company (MMWEC)
Stony Brook Energy Center, Ludlow, Massachusetts

STATEMENT REGARDING THE DICKEY-LINCOLN HYDROELECTRIC PROJECT AND ITS DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) ON ASSOCIATED TRANSMISSION LINES

Presented by Roger Bacon, MMWEC Staff Engineer, before a U.S. Department of Energy public meeting on the Dickey-Lincoln Transmission Line DEIS on May 15, 1978, at the Department of Transportation Systems Center Auditorium, Cambridge, Massachusetts

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My name is Roger Bacon. I am a Staff Engineer with the Massachusetts Municipal Wholesale Electric Company, a public corporation of the Commonwealth of Massachusetts. MMWEC represents twenty-nine (29) locally-owned municipal electric departments in the state which operate typical electric distribution systems for delivery of power to municipal customers. MMWEC has entered agreements with these municipal systems to plan and finance construction or acquisition of electric power facilities which will provide the municipals with a future bulk power supply which is both reliable and economical in comparison with typical wholesale supply arrangements.

My staff responsibility with MMWEC focuses on hydroelectric power and its potential contribution to the regional power supply and, most specifically, its value to MMWEC member municipal electric systems.

MMWEC power planning for its members systems shows that Dickey-Lincoln power can be fully utilized in the mix of resources which will provide the regional power supply in the future. MMWEC members, for example, currently serve thirty-six Commonwealth communities which have a combined population of 600,000. As compared to a 1977 peak electric demand of 692 megawatts for these systems, the aggregated non-coincident peak electric demand for MMWEC member systems in 1985 will reach over one-thousand megawatts. Dickey-Lincoln generation can provide reliable peaking power to these municipal systems beginning in the mid-80's, at a reasonable cost, just as it can provide essential peaking power to other regional public systems and the regional power pool as a whole.

MMWEC, Statement regarding Dickey-Lincoln EIS, May 15, 1978

We have received the Environmental Impact Statements on Dickey-Lincoln--both for the power project and for associated transmission and, in all, find the project to be far more economically sound than any available alternative for peaking power production. We believe the environmental impact to be an acceptable one in New England. The transmission route proposed by the Department of Energy appears to be effective and the least environmentally damaging of the alternatives.

Transmission lines are, of course, essential to the Dickey-Lincoln project's worth as a regional hydroelectric peaking project. They provide access to a source of energy that is clean, renewable, non-polluting and among the most economical of all energy sources in this era of higher and higher fuel costs.

Municipal and cooperative electric systems in the region were among the first and strongest supporters of the Dickey-Lincoln hydro and flood control project. They remain so today. Dickey-Lincoln is an important component of the future energy sources ofthe New England region than can and should be developed immediately. If there are adjustments to be made to the proposed transmission system and route, let those adjustments be made, with all the care and skill that can be applied to such an important project. But, above all, work on the project should begin, with all possible haste, to ensure that we are no longer deprived of a major source of beneficial hydroelectricity for the nation and the region.

#32

Telephone 444-3414

THE REV. CARLETON SCHALLER JR.
16 SCHOOL STREET
LITTLETON, NEW HAMPSHIRE 03561

All Saints' Episcopal Church
16 School Street
Littleton, New Hampshire

The Church of the Messiah
North Woodstock
New Hampshire

MAY 24 1978

May 21, 1978

Department of Energy
Federal Office Building, Room 209
Bangor, Maine 04401

Gentlemen:

On May 9th I attended the DOE hearing in St. Johnsbury, Vermont on the proposed Dickey-Lincoln School Lakes Project. I have already submitted a statement to the Corps of Engineers which entailed my views on the entire project. Permit me now, and I respectfully request incusion of my remarks in the official record, to state my objections to the transmission lines which are a necessary part of the Dickey-Lincoln project.

As a resident of Littleton, New Hampshire, for the past sixteen years, I strongly oppose the erection of transmission lines in northern New England on the following grounds:

1) Some 5700 acres of valuable timberland will be unavoidably affected by these lines. Timber is a vital part of the socio-economic life in northern New England, especially at a time when many look to increased timber use in the energy problem with which we are all quite familiar.

2) I was an enthusiastic supporter of the creation of the Allagash Wilderness Waterway. I have canoed the Allagash, or portions therof, three times since 1967. I am appalled to learn that the transmission lines would cross the northern part of the Waterway. What does this do to the wilderness character of the Allagash Wilderness Waterway?

3) I have camped in Groton State Forest, Vermont, with my family on several occasions. I am appalled to learn that the transmission lines will traverse this scenic recreational area.

4) The height of the towers in New Hampshire (some 135 to 180 feet high) will constitute a monstrosity on New Hampshire's scenic landscape.

5) In my opinion, questions concerning maintenance of the 150 foot right of way over its length of 365 miles were to a large extent unanswered. No one seemed to know for sure whether herbicides would be used; whether a timber owner would be allowed to continue to grow timber in the right of way; or if certain species might be acceptable and others not.

I believe that the environmental effects of the transmission lines would be severe enough to reject on those grounds alone a project designed for peak power needs.

Sincerely,

Carleton Schaller Jr.

BPA 33

MAY 24 1978

COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT CONCERNING TRANSMISSION LINES REQUIRED FOR THE PROPOSED DICKEY-LINCOLN SCHOOL LAKES PROJECT.

FOR PUBLIC MEETING AT MONTPELIER, VERMONT ON MAY 10, 1978 BY THE AD HOC COMMITTEE ON EIS RESEARCH OF THE ENVIRONMENTAL LAW GROUP AT THE VERMONT LAW SCHOOL, SOUTH ROYALTON, VT.

Vermont does not need more transmission lines cutting through the state. Why should the people of Vermont consent to a "scorched earth" policy made, not by themselves, but by government bureaucrats or officials of other states? Senators Muskie and Hathaway stand strongly behind the project; but they are not from Vermont and are not accountable to Vermont voters. It's time for Vermont citizens to say "no" to more outside instrusion by federal agencies.

Do we need the dam and the transmission lines? The Army Corps of Engineers says we do because of a projected 5.4% annual growth rate for power demand. That was based on a New England Power Pool projection dated January 1977. Without questioning the bias of NEPOOL, it is now a fact that future power demand is drastically lower than those figures. I call your attention to page 1 of the Wall Street Journal dated April 20, 1978 where it is reported that electric utilities are cutting back on expansion as demand continues to lag. They say because of this, ~~not~~ more and more utilities are canceling construction projects. If the private sector refuses to spend money where there is no need, why shouldn't the public sector follow the same reason and logic?

Other evidence of less demand comes from James E. Griffin, the President of CVPS (Central Vervont Public Service Corp.). He has said that the demand for electricity in the central Vermont

area did not increase at the anticipated 3.4% rate of growth; instead the rate was less than 1%. Given these facts there's no need to spend close to one billion dollars for something we are not going to use. The Army Corps of Engineers and the Department of Energy must take these revised projections into account and abandon the project now. They should not continue to throw good money after bad.

The transmission lines are supposed to carry peak power electricity from the Dickey-Lincoln Dam to areas of need. But peak power use is mainly to ease demand during periods of heavy use that occur more often in densely populated urban and industrial areas. It seems more likely the power transmitted from Dickey-Lincoln will go where it would be needed: Namely to the greater Boston area. Although Vermont does not have as great a need as Boston, somehow Vermont has been selected to receive this transmission line that it may not, in fact, need.

What alternatives are there to a power source located over 300 miles away? I think the alternatives are clear. Put the sum of close to a billion dollars that the project is supposed to cost into refitting the existing, abandonned dams in Vermont. Why build a transmission line 300 miles long when you can build one 3 miles long? We have the potential to become more energy self-sufficient here in our own state. We should tell the federal government that our money should be spent on more worth-while projects.

Let's put an end to the Army Corps of Engineer's apparent goal not to rest until every river is dammed. The Corps should be responsible to the public and not simply committed to pork barrel politics.

by Thomas Trunzo

for the ~~Vermont Law School~~ Environment Law Group at Vermont Law School

(This statement does not necessarily reflect the opinion of anyone else at Vermont Law School and must not be considered as a school policy). Thomas Trunzo

#34

MAY 24 1978

RD #1 Plainfield Vt 05667
May 18, 1978

U.S. Department of Energy and
Corps of Engineers
Federal Building
Bangor, Maine 04401

Gentlemen:

For your information I enclose the Town Plan and Zoning Ordinances of Plainfield Vermont, two documents that make clear that any transmission line through the town would be a violation of the spirit and letter of the established local plans.

The possibility of a power line through the very section of town that we fought so hard to protect from ecological and anti-rural problems is indeed alarming and discouraging.

We all recognize the need for power, but to choose to route it through one of the very few towns in Vermont that took the lead to preserve the rural character of the state would be more than just a violation of our zoning regulations, it would callously ignore the years of work that went into the making of the plan and the zoning ordinances.

For these reasons I trust the Dickey-Lincoln project--if it is to go through Vermont--will avoid the town of Plainfield.

Thank you for your attention to these thoughts.

Yours truly,

Henry S. Bissex, former
Chairman of the Plainfield
Town Planning Commission

OFFICE OF THE
SELECTMEN
MOOSE RIVER, MAINE
P. O. JACKMAN, MAINE 04945

#33 - TJM

MAY 25 1978

May 23, 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

Enclosed, as requested, is the position paper of the Town of Moose River in connection with the proposed Dickey-Lincoln School Lakes Project.

Sincerely,

Howard J. Hagen
First Selectman

cc: Board of Selectman, Jackman
Town Manager, Jackman
Jackman Planning Board
Moose River Planning Board
North Kennebec Regional Planning Commission

STATEMENT: POSITION PAPER - TOWN OF MOOSE RIVER - RE PROPOSED DICKEY-LINCOLN SCHOOL LAKES PROJECT

At the outset, let me state that we are not experts in the field of Hydroelectricity. We do not intend to direct ourselves to those areas dealing with the aesthetics or installation of the transmission lines.

Our primary concerns are those to which I addressed myself at the May 3, 1978, meeting and one other point I did not raise at that time, "inexpensive electricity."

The Town of Moose River is a small community of 255 persons. Because of our size, we do not provide any services directly to our residents. All of our services are on a contractual basis with the Town of Jackman.

In view of our position and after consultation with the Board of Selectmen of Jackman, The Jackman Planning Board and Mr. Bob Gramigna of the North Kennebec Regional Planning Commission, we agreed to a joint statement which was presented by the Jackman Planing Board and Mr. Gramigna at the May 3rd meeting.

We wish, at this time, to reaffirm those statements.

During the meeting, we raised several points. One was, had any thought been given to or any study undertaken in connection with the possibility of a crime problem as a result of the concentration of contruction crews in our area.

Your answer was no.

I, therefore, sent to those townslisted on page B-3, Appendix "H", the Maine State Police and the Governor of Alaska, a letter in which we made the following inquiry:

" Our purpose in writing is to ascertain whether your town experienced any increase in crime due to an influx of transients during the construction period."

The inquiry to the Governor of Alaska was modified to refer to the construction of the pipe line.

At this point, permit me to digress a moment. We are not implying that construction workers are criminals and by their presence crime would increase.

Our concerns are with those elements of society which feed upon this type of operation. Another concern, perhaps not as serious; but one which may prove to be so, is possible conflict between residents and crews because of social and economic mores.

The replies received from the towns solicited were negative for various reasons. (1) Location to other facilities, (2) lack of facilities, and (3) lack of sufficient records to provide statistics.

Col. Allan H. Weeks, Chief, Maine State Police responded negatively, advising, "the State of Maine did not start

keeping Uniform Crime Reports until July 1, 1973. A very recent report issued by the Bureau of Safety informs us that the crime rate for the first quarter of this year rose 2.65 percent.

He did inform us, however, that "any influx of transients into any area could be a contributing factor to the amount of crime. The exact amount of crime would depend on the number of transients and the quality of people brought into the area."

As of this writing, we have not heard from Alaska. Should a reply be received in time to meet the June 6 deadline, we will forward an appendage.

Once again, we reiterate our concerns as previously stated.

Neither town has a police force. We rely upon the Somerset County Sheriff's Office and the Maine State Police for our law enforcement. The area assigned to the Trooper is so vast it precludes his being available at a moments notice. Our deputies are part-time and because of other employment, are not available on a full-time basis. These conditions cause serious deficiencies in our law enforcement. Any increase of transients over a protracted period would add further hardships.

I would like to draw your attention to the Section entitled, "Public-Private Sector" page 3-77, third paragraph, next to

last sentence, which reads, "It is also possible..." I will state it is not only also possible, but probable. That is a condition we do not care to have.

The next point to which we direct ourselves is the one of crew size. The explanations given, we feel, are grossly inadequate.

If you will refer to page 3-69, the terminology used is workers. If this terminology, which has not been sufficiently defined means, "those who get their hands dirty", then I suggest to you there would have to be additional personnel such as administrative and staff. This would increase the total personnel in our area.

Increases by the Canadian Pacific Railroad to handle traffic flow, increase by the Government to handle Border flow, increases in any or all ancillary services would increase personnel in our area.

Again, I refer you to page 3-69, where the following statment is made, "Any decision to accelerate will increase size of crews and total number of workers." Because of conditions in our area, especially in the winter, this statement is probably the truest one in the report. Particularly so, if the project were to be completed under present standards.

In closing, I would draw your attention to a statement which seemed to be the theme of the presentation on May 3, "inexpensive

electricity." I would remind you of an answer to a question, "a Transformer could be added to the sub-station to provide for local service."

Your answer, undoubtedly true, did not go far enough. It would cost between 300 to 500 thousand dollars to install such a system (transformer and lines) to meet the needs of this area. I know of no Company, especially one with stockholders, who would be willing to invest such a sum without a fair return on their investment. If they did, it certainly would not be "inexpensive electricity."

Additionally, how can electricity which is transported out of the State to a "pool" and then returned to the State be considered as "inexpensive electricity." We are only lay people, but any thought given to that statement would lead one to believe that unless specific rates were regulated by law and were sufficiently low to protect the consumer, regular rates would be eaten by our present rate of inflation.

An expenditure of approximately one billion dollars for 2½ hours a day of generation, an expenditure by the way of tax payers dollars, adds to the conclusion that the theme of the presentation was very misleading. There are no doubts that benefits are there, however, not for residents of this area or the State of Maine.

Based upon the foregoing, as well as, the position statements submitted by the Jackman Planning Board and Mr. Bob Gramigna of the North Kennebec Regional Planning Commission, the Board of Selectmen of Moose River on behalf of its residents rejects the Impact Statement as

not properly reflecting the feelings of the community nor the true picture of the community. As a result, the report contains many inaccuracies. The serious consequences to our environment, both human and animal, would be catastrophic. For these reasons, we cannot support the Dickey-Lincoln School Lakes Project and sincerely request that more viable alternatives be considered.

#36

MAY 25 1978

Cobb Hill Road
Waterbury, Vermont 05663
May 23, 1978

MAY 25 1978

U.S. Department of Energy
Federal Building
Bangor, Maine 04402

ATTENTION: Larry Wilkerson

Gentlemen:

The Moretown Planning Commission met on May 16th and voted to ask me to write expressing our unanimous and vigorous opposition to the construction of yet another power transmission corridor from the sub-station near Barre to the one near Burlington, this latest proposed corridor to serve the Dickey-Lincoln project. With respect to the transmission lines in this area, the feelings of the Commission were unequivocal: no new corridors. None of the members had strong opposition to the use of present corridors using existing towers or replacing existing towers with wooden ones capable of carrying both the present lines and the proposed new ones.

On the matter of the construction of Dickey-Lincoln project at all, members felt they lacked the information and the expertise to take a solid stand. However, several questions were raised: the overall cost-benefit ratio (including non-monetary environmental costs), the relative benefit to Vermonters vs. our environmental costs, the wisdom of such large-scale developments as opposed to development of our many, small unused hydro sites, and indeed the need for the project at all, in light of excess regional generating capacity and the dramatic difference in Vermont between this year's peak-power demand and that which was anticipated.

Yours very truly,

John B. Willey

John B. Willey
Moretown, Vt. Planning Commission

JBW/jg

cc: Governor Snelling
Vermont Congressional Delegation
State Legislators
Central Vt. Regional Planning Commission
Vt. P.S.B.
Vt. Energy Office

#37

MAY 25 1978

MAINE AUDUBON SOCIETY

Gilsland Farm • 118 Old Route One • Falmouth, Maine 04105 • 781-2330

Dickey-Lincoln Transmission Line DEIS Hearing
Testimony delivered May 4, 1978 - Augusta Civic Center
By: Maine Audubon Society

Good evening. My name is Jonathan Gorham and I'm from the Maine Audubon Society. Speaking on behalf of the Audubon staff, the trustees, and our members, I would like to restate our firm opposition to the proposed project. Looking at our energy future, the Audubon Society feels that Maine's needs can be very well met with several alternate proposals, without the construction of Dickey-Lincoln.

First, let's ask how the energy produced by Dickey-Lincoln will be used. Energy is used efficiently only when the quality of the source is properly matched to the quality demanded by the task. Electricity is one of the highest forms of energy we have. Heat is one of the lowest forms. An oil fired power plant converts only about one-third of all the fuel energy it uses into delivered electricity. If that electricity is then used to provide heat, two-thirds of the original fuel energy is wasted. Obviously, one example of mismatching the power source and the task is to use electrical energy for heating. By continuing to create abundant electrical energy, people are encouraged to use electricity for tasks, like home heating, that could more efficiently be done with other types of power sources. In fact, a survey of all the energy requiring tasks in the U.S. shows that only 8% require high-quality electrical energy[1] - all others could more efficiently be done with other energy sources. For instance, residential hot water can much more efficiently be produced by using the sun rather than electricity. The time for thoughtless energy gluttony is over. Energy must be used efficiently by matching the source with the task. Dickey-Lincoln encourages people to continue wasting electrical energy and to avoid using other means to easily and efficiently do the same tasks. It is precisely this abundance of "cheap" electricity that excluded Maine from participating in the natural solar hot water demonstration project. An over reliance on electricity serves to discourage the development of alternate energy resources.

Secondly, proponents for the project emphasize that Maine's energy needs cannot be met unless Dickey-Lincoln is built. On the contrary, if the 800 million dollars to be appropriated for Dickey-Lincoln were spent instead on energy conservation, Dickey-Lincoln would never have to be built. A joint study commissioned by the Office of Energy Resources, Brookhaven National Laboratory, and Harvard University concludes:

> The potential energy savings of a program of weatherization of existing housing in Maine are very large. If all housing in Maine were brough up to a weatherization level similiar to that found in newly constructed housing, including 100% weatherstriping, storm windows, R-11 in walls, R-19 in floors, R-38 in ceilings, about 35 trillion BTU's could be saved annually. This would account for a 51% reduction in residential

space heating consumption, a 41% reduction in overall residential consumption, and almost a 10% reduction in Maine's total energy consumption.

In other words, for about 1/20 of the total cost of Dickey-Lincoln (or 40 million dollars), every house in the state could be sufficiently weatherized to reduce energy consumption so much that Dickey-Lincoln would not ne beeded.

Thirdly, Maine Audubon agrees with estimates from many timberland owners that the value of forestland to be flooded is severely underestimated. Edward Meadows, of Seven Islands Land Company, has computed the value of the timberland flooded by the Dickey dam alone to be $8.8 million/year. This calculation assumes the production of ½ cord/acre with a total economic benefit to the state of $200 per cord. The reevaluation of timber losses raises serious questions about the accuracy of the DEIS economic studies. Trees are one of Maine's most valuable natural resources. Their value for wood heat, lumber, and synthetic fibers can only increase as our petroleum resource base diminishes.

Finally, Maine Audubon questions the wisdom of damming the wild and free-flowing St. John for the production of power that Maine people don't need. Using alternate fuels for power and energy conservation supported by economic incentives, we can continue to enjoy the last wild river in Maine, we can manage timberland for the benefit of Maine and we can have all the energy we need for the highest quality of life. It is exactly the untamed wilderness of the St. John River Valley that adds to the uniqueness of Maine living. Maine Audubon firmly raises a voice for its protection.

[1] Amory B. Lovins. Soft Energy Paths. Ballinger Publishing Company. Cambridge, Massachusetts. 1977. page 80. table 4-4.

Statement to be included in record.

#38
May 19, 1978
Montpelier

MAY 25 1978

The Marshfield Planning Commission is unequivocally opposed to the Dickey-Lincoln ~~alternative~~ route for the following reasons:

1) The adverse impact on the neighboring towns of Peacham and Groton (State Forest/Park)

2) Impact on State Forest in the Town of Marshfield

3) Proposed Use of land designated on Town Plan as Forest and Conservation and Agricultural Rural Residential

4) Adverse visual impact on Maple Hill area of Town of Marshfield (High density residential)

5) Requires new route where there are none existent.

6) Negative impact on tax base in Town of Marshfield

#39

Vermont Electric
Cooperative Inc.
Johnson, Vermont
05656

802/635-2331

MAY 25 1978

May 10, 1978

My name is John Bohn. I am a registered Professional Engineer in the State of Vermont. For the past five years I have been employed by Vermont Electric Cooperative as their Chief Engineer. Vermont Electric Cooperative is one of two electric cooperatives in the State of Vermont and we provide the electric energy service to 26,000 Vermont people.

The Management and Board of Directors have been and will continue to seek any and all economic sources of electrical energy to insure the future electric needs of our members.

The New England States have not been blessed with a local source of one or more fossil fuels. Likewise, this same area is not blessed with a very large hydro potential for electric generation.

Therefore, the New England electric needs in 1976 were furnished by 55% oil fired generation with nuclear furnishing the next closest amount of 19%. These percentages were approximately the same for 1977.

If we are to reduce this regional dependence on oil, we must take advantage of our limited resources.

Vermont Electric Cooperative therefore believes that the proposed Dickey Lincoln-Lincoln School Project and its associated transmission lines should be built provided:

1. The entire project can be shown to be economically feasible for the New England Region.

2. That the construction of the project will have a lesser environmental impact than that of an equivalent amount of electrical generation by other means.

3. That it fits in with the Long Range Energy Planning of the six State Region.

4. That it will help to fullfill the long range goals of the National Energy Policy.

A possible additional benefit of the proposed transmission facilities would be the wheeling of future large blocks of power from the Canadian Maritime Provinces and Qubec, should it become available.

Thank you.

Testimony presented May 10, 1978 by John Bohn at Montpelier.

#40

MAY 25 1978

STATEMENT TO THE U.S. DEPARTMENT OF ENERGY AND THE ARMY CORPS OF ENGINEERS REGARDING THE PROPOSED DICKEY-LINCOLN HYDRO-ELECTRIC PROJECT AND TRANSMISSION LINES

May 10, 1978

My name is Diane Geerken. I represent the Vermont Group of the Sierra Club.

The Sierra Club is a national organization devoted to environmental appreciation and protection. There are over 6,000 members in New England, of which over 500 are in Vermont.

We have already stated our reasons for opposing the construction of the Dickey-Lincoln Dams in our response to the Army Corps of Engineers Draft Environmental Impact Statement. Most compelling of those is that the proposed project is unnecessary. Projected demand for electricity does not require construction of the Dickey-Lincoln facility in the foreseeable future, in particular if we consider the likelihood that peak power demand will be reduced by pricing techniques, which have already been introduced in some areas. In addition, as the Environmental Protection Agency has stated in its review of the Corps of Engineers Draft EIS, the document "does not adequately assess alternative ways of achieving the claimed energy benefits" and this includes addressing "the comparative impacts of substituting a pumped storage facility (as well as a separate small intermediate power facility) elsewhere."

The project is not necessary and therefore not worth the carving out of a corridor from the tip of northern Maine to eastern Vermont through remote natural areas as well as inhabited places. The visual impact would result in the degredation of wilderness recreation in many spots. (This is after destroying the wilderness experience on most of the upper St. John River with the dams themselves.) The U.S. Department of Energy's Draft EIS on Dickey-Lincoln School Lakes transmission lines lists a number of rivers in Maine, New Hampshire, and Vermont which are now being considered for possible designation as "wild and scenic" and would be visually impacted by the proposed transmission lines. We strongly object to development such as this which would prevent such designation.

The Draft EIS states, (p. 4-5) "The spraying of herbicides into streams, wetlands, rivers, lakes, or other bodies of water would be prohibited." Yet, earlier in the document we learn that "Drifting during application, or erosion of sprays attached to soil particles into aquatic systems, could occur." (p. 3-18) Most of us know examples of how imprecise the

cont'd.

application of sprays in an area can be under the best of conditions and how many an agent which has been introduced into the natural environment has dispersed in an unpredictable fashion. Furthermore, it is explained that "large volumes of solution" (p. 3-18) are needed to be effective. Under these circumstances it is difficult to believe that the water quality of the streams along the route of the transmission lines would not be harmed. It might be worth a trade-off if the project were necessary, which, we believe, it is not.

It is evident that the plan for construction of the transmission lines does not correspond in a direct way to the potential utilization of the peak period electricity to be generated. There are thus far, to our knowledge, no firm commitments of power to particular areas in New England. The maximum amount of power to be transmitted from the Dickey-Lincoln Dams through the lines would be for between 3 and 4 hours a day. Most of this could conceivably be sent to areas with more electricity users than northern Vermont, New Hampshire and Maine. The EPA response to the Corps of Engineers Draft EIS states that the "main energy related benefit of the proposed project is to supply peaking power principally to Southern New England." One begins to wonder why such a large transmission project, supposedly connected to the construction of the Dickey-Lincoln Dams, is to be financed by taxpayers' dollars. What are the plans for utilization? This question should be addressed in detail in the final EIS so we will be in a better position to judge if it is worth the impact it would create.

Despite the claim that building the proposed transmission lines could enhance certain wildlife habitats along the right of way, it is also recognized that considerable imbalance would exist at least in the short run, possibly for the life of the lines and even beyond the life of the lines. The herbicides that would be used to control vegetation in the right of way would certainly be harmful to wildlife during the life of the line and would, as pointed out in the Draft EIS, be toxic to fish and aquatic plants. (p. 3-18) As the document states, "Continued human access disturbs wildlife." (p. 6-1) The quality of habitat for wildlife is diminishing rapidly enough. We do not believe there is justification for accelerating the process by this project.

In conclusion, we again emphasize our opposition to the whole Dickey-Lincoln project--for the reasons we have submitted previously. (A copy of our previous testimony is attached.) Since the dams themselves should not be built we certainly see no need to carve up the New England landscape with the high voltage power lines that would accompany them.

Thank you for your consideration of our comments.

Submitted by,

Diane Geerken

Diane Geerken for the
Sierra Club, Vermont Group

#41

MAY 25 1978

Rt. 1, Box 5
East Calais
Vermont 05650
May 10, 1978

Gentlemen:

I have read the draft impact statement with interest. As before, I remain opposed to the flooding of the St. John River in northern Maine and to creation of the proposed electrical transmission corridor through the wildlands of northwestern Maine and northern New Hampshire. It's dumb. It's reckless. I'm sick that so much time and talent has been devoted to planning of a project that, if it is carried out, will irreprably damage so large a portion of the Northeast's remaining wildland areas. This corridor impact study itself finds the wildlife habitat ranking to be especially high at the confluence of the Allagash and the St. John Rivers. Put that under water? The impact statement points up what many persons knew all along, that any major destruction of habitat or reduction in the relative remoteness of the northwest Maine-northern New Hampshire region will undermine the incalcuable value to the people of New England of the area in its present condition.

As to the impact statement itself, I have three major concerns: (1) that the impact of the chosen corridor on the wildland character of the area it traverses was not given more weight in Phase I of the study when initial corridor selections were being made, (2) that more time was not available for a much more thorough study of ecological impacts, and (3) that the section on mitigation strategies is as perfunctory as it is. Let me say a little more on this last point.

Possible impacts on wildlife habitats caused by the transmission line would include fragmentation of otherwise unbroken forested tracts and possible introduction of the cowbird into areas now recognized as "...probably the most important (area) in the United States for nesting warblers and vireos," birds parasitized by the cowbird. (p. 3-34) Impacts on potentially important wolf habitat, the importance of maintaining wooded vegetation in the right-of-way for the snowshoe hare, and possible harmful effects of linking now seperated populations of other species of wildlife are similarly noted. But the mitigation measures sketched out -- and sketched is all they are -- largely fail to apply creative effort in meeting these problems. Indeed, there is no indication that corridor maintainance will not follow traditional practices of maintaining mile after mile of straight-edged, cleared swaths. The occasional hint in the report at leaving intact some higher vegetation and some mature timber (only at road and river crossings, as I understand it) should be expanded and made more specific with regard to mitigating impacts on existing habitat values. The same may be said of trying to maintain as nearly as possible existing conditions of remoteness. As to the too brief discussion of aerial spraying for vegetation control, more specific information should be provided on miles and percentage of corridor likely to receive this treatment. The suggested 100 foot buffer zone for aerial spraying adjacent to streams, lakes, and wetlands seems unrealistically small. In short, much more needs to be done on the section on mitigation before a final assessment of the impact statement is made.

Thank you.

Jan Wells

Testimony on the Draft Environmental Impact Statement, Dickey-Lincoln School Transmission Project, March 1978.

#42

MAY 25 1978

VERMONT NATURAL RESOURCES COUNCIL

May 10, 1978

Seward Weber's Testimony for Dickey-Lincoln Hearing

Montpelier, Vermont

My name is Seward Weber. I am the executive director of the Vermont Natural Resources Council with offices at 26 State Street here in Montpelier. The Council is a state-wide public interest group with primary interest in land use policy issues and the conservation of natural resources in the State of Vermont.

The Council opposes the Dickey-Lincoln hydroelectric project including its transmission lines. We are unable to disassociate the distribution lines from the generating facility and find a separate basis for evaluating them. The project as a whole is unsound economically and it will be distructive of natural resources that cannot be replaced. There are alternative ways of achieving peaking electrical supply of the order to be provided by the project that would be more cost effective and less distructive environmentally. We believe firmly that these have not been properly explored.

There are many ways for society to achieve a desirable level of economic vitality without further denigrating the lands, the

waters and the natural resources of this region. After all, our natural resource base is the foundation for all economic development. This can be done by undertaking smaller energy projects closer to centers of population and industrial development. It can be done by eliminating energy waste and promoting energy conservation practices. Other industrial nations produce goods and services comparable to those we enjoy at a lower rate of energy expenditure than the United States.

VNRC recognized that society has a valid need for increasing electrical use in the future though we suspect that the rate of demand growth will of necessity be slower than most electrical planners currently project. (Vermont's peak power growth rate last year was 1/10 of 1%.) However, we strenuously object to projects such as this one which we believe are impractical, excessively expensive and wasteful of natural resourcs that have a greater value to society left alone or used for some other purpose than the one contemplated by this proposal.

Thank you.

#43

MAY 25 1978

My name is Sandal Cate –

This statement is on behalf of the Central Vermont Audubon Society, a state chapter of the National Audubon Society, based in Montpelier, VT. It stems from the feelings of many citizens of our state that concern must be expressed about the proposed Dickey- Lincoln hydro-electic power project.

We have these messages to give as a part of the hearing record tonight:

FIRST: We gave a statement on November 14, 1977 in St. Johnsbury Vt. at a public hearing on the Dickey-Linclon dam project to the effect that too much forest land, riverways and human habitation must be sacrificed with the present project proposal. We feel that more localized energy alternatives must first be considered which would have a much lesser impact on the northern New England environment. We will continue to stand by this statement in hopes of protecting valuable wilderness lands and their inhabitants. There are proven alternatives for energy production which could meet the needs of northern New England residents, instead.

SECOND: We must look to the future, not only to provide the necessary resources for human existance but to conserve our valuable timberlands for later generations to utilize and enjoy. Many of us are outdoors people. We treasure the visions of wild running rivers, wildlife such as moose, deer, woodland song birds and other species too numerous to mention, and forested mountain country which are obviously threatened by a project such as the Dickey-Lincoln dam. For this reason we remain opposed to the construction of the dam and any resulting power transmission facilities built in connection with it. We hope that all who are responsible for decisions regarding this project will consider our comments, not only for those of us speaking tonight but for future generations as well.

Respectfully submitted

CVAS Board of Directors

VPIRG
Vermont Public Interest Research Group, Inc. • 26 State Street • Montpelier • Vermont 05602 • (802)223-5221

#44

MAY 25 1978

May 10, 1978

Statement of Leigh Seddon, Assistant Director, concerning the Dickey-Lincoln School Project, Department of Energy public hearing Montpelier, Vermont.

The Vermont Public Interest Research Group, Inc.(VPIRG) strongly opposes the construction of the Dickey-Lincoln School dams and the associated transmission facilities. The two projects would irreversibly damage one of the East's last remaining wilderness areas, flooding productive timberland and destroying recreational values. The economic and social costs associated with these projects clearly outweigh the proposed benefits of peaking power for the New England region. Energy conservation and peak load pricing are two sensible alternatives to these projects that would enhance environmental quality rather than damage it.

VPIRG's main concern, if the project is built, is the impact of the transmission lines on Vermont. According to the draft Environmental Impact Statement, close to 100 miles of transmission lines with 150 foot right-of-way will be built in Vermont. These transmission lines will necessitate the taking of private property and adversely impact fish and wildlife populations.

Of major concern to VPIRG is the method of vegetation control along the power lines, if and when they are built. The draft EIS states that herbicides will be used to clear the lines and mentions 2,4,5-T and 2,4-D as possible herbicides.

2,4,5-T, because it contains dioxin, has been shown to cause birth defects, liver damage and skin disease in both humans and laboratory animals. Doses as small as 1 part per billion have been fatal to laboratory animals. The proposed use of this chemical presents a serious health hazard to all residents living near the propsed transmission lines. The herbicide 2,4-D, while it contains no dioxins, has also been implicated in causing birth defects and cancer.

VPIRG feels the draft EIS is incomplete in regard to vegetation management along right-of-ways. To minimize the environmental impact of the lines and to lessen herbicide use, VPIRG recommends that (1) 2,4,5-T not be used, (2) aerial application of herbicides not be allowed, (3) the power lines follow existing corridors, and (4) a vegetation management program be developed that emphasizes the introduction of low shrubby vegetation to exclude tree seedlings, with hand application of herbicides only when necessary.

#45

RICHARD A. SNELLING
GOVERNOR

MAY 25 1978

109 STATE STREET
TEL. 802 828-2768
&
100 STATE STREET
TEL. 802 828-2393

STATE OF VERMONT
STATE ENERGY OFFICE
PAVILION OFFICE BUILDING
MONTPELIER, VERMONT 05602

FOR IMMEDIATE RELEASE

May 9, 1978

Attached is the statement by Vermont Energy Office Director Brendan Whittaker on the Dickey-Lincoln Project, presented to the Transmission EIS Study Team on May 9, 1978 at St. Johnsbury, Vermont.

STATEMENT OF BRENDAN J. WHITTAKER

My name is Brendan Whittaker. I am Director of the Vermont State Energy Office, the Executive Branch agency responsible for Energy Conservation, including the federally-approved State Conservation Plan, for petroleum monitoring, and for alternate or supplemental energy sources.

Regarding the entire Dicky-Lincoln School Lakes project, not just the lines in Vermont, the Energy Office will be speaking on its own and not necessarily for the Snelling Admininstration, since there is a gubernatorial courtesy involved. We understand that Governor Longley of Maine has not yet made a public position statement on this project; the major part of the project is, of course, in that state. We are keeping in contact with the Maine Governor's and Energy offices.

We understand that the major reasons for the proposed routing of the power lines are the physics and economics of power transmission and not any particular need for peaking power in the State of Vermont. In short, the transmission line route in the project team's judgment, is the best way to access the NEPOOL network and not necessarily because of any particular need in Vermont.

We understand that Vermont will receive an allocation of 96 megawatts of Dickey-Lincoln power (91 million megawatt hours of energy) upon the completion of the project; also that this power will have first call by "preferential customers," i.e. municipals and co-ops, although the exact determination of this is unclear.

We understand that if the project is completed in the 1980's, the approximate cost of the power to the consumer is unknown at this time.

It is our understanding that a final decision has not yet been made as

to who would build and operate the lines, the federal government, a utility, a consortium of utilities, or some other entities.

Finally, it is our understanding that when fully operational the project would save approximately 2.3 million barrels of oil equivalency per year.

Conclusions and Recommendations: As far as state government in Vermont, the jurisdiction over the need for and placement of the power lines lies with the Public Service Board and Department. That office made a statement on this on May 9 at the hearing in St. Johnsbury.

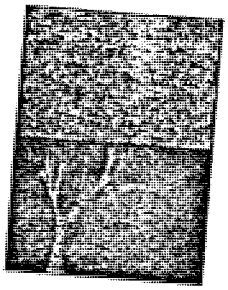
While Vermont recognizes the need to a) eventually shift from a petroleum-based energy economy and b) the obvious benefits of hydropower, the sheer size of the Dicky-Lincoln project has raised serious economic, environmental, and sociological questions. These questions include the need for the Dickey-Lincoln power at this time. New England is currently in a situation of flatter electric peak demand growth rates. Vermont especially has seen a lesser rate of peak demand since 1973 than had been originally projected. How long this will last, of course, is difficult to determine. Part of the lessened demand did come during a period of economic recession. Also, peak demand is an electric load factor which seems most susceptible to control by load management such as ripple control, and heat storage, and by the public notification warnings of our winter peak time. Also, while it might more affect baseload needs, rather than peak load, Vermont along with other New England States is moving rapidly into a time of much improved insulation and lighting efficiencies in older and new buildings. The Energy Office, for example, will soon advertise interim voluntary insulation and lighting guide-lines suitable for Vermont, and will be bringing for Legislative review this summer some standards for possible mandatory promulgation. This, too, undoubtedly will affect electric energy demand. Add to this a mix of smaller energy units of solar, hydro, wood, and wind, in which there has been a great amount

of interest recently.

In light of these considerations, and of the obvious environmental trade-offs of the Dickey-Lincoln Project, the Vermont Energy Office has deep reservations about the project as presented to us at this time. Should the project proceed, we urge that it be done with full state inputs, including of course those coming under Vermont Statutory authority in the Public Service Board, plus coordination with NEPOOL and Velco, which will distribute the power, since we understand that the projections of their needs which are used apparently date from 1973 or 74 and there have been extensive changes since then.

The Energy Office would like to thank the DOE-Corps of Engineers Study Team here tonight for the opportunity to present these views.

May 9, 1978



SOCIETY
FOR THE
PROTECTION
OF
NEW HAMPSHIRE
FORESTS

5 SOUTH STATE STREET
CONCORD, N. H. 03301
(603) 224-9945

TESTIMONY

By the Society for the Protection of New Hampshire Forests

DEIS/DICKEY LINCOLN SCHOOL LAKES TRANSMISSION PROJECT

Concord NH - May 11, 1978

Our Society is a private non-profit educational and conservation membership organization of 5200 persons.

Last November in Cambridge we commented on the draft environmental impact statement for the Dickey Lincoln - School Lakes hydro project. The thrust of our comments at that time was that the projected environmental impacts were unacceptable. Inundation of 88,000 acres, loss of thousands of acres of deer yards, ramifications for the forest products industries of northern Maine and loss of some of the most scenic and recreationally significant portions of the St. John River constituted environmental havoc far in excess of the energy values returned by the proposed project.

Of equal importance we felt the project did not make sense in dollars and cents. The costs will eventually top $1 billion. The economic analyses were based on a 3¼% interest rate -- a rate artificially low and impractical. The importance of smaller scale alternatives was not measured adequately. Many utilities (and even Public Service Company of New Hampshire) are now considering peak load pricing which will, likely and hopefully, reduce demands for peak load power which Dickey Lincoln would generate. Finally, the importance of taking conservation into

consideration or using some of the $1 billion to insulate New England homes is not simply environmentalist propaganda to be lightly brushed aside. It could work.

Tonight our Society is faced with commenting on the DEIS of the transmission project. When confonted with 13 volumes, accompanying map volumes and 3 maps prepared at an expense, perhaps in excess of millions of dollars, by legions of specialists over a period of years, I am at somewhat of a disadvantage. As a consequence, we choose to highlight one issue within this DEIS which I am not aware has received much treatment in previous public hearings: the impacts on wildlife habitat.

In trying to get a feel for the projected impacts on wildlife from the creation of 365 miles of "edge effects," I learned basically that the corridor poses serious unanswered impacts with regard to both techniques of maintenance of the corridor and possible creation of biogeographic islands. Whether the corridors are maintained mechanically, with herbicides or by combined uses, obviously affects habitat values. Discussion with representatives of utility companies experienced in right-of-way maintenance indicated that a hypothesis for maintenance might logically include Tordon herbicide applied aerially on a cycle of from 4 - 7 years. Once again, this is hyphothetical, but given the location and length of the preferred corridor, it was viewed by my contacts as "unlikely" that much mechanical maintenance would be undertaken. The point is: aerially applied herbicides are often unlikely habitat "enhancers" for most species of wildlife.

Further, as the DEIS points out, relatively little is known about biogeographic islands and the exact conditions creating them, but the potential for such creation does exist

in the proposed transmission project. Forest Service studies done in the last dozen or so years draw careful distinctions between so-called "hard" and "soft" edge effects and claim much of the prime ecotone value is inherent in "soft" and "feathered" edges permitting wide successional differences. This issue appears not to be addressed at all in the DEIS and the conclusion I must draw is that the corridor represents 365 miles of "hard" edges, maintained in unspecified ways, and capable of creating serious biogeographic islands. Nevertheless, and in spite of very serious questions about general ecotone quality, the DEIS concludes wildlife impacts will be overwhelmingly positive on all species with the exception of 24.2 miles of the total corridor (6.6%) where impacts will be only slightly negative (-1).

Although based on our cursory examination, we would question many of the DEIS conclusions, our main points of contention relate to visual quality and increased access to backcountry areas. Legions of 165' double circuit steel towers marching across the landscape do not in any sense constitute visual improvement of the backcountry. (We might also add that, contrary to the DEIS, pending further interviews with perching bird species, the towers are unlikely to be preferable to tall trees for the hunting activities of those species.) There is no acceptable way to document the environmental, visual or economic cost of opening a 365-mile 150-foot wide swath through some of northern New England's finest backcountry areas. Despite the claim that many of the roads used in construction would be closed following project completion, we would suggest that snowmobile, ATV and four-wheel-drive access to previously inaccessible areas does not constitute recreational value or enhance the experiences of wildlife or present low impact recreational users.

Loss of productive timberland and possibly some agricultural land in New Hampshire also represents negative impacts from the project.

As a resident of Webster, New Hampshire, I have long been aware of the impact of transmission corridors in that town. In reviewing the map sections of the DEIS all project alternates, A - E, involve 345 kilo volt lines either through or to Webster -- several appearing to call for entirely new rights-of-way. Quite frankly, for Webster the advantages provided by the availability of a relatively small amount of peaking power generated 300 miles away compared to the further acreage losses in the town would have to be weighed carefully. As one resident, I'd be inclined to object. Within the DEIS, I could find no analysis of these new lines or projections of their impact.

With additional time and money I'm sure we could continue to identify inconsistencies, misstatements and objections to what is proposed in this transmission project. But fundamentally, we have already registered our opposition to the generating portions of the project and without the generating capability, the transmission lines are academic. We question many of the positive values claimed for them, and foresee the visual quality and "improved" access to the backcountry impacts as totally detrimental.

In concluding, the entire project is a good example of what the high school civics texts often refer to as "pork-barreling." It is time for the Army Corps of Engineers, the Department of Energy and our Congressional leadership to provide the creative and future-directed solutions of which they are capable to solve our energy needs. Dickey Lincoln in its hydro generating and transmission phases is clearly not such a project.

Thank you.

H. J. CANTIN & SONS

Cantin Cabinet Shop

25 Park Street · Box 288 · Lancaster, N. H. 03584 · 603-788-4770

May 26, 1978

Re: Dickey-Lincoln School Lakes Project

Mr. Larry L. Wilkerson
Assistant Project Manager
for Location & Engineering
U.S. Dept. of Energy
Room 209
Federal Bldg.
Bangor, Maine 04401

MAY 30 1978

Dear Mr. Wilkerson:

Thank you for sending me the three maps on the proposed routes #36 and #37 for the Dickey-Lincoln School Hydroelectric Project.

I was a member of the Planning Board in Guildhall for two years and this project was discussed on two different occasions. It was my understanding at that time that Route #37 would be the proposed route.

In using Route #36 you are going about five miles into the wilderness west of the direct line that Route #37 follows making the distance much further and costlier. You are also destroying a deer yard where deer have wintered for years and going through a nesting area for a pair of falcons that have returned every year for the past ten years and, as you know, are an endangered species.

I would suggest that you stay with the alternate Route #37 through Guildhall and lowbed area. If this Route #37 is really investigated you will find that it disturbs very little farm land. Whereby, Route #36 is going in an area where the elevation is in access of 1 over 1 and I believe there would have to be even more steel towers than you have shown on your proposal.

Yours very truly,

Harland J. Cantin

Harland J. Cantin
Residence: Fellows Road
Guildhall, Vermont

Mailing address: Box 288
Lancaster, NH 03584

Wildlife Management Institute

709 Wire Building, 1000 Vermont Ave., N.W., Washington, D.C. 20005 • 202 / 347-1774

DANIEL A. POOLE
President
L. R. JAHN
Vice-President
L. L. WILLIAMSON
Secretary
IRA N. GABRIELSON
Board Chairman

Northeastern Representative
Philip Barske
200 Audubon Lane
Fairfield, Connecticut 06430

May 18, 1978

MAY 30 1978

Harry D. Hurless, Project Manager
Dickey-Lincoln Project
Federal Building - Room 209
Bangor, Maine 04401

RE: Dam Site and Transmission Project -D-L

Dear Mr. Hurless:

After reviewing several proposal and environmental impact reports and attending the Montpelier, Vermont, Public Hearing on May 10, I wish to make the following brief statement relative to the Wildlife Management Institute's position on the proposed Dickey-Lincoln Project:

From an overall viewpoint, economic, biological (wildlife-forestry) and social, we oppose the proposal in its present form.

Sincerely,

Philip Barske

Philip Barske
Northeastern Representative

#49

The Garden Club Federation of Maine

JUN 5 1978

Webber Pond Road
RFD#1
Augusta, Maine
June 2, 1978

U. S. Department of Energy
Federal Office Building
Room 209
Bangor, Maine 04401

Gentlemen:

The Garden Club Federation of Maine is opposed to the building of the Dickey-Lincoln dams because it would destroy a unique river and its environs. The importance of preserving natural areas with their attendant life systems becomes more and more important in an increasingly artificial world. Recognition of the fact that all life systems are inter-related inspired in large part the law for environmental impact statements for Federal projects.

We are grateful for the law requiring environmental statements but are distressed by some aspects of the current studies. As our consultant, Dr. A. E. Brower, a respected botanist, has pointed out, adequate studies of plant life have to be carried out on the ground and over a period of time. Plants, rare or otherwise, occur at different seasonal times. Dr. Brower has discovered a number of rare plants in the St. John valley. This is important to consider even though they are not on the Endangered Species list. They do add to the special character of the St. John area.

The St. John and its tributaries are valued for white water canoeing and for trout fishing. There can hardly be too many such areas as this kind of recreation is becoming increasingly appreciated.

The transmission lines would add insult to injury. They will disturb natural beauty and present-valued recreation areas.

Sincerely yours,

Edith Dow

Mrs. Robert L. Dow
Delegate
Natural Resources Council

#50

JUN 5 1978

June 1, 1978
Old Stage Road
Williston, Vermont 05495

Mr. Larry L. Wilkerson, Asst Proj Mgr
Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building-Room 209
Bangor, Maine 04401

SUBJECT: Official Statement Re: Routing of
Dickey-Lincoln School Proj Transmission Lines

Dear Mr. Wilkerson:

We would like to submit this letter as an official statement of route preference in Williston, Vt., as to the corridor of the transmission lines for the Dickey-Lincoln School Project. We are in favor of the proposed route No. 56 as it follows the Winooski River and opposed to corridor No. 55 along the existing line, which is named alternate.

We object to the possible use of the alternate route for the following reasons:

A. Open Land - the character of the open land would be irreversibly destroyed;

B. Visual Impact - The presence of transmission lines in open fields would have a negative visual impact for a large radius, dramatic visual pollution;

C. Develop Area - the alternate route would destroy an already established residential area with a high negative result on future development along this route.

Through use of the proposed route, the lines would be hidden from view and allow this area to retain its particularly sensitive and beautiful views of Mt. Mansfield, Bolton Mtn., and Camel's Hump Mtn.

We also believe that each and every person along the proposed and alternate routes should have been notified by mail in order to assure attendance at your EIS Hearings. We think it was extremely unfair to expect one notice in our local paper to be sufficient warning for such an extremely important issue.

We did attend the Montpelier hearing and would like to add that we agree with others present that evening on the thought that the entire project is not needed in Vermont and hereby state our formal protest. We ask now, also, to be added to the official mailing list so we may recieve copies of all pertinent correspondence on this project.

Sincerely,

Mr. & Mrs. John F. Portelance

Mr. & Mrs. John F. Portelance

JFP/kkp

#51

Speech/Written Statement for the Department of Energy

JUN 5 1978

Concerning Public Hearing May 15, 1978

Concerning Dickey-Lincoln Transmission Facilities

By Hal Clifford

I am a high school student speaking solely for myself and because I am of the belief that the implementation of Dickey-Lincoln would be a great mistake and a disaster for our country. With this transmission DEIS, the D.O.E. and the Corps have again proved themselves morally, environmentally and fiscally irresponsible.

Anyone capable of reading the DEIS could criticize any aspect of the D-L fiasco; I will briefly deal with an area in which I have personal experience, that of recreational and environmental impact.

I am an outdoor recreationalist, and know the project area from personal experience. I view the project as the destruction of one of America's invaluable resources; what is, for all intents and purposes, the last great wilderness in northeast America. This alone is too high a price to payfor an insignificant amount of our energy.

The DEIS notes that more than 33% of the route has a higher-than-average "Remoteness" rating. Remoteness is essential to mankind, even if only in the knowledge of its existence. The loss of this quality greatly compromises the value of the area. The EIS itself states,"These wildlands serve as a symbol of wilderness value and, consequently, have a social function which transcends the economic functions which occur on them."

The wilderness quality would be lost at least in the viewshed of the transmission lines, (neglecting the presence of the impoundments), and this totals 430,000 acres. Ten high-impact microwave stations will also be spread over the Maine countryside, and these will have visual

on hundreds more square miles due to their exposed locations. The EIS states that these stations will have "little impact" because they will be in remote areas. Actually, an intrusion of this type has a greater impact in a remote area than a populated one.

Of the aforementioned viewshed, 59% is rated as having high "Landscape Quality", 11% as having high "Sight Attractiveness". I think this is a ridiculous, subjective measure. I, for instance, would be inclined to rate close to 100% of the affected area high in these categories, as well as others.

The problems presented by these transmission facilities are more serious than just visual impacts.

Erosion and subsequent sedimentation of watersheds due to the facilities is of major concern. Presently, the water quality throughout the area is very good, having excellent existing and potential values. The transmission route crosses 325 streams, 22 lakes and 137 wetlands. Of these, 63 streams, 11 lakes and 30 wetlands have aquatic habitats of above average value. (Even average in this area is of significant value; the entire area is extremely biologically fertile.) The EIS states; "The impacts on aquatic wildlife...would be long-term and potentially quite adverse."

Sedimentation is of special concern because it kills fish and their eggs and fry, destroys aquatic ecosystems, silts up streams, lakes and wetlands and ruins cold-water fisheries. It is noted in the EIS that [illegible] cleared lands deposit from three to twenty times as much material in watersheds as those which are undisturbed. With mitigative measures, the EIS estimates siltation increases of 31% to 1136%, averaging 445%.

Additional severe siltation will result from the construction of 207 miles of microwave station access roads. All told, there will be moderate or worse impacts on 340 streams, 16 lakes and 83 wetlands from siltation alone.

This is not the only aquatic problem that the project will incur. Vegetation control, particularly that involving herbicides, can cause severe aquatic troubles, poisoning watersheds and causing toxic accumulations in some forms of wildlife. The EIS states that "The magnitude and direction of all these (environmental) impacts depends strongly upon vegetation control methods..."

The control methods break down to either control by herbicides or by machine or hand cutting. Herbicides, on the one hand, can poison the land and water and render them useless to fauna. Cutting is more expensive, and the increased human presence and disturbance will drive off certain forms of sensitive wildlife.

Of the hundreds of waters that will be impacted by the project, the Allagash, South Branch of the Penobscot, St. John, Amonoosoc, Moose, Connecticut and Kirby Rivers are are either protected, or up for protection, by various Wild and Scenic Rivers acts. Several Great Ponds will also be impacted.

The project area is a major area for outdoor recreation. Says the EIS:"The importance of recreation can hardly be overstated. Recreational values are tied to land preservation, open space, and ecology."

Recreation and timber are major industries in northern and western Maine and northern New Hampshire and Vermont. Both would be adversely impacted by Dickey-Lincoln and the transmission facilities. Recreation would suffer especially, for the loss of wilderness character and the

loss and disruption of wildlife habitats due to the projects will have a negative effect on sportsmen and women. We will go elsewhere for our sport, though opportunities are fewer and farther between, due in part to this type of project. Despite the severe impacts the project will incur and the previously quoted statement concerning recreational value, the EIS claims that fully one-third of the route will suffer no recreational impact!

The total economic losses over the project life are estimated at $10 million. This seems optimistically low, especially in the light of the fact that the dams are expected to have a life of well over 100 years, and that economic losses in the 286,000 acres of land inundated or ceded by the impoundment could approach $30 million a year. Tourists in Maine alone generate $1.5 billion dollars a year. In comparison, construction revenues are expected to generate less than $8 million, all told.

Recreation in the area suffers because the environment suffers. Says the EIS: "Some sensitive and important wildlife species will be severely stressed..." and ""Habitats with significant value for harboring rare plants will be irretrievably altered..."

Better-than-average ratings of "Terrestrial Habitat Value" are found on 27% of the route for Species of Special Concern, 14% for Game Species, and 27% for All Species. According to the EIs, Disturbance to Wildlife Impact breaks down with 35% suffering high or worse disturbance impacts. Yet only 19.3% of theSpecial Concern Species, 4.5% of the Game Species and 7.1% of All Species are listed as having negative Habitat Impacts. In fact, 1.5% of the route is listed as having no impact whatsoever.

I impugn these findings, especially since they come after a detailed discussion of impacts on animals that include physiological and metabolical

stresses, lack of reprodution, habitat overcrowding, snowmobile harassment, ans so on.

Some of the specific losses include 49 deer yards, which means a high number of deer. Deer concentrate highly in a few areas during the winter, and if they do not have these protected winter areas, no amount of summer browse created by the transmission lines will help them. You are only as strong as your weakest link. There will also be a loss of songbird and waterfowl nesting grounds due to the refusal of the birds to utilize them. Seventy-three Rare, Threatened or Endangered forms of fauna could be affected. Of 21 Rare plants that could be in the area, 11 are known to exist, and 41% of the habitat on the route is considered conducive to their growth.

Much of the information provided by the EIS is ridiculously subjective. For instance, 29% of the route is rated as having no Visual Impact. I think it would be hard to ignore a 165-foot steel tower on a 150-foot path.

Other information is contradictory. Despite detailed reports on the impacts to Endangered and Threatened Species, Section 8.03 explicitly states that flora and fauna in these categories will experience no impact from the proposed transmission facilities.

Or the planners of the project are unrealistically optimistic. As an example, it is noted that contractors should plan not to use heavy equipment on rainy days to prevent unnecessary impacts, but they count on a twenty-day work-month. Anybody who is familiar with the area knows that it rains frequently up there, often more than here.

I think this last item is characteristic of how, through excessive

optimism, minimization of negative factors, and unrealistic approaches, the Corps of Engineers, and in this case the Department of Energy, is able to consistently run well over their budget on a project and render the Cost-to-Benefit ratio a farce.

Dickey-Lincoln and the proposed transmission facilities are not an answer [illegible] to our energy problems. Rather, they are a misdirected effort at keeping up with the increasing demand, trying to catch up with the escalating power peaks instead of levelling them off with a tool such as peak-load pricing. I am not averse to more energy, nor to powerlines in general. Yet I am against a project that wastes huge sums of money, destroys an immense number and amount of various invaluable resources, and provides relatively nothing of consequence in return.

I have barely nicked the iceberg of Dickey-Lincoln, yet anyone who can view the facts objectively will see the immense problems and losses this appalling project will incur if it is implemented.

Hal Clifford
88 Pine St.
Weston, Massachusetts.
02193

#52

Testimony of Sally Surgenor
Director of Conservation
Appalachian Mountain Club

at the public hearing of May 15, 1978 before the Department of Energy, regarding the transmission corridor analysis for the proposed Dickey Lincoln Dams.

I am Sally Surgenor, Director of Conservation for the Appalachian Mountain Club. The AMC is a regional association of 22,000 members living primarily in New England and the Middle Atlantic States who share a desire to enjoy the out-of doors, preserve its natural beauty, and promote wise steward-ship of its use.

I am here today to reaffirm the Club's opposition to the Dickey Lincoln project which we find to be an unreasonable public investment in economic, energy, and environmental terms. In testimony last fall, before the Army Corps of Engineers, we expressed our substantive objections to the project. Our major criticisms dealt primarily with the marginal economics of the project, the inefficiency (only 15%) of power generation relative to the public investment, the insufficiency of analysis of alternatives to the project, and the loss of environmental and energy resources of enormous and unquantifiable value. Our objections to the project underline our objections to the transmission corridor: we do not believe that the Dickey Lincoln project is the best way to meet our energy needs and hence see no justification for the corridor. Moreover, in our opinion the selection of the corridor has been a poor one, the outcome of a biased methodology.

Our comments regarding the transmission corridor analysis will focus on several major topics: biases in methodology and the resultant impacts on the selection of the major corridor route in 1976, and on the selection of the final corridor route; the impact of the transmission corridor on project economics; comments on the impact of the corridor on social and recreational uses of the land; and questions regarding health risks and apparent omissions in the study.

Methodology

We have serious reservations concerning the "Assessment of Alternative Power Transmission Corridors" conducted by VTN Consolidated, Inc., for the U.S.D.I. in 1976. We object to the poor data base upon which this study was founded and to the quasi-scientific methodology used to allocate and rank alternative transmission corridors. While the VTN study was only a preliminary investigation, it formed the basis for recommending the western route, at both the authorized and ultimate levels of electrical service, for future study. Since the time this recommendation was made, detailed studies have been confined solely to the western route. The issues involved in selectint a corridor were not reconsidered in the DEIS. We feel that the VTN assessment is a weak foundation for such an important decision, particularly in light of the following concerns.

First - The Data Base. Due to budget and schedule constraints, data collection and analysis were limited to six months.

Rather than generating original data, VTN drew upon "interpretable data" and data obtained from sources within the study area. Areas in which the data base appears to be inadequate, inaccurate, or biased, in the VTN study are wildlife, management and restoration areas, waterfowl areas, warm and cold water fish habitats, critical vegetative species, physiography and geography of the study area, local/regional parks, existing electrical transmission lines, and archeological and historical resources. We realize that in subsequent stages of analysis the data base for the DEIS has been improved considerably. However, the fact remains that during the highly significant process of allocating corridors and selecting the top-ranked corridor for future analysis in the DEIS, the U.S.D.I. and their researchers (i.e. VTN) were working with an altogether inadequate data base. Selections founded upon such information must be considered dubious at best.

Second - Methodology. The most serious flaw in the VTN methodology is the deceptive appearance of quantitative rigor. For example, although the data analysis matrix is a useful way of visualizing the relationships between data elements and location determinants, it does not lend itself to arithmetic manipulation. Any data element which has been classified under more than one A-level concern is afforded multiple importance, not reflecting the real importance of that data element.

The ranking scheme goes several steps beyond the data analysis matrix in its inappropriate and misleading use of

simple arithmetic operations.

Firstly, the assignment of "location factor impact numbers" confuses the issues of degree of impact and importance of impact.

Secondly, the 33% reduction in the total impact score for sharing an existing right-of-way is entirely misleading. This 33% differential reflects the fact that corridors which share existing rights-of-way need only be two thirds the width of corridors which don't share existing rights-of-way. We suggest that some further advantage, not reflected in the 33% differential, could be argued, because such a route takes advantage of existing access facilities and land use patterns. Furthermore, although the study area contains some 478 miles of unused railroad track and some 2,000 miles of existing rail lines (Vol. III, p. 181), no reduction in total impact score was given where opportunities for sharing railroad line rights-of-way exist. These simplistic and incomplete scoring methods bias the decision against using existing rights-of-way.

Finally, in addition to quantitative ranking, the VTN study team chose 25 "Qualitative Considerations" with which to rank corridors. However, these supposedly qualitative considerations were chosen according to their countability. Scoring consisted of merely counting the number of times a corridor crossed or came near to these 25 select resources. This method of scoring gives resources of smaller area greater weight. Such a simplistic quantitative approach masks inherent biases and this ranking scheme in no way provides a qualitative index of impacts.

The patent inadequacy of the data base and the biases in the VTN methodology make recommendations dependent upon such a poor foundation questionable. We therefore feel that the choice of the western route must be reexamined in the FEIS.

The same inappropriate methodology was applied to the choice and evaluation of the route within the preferred transmission corridor. A numerical system was imposed on subjective, non-quantifiable values thereby imparting a misleading rigor to the conclusions of the EIS and deflecting appropriate criticism and discussion of the Report's assumptions. For example, the consultants assigned a number to each link of the proposed route according to site attractiveness. This simple quantification masked a number of somewhat capricious assumptions, such as the attribution of high attractiveness to marshes, sap extraction, and abandoned fields, while swamps, mature spruce-fir timberlands, and forest plantations were only rated as moderately attractive. One criterion of visual landscape quality was the variety and contrast of an area (a measurement based on the relative extents of wood and open lands). This type of evaluation potentially biases the route choice towards large unbroken tracts of mature woodland. Finally, the evaluation standards were frequently ambiguous. For example, the basis upon which point values of 1,2,4, or 6 were assigned to water and wetlands interest and topegraphic interest was never explained. This type of an evaluation procedure not only biases the choice of transmission routes, but works to prevent criticism and discussion of the route once chosen.

Economic and Social Impacts of the Transmission Corridor

In its Appendix H., the Department of Energy identifies 17 categories of potential economic and social impact caused by the introduction of the transmission corridor. Out of these seventeen, only four (employment, income, tax revenues, and recreation relocation) are projected by the consultants to constitute positive effects on the region.

Three of these "positive effects" are easily quantified, in numbers of persons employed, dollars earned, and tax revenues collected. Many of the negative impacts are unquantified, or unquantifiable. We are concerned that once again, the maximum quantifiable benefits to the project are being estimated and discussed, while the very real, but unquantifiable negative impacts (on housing, public and private services, community and community values, public health and safety, land values, residential relocation, aesthetics, and wilderness character) are buried in the prose of voluminous appendices. Yet these unquantifiable values are of great significanct to local towns and social values.

The treatment of economic impacts of the transmission facilities leaves us in some confusion. We are uncertain which of these so-called benefits and costs (positive impacts and negative) which are outlined in Appendix H are included in the Benefit/Cost Analysis which was released last September by the Corps of Engineers. We have combed a collective four horizontal feet of bookshelf to find a reference to the benefit/cost

contributions of the transmission corridor, and find only inconsistency. In September of 1977, the Construction Costs of the Transmission Line, with interest, were $167,220,000 at 6 3/8%. In the April DEIS we are now discussing, the costs are reported to be $167,260,000 We wonder if the benefit/cost will be recalculated for the August 1978 final EIS?

We are also confused whether the tax, wages, and secondary employment benefits were already reflected in the September 1977 figures. We feel that the so-called secondary employemnt benefits (calculated as 35% of the net instate and out-of-state wages) should be omitted from the benefits schedule, as it is based, in the Department's own works, on "insufficient specific information" (H-141) and is considered to be "an absolute maximum".

Our experiences in critiquing the DEIS for the dam project lead us to suspect that the nearly 12,000,000 dollars in loss of timber resources may not be included on the cost side of the ledger, although again we are unable to find clear reference to its inclusion.

Generally, we are dissatisfied with the treatment of economic impacts and with the lack of clarity in relating these figures back to the project benefit/cost.

Leaving for the moment the quantitative description of social impacts, we disagree also with the qualitative description of certain of the identified categories. First, we feel that the risks to public health and safety have been understated, particularly since the 12 proposed micro-wave facilities and

the attendant health risks to the general public of these is not even addressed. Additionally, the possibility of contamination of ground water by herbicides seems to have been understated. The only information provided regarding the types of herbicides to be applied is that they must comply with EPA standards. There is no guarantee that herbicides will be of short life. We found no mention of the deleterious effects to top carnivores (such as raptors) of herbicidal concentration in the food chain. The proposed measures to mitigate the effects of herbicidal use appear to be vague and inadequate. Furthermore, we find no statement as to the health risks posed by long-term exposure to electric and magnetic fields, which has become quite an issue elsewhere in the United States.

The category "recreation relocation" concerns us as recreationists, but to see these effects listed as positive is bewildering. We feel that the diminishment of the quality of recreation, aesthetics, and wilderness character are all effects which cause "recreation relocation" of great significance, and these are NEGATIVE impacts. The most significant "taking" of wilderness values occurs in the several instances where public lands are affected. Mitigation of these losses should include purchase of equivalent recreation lands in the public domain, and be included in the cost side of the ledger.

We cannot leave this category of social and economic impacts without editorializing about the loss of the wilderness character of this remote eastern woodland. Wild land values are something much more than the sum of individual attributes,

as is suggested by the complex, quasi-quantitative analysis system. Wild land values combine in a synergistic way to create an aura and a mood of frontier. The threat to these attributes is in itself a negative social impact.

Omissions and Ambiguities

We are also concerned about certain ambiguities in the design of the transmission corridor. First, the AMC is especially concerned with the "ultimate" energy developments at Dickey Lincoln and of the transmission corrdior. The "dotted line" additions to the transmission corrdiors, apparently to be added at such time as the additional power on the corridor warrants, include an addition from Moore to Beebe that will transect the Kinsman Notch area of the White Mountain National Forest. The impact of this addition has not been assessed, and in our opinion, would be a completely unacceptable use of valued public land. Indeed, land use planning intiatives are underway in this area right now to consider the eligibility of part of this land as a national Wilderness area. We would like to know how and when the assessment of this corridor will take place, how critical this link is to the ultimate development of power transmission, and what alternates to this link have been considered.

We would also like to know to what extent marketing concerns have influenced the selection of the western corridor over all others. We are concerned that the DEIS does not clearly address

the percentages of power to be made available to each state and how this allotment would be made under various corridor system plans. Will power go out of New England? How much power will be made available to PRIVATE utilities once the preferred customers have taken what they need?

Next, according to the DEIS, transformers and some switch-gear are the only additions needed to incorporate the existing Moore facilities into the project plan. However, it is our understanding that switching station alone will not be sufficient to connect the 345 kv transmission line with the 230 kv equip-ment in the existing substation. Is this indeed the case? If so, we are concerned that the impact of large scale additions to the Moore station, including possible conflicts with the construction of I-93 have not been adequately considered.

Finally, we question the extent to which proposed base load plants along the western corridor route (Clarksville NH, Monroe VT, and West Milan NH) affected the choice of system plan. The ultimate development of Dickey Lincoln calls for the construction of two reversible turbines, which can be added only when sufficiently inexpensive baseload power is available on the power grid. To what extent were these proposals considered in the choice of corridor?

In the broadest sense, the Appalachian Mountain Club is committed to the preservation and protection of open space, free flowing rives and wild lakes; particularly -- though not

exclusively -- where recreational values are involved. As land and recreation managers, we understand that land and water resources can be used without despoiling them, and we therefore accept many so-called multiple uses of land, water, and forest resources. However, we have also found ourselves to be in opposition to certain projects which are inconsistent with multiple use, and whose benefits do not justify the destruction of natural values, or whose goals can be achieved more efficiently through alternative means. Dickey Lincoln is one such project.

The transmisison corridors which will be necessitated by Dickey Lincoln will be a major intrusion into a part of northern New England whose forest, mountain, and water resources have been successfully used by its inhabitants for economic and aesthetic benefit. This corridor will bring no economic benefits to the region, but will diminish the character of a unique northeastern wilderness. We therefore reaffirm our opposition to the proposed project.

#53

PEABODY MUNICIPAL LIGHT PLANT

TELEPHONE
531-5975

PLANT, WARREN STREET EXTENSION
OFFICE, 70 ENDICOTT STREET
PEABODY, MASSACHUSETTS 01960

EDWARD W. McCARTHY, MANAGER

ELECTRIC LIGHT COMMISSIONERS
RUSSELL E. BOWDEN
J. TIMOTHY HANLY
GERARD G. McDUFF
JAMES T. PARAB
ARTHUR F. WOOD

May 15, 1978

My name is Gerard McDuff. I am a Light Commissioner for the Peabody, Massachusetts Municipal Light Plant. As an elected official, I must make decisions which will affect the future of the light plant and the more than 50,000 residents served by the light plant. I am disturbed by the prospect that we will not have enough power to meet our energy needs in the future. That is why I am here today to urge that the Dickey-Lincoln hydroelectric project be built. Dickey-Lincoln will help answer a crying need for more economical power in New England.

Experts in the utility industry predict that catastrophic power shortages may be commonplace in the 1980's and 90's if we do not build power plants to meet our growing demand for electricity. The construction of well-planned electric generating facilities like Dickey-Lincoln will assure us a bright future. Conservation, new rate structures and development of so-called "alternative" energy sources might minimize the growing demand for electicity, but it will NOT eliminate it. We will still need Dickey-Lincoln's economically-priced power.

The Peabody Municipal Light Plant, which is owned by the city, generates only percent of its own electricity. To supply its consumers with the balance of the energy they need, the municipal must buy additional power wholesale. Needless to say, our utility and our consumers want and need the cheapest supplies of electric power available. Dickey-Lincoln would be the best energy buy we could

make. The reason is that Dickey-Lincoln would use water to generate electricity instead of relying on traditional fossil fuels, such as oil.

Hydroelectricity has many advantages. First and foremost it relies on water, the cheapest of all available energy sources. This "fuel" is clean, reliable and renewable. The same cannot be said of the fossil fuels which might be substituted as a source of electric generation.

We rely primarily on oil and oil is very expensive. At today's prices, it would cost $30 million to purchase the 2.3 million barrels of oil that would be used each year to generate the same amount of power that Dickey-Lincoln would provide with water power. That means at least a $30 million savings on fuel during Dickey-Lincoln's first year of operation, and the savings are bound to increase in subsequent years because the price of oil is bound to increase.

The cost of oil shows up in our consumer's bills as the fuel adjustment cost. This cost is the actual price paid for fuel by our wholesaler. Our municipal utility has no control over this cost and so we must pass it on to our consumers. There would be NO fuel adjustment charge for Dickey-Lincoln's power because its "fuel", water would be free.

Relief from skyrocketing electric rates for the consumermeans relief for industry as well. Dickey-Lincoln's economically-priced power will act as a lure for industry to return to the Commonwealth and the region. Dickey power could be just the prescription New England needs to revive its ailing economy.

Dickey-Lincoln would be the largest federally funded public works project ever undertaken in New England. For once we would see our Federal tax dollars going to work for us at home. We have subsidized development in other parts of the country too long. Now its our turn to profit from a major Federal project.

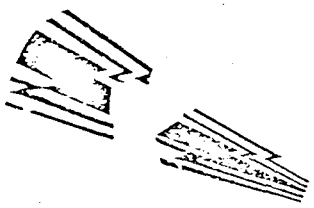
This project has been picked apart in the name of "environmentalism." The truth is that when it is compared to the dozens of alternatives that have been proposed, Dickey-Lincoln extracts the smallest environmental price and promises the greatest benefits. We must be realistic in our appraisal of the costs and benefits of this project.

The need for electricity is great and will become greater. If we do not plan wisely, if we do not build Dickey-Lincoln, the social, economic and environmental price we will have to pay in the future to accomplish what Dickey-Lincoln would do for us now, will extract an infinitely higher price from us. We need Dickey-Lincoln. We cannot afford to procrastinate any longer.

Thank you.

Gerard S. McDuff

#54



Northeast Public Power Association
118 Linden Street, Suite 104, Wellesley Massachusetts 02181

I appreciate the opportunity to discuss with you today the Dickey-Lincoln Hydroelectric Project proposed for the St. John River in northern Maine.

My name is Raymond Cristell. I am general manager of the Northeast Public Association, a Wellesley, Massachusetts-based organization representing the 81 non-profit consumer-owned electric utilities in New England. These utilities serve some two million people.

I would first like to make some brief general comments about Dickey-Lincoln and then focus on the Environmental Impact Statement concerning the project's transmission lines.

The region's consumer-owned utilities supported Dickey-Lincoln when it was first proposed back in the 1960's. And we support it now. The fact of the matter is that the need for Dickey-Lincoln is greater today than it was when the project was first proposed. If you need proof, just look at your electric bill: It is higher today than ever before. You might also note that electric bills here in the northeast are higher than anywhere else in the nation. And if that isn't bad enough, our rates are rising more rapidly than they are anywhere else in the country.

It is painfully clear that we must change our approach. The unfortunate truth is that we use the most costly of all fuels--namely, imported oil--to generate most of the electric power used in this region. It is high time

that we took action to reduce our debilitating dependence on a fuel whose price is always rising and whose availability is controlled by profit-hungry foreign political powers.

Dickey-Lincoln would be a start. Its "fuel"--if you will--would be water, which, unlike oil, is free today and will be free 100 years from now and which is also plentiful, clean, non-polluting and self-renewing.

On an annual basis, it would take 2.3 million barrels of oil to generate the same amount of power that Dickey-Lincoln, using water, would generate. At today's prices these 2.3 million barrels of oil would cost $30 million. So, with Dickey-Lincoln, we would be saving a minimum of $30 million per year in oil purchases--and probably much more than that because oil prices are bound to rise over the years. But even if the price of oil did not rise for the next 100 years, we would save some $3 billion over the 100-year lifetime of the project. And that total is three times more than the highest projected construction cost for Dickey.

Needless to say, our dependence on oil, and the exorbitant electric rates which go with that dependence , contribute greatly to the troubled state of the New England economy-- to high unemployment, a shortage of industry, high prices and so on. Dickey-Lincoln, with its economically-priced power, would be an initial step in restoring New England's economy to a healthy condition. Dickey would help stabilize our electric rates, which is something that must be done if we are to buttress existing industry in our region, attract new industry and thereby reduce our unemployment rates, which, like our electric rates, are the highest in the nation.

So why, if Dickey would provide all the benefits that we assert, is its future in doubt? The answer, I think, is rather apparent, though seldom stated for the public record: Dickey-Lincoln's main problem is that it is opposed by environmental groups. And everyone knows that environmental groups exercise influence in public affairs to a degree disproportionate with their numbers.

This, of course, is unfair. And undemocratic. And harmful to the interests of society at large.

The arguments that have been used to delay Dickey's construction reflect a persepective unique to an elite minority of the New England public--a minority which, for one reason or another, can afford to be more concerned about its fondness for white water canoeing than about the crushing economic burden that high electric rates impose on millions of New England eonsumers.

Environmentalists-- the intransigient and irresponsible ones-- have offered nothing but negativism in regard to attempts to meet our energy needs. They seem to be against everything. They provide no solutions, no alternatives- only criticism and obstructions. Dickey-Lincoln, on the other hand, would be a positive and constructive step toward solving one of New England's most serious problems-- namely, our region's shortage of economically-priced electric power.

That said, let us now move on to the environmental impact of the proposed transmission lines. We have given careful study to the Environmental Impact

Statement concerning the transmission lines and it is our conclusion that the negative impacts would be relatively minor. Certainly these negative impacts are minor when they are considered in the context of the tremendous benefits that Dickey-Lincoln would provide the New England region.

The Department of Energy has proposed a route for the transmission lines which appears to be not only the least costly of all alternative but also the least damaging to the environment.

Moreover, there are very real benefits to the clear-cutting that would be necessitated by construction of the transmission lines. For example, the clear-cutting would create a regenerating habitat for wildlife. The transmission lines would not leave a wasteland in their wake, contrary to what environmentalists have said. Studies have found that the total number of wildlife species using a new right-of-way was greater than the number of wildlife species using adjacent forested areas. Most species would benefit from increased opportunities for feeding, hiding, resting, sleeping and raising young in the new habitat. Natural succession, monitored and aided by extensive revegetation efforts on the part of builders, may offer many species more hospitable environments than existing forested areas do now.

As an additional benefit, the path of the transmission lines would serve as a fire break in heavily forested areas. This would be extremely helpful to firefighters and forestry personnel and would contribute to the protection and preservation of thousands of acres of forest which otherwise might be

lost to fires.

Most people take power lines for granted. Common sense dictates that these lines are necessary. They transmit the energy that turns on the lights in New England. Of course, additional power lines would be needed to carry Dickey-Lincoln's power throughout New England. That goes without saying. But the actual amount of new lines would be a small addition to the existing power lines in our region.

Dickey-Lincoln would require only 365 miles of new transmission lines to introduce its power into the existing electrical transmission network in New England. These new lines represent a fraction of the thousands of miles of lines which already exist. For example, in Maine 2300 miles of power lines bring electricity into homes and industry. Dickey-Lincoln would require the addition of only 177 miles of lines to insure Maine reliable and economically priced power from the project.

Transmission lines, needless to say, necessitate access roads for construction and maintenance. The access roads needed for Dickey's power lines would be temporary. The areas affected by the access roads are not, for the most part, virgin wilderness. Six thousand miles of private lumber and paper campany roads already crisscross the so-called "wilderness" areas that would be traversed by Dickey's lines and access roads. Unlike the Dickey lines and roads, these private roads are hacked out of the forest, and no provisions for restoration is made. Dickey's transmission lines would require only about 445 miles of temporary access roads in three states --Maine, New Hampshire and Vermont.

Great care would be taken to make certain that the transmission lines and temporary access roads follow the contour of the land and fit the terrain. In every case, judicious planning and construction procedures should mitigate adverse impacts on developed and undeveloped land.

New England needs the electric power that Dickey-Lincoln would provide. And if Dickey-Lincoln is not built we may have to turn to the Canadians for alternative sources of power. Reliance on Canadian power would require more transmission lines than Dickey-Lincoln requires. The residents of New England would not have much to say about the location of these lines or access roads, because the federal government would have jurisdiction over the purchase and transmission of this power.

Dickey-Lincoln's transmission system would have a minimal effect on the environment compared to the effects of transmission lines constructed to impost power from Canada.

All in all, the benefits of Dickey-Lincoln far outweigh the project's negative impacts. Dickey-Lincoln, we must remember, offers, among its numerous benefits, economically-priced power which would have a positive impact on every consumer in every New England state. The negative impacts of the project might disrupt the pursuits of a small minority of people in our region. The rights of a minority of course are not to be taken lightly and we, by no means, take them lightly. But it is our position that, at some point, we must apply the principle of the greatest good

for the greatest number. And when that principle is applied to the issue of Dickey-Lincoln, it is very clear that this project should be built and, in fact, must be built.

Thank you for the opportunity to speak on this matter.

JUN 6 1978 TJM #55

5 June 1978

SUNKHAZE STREAM CHAPTER

Bangor, Maine 04401
POST OFFICE BOX 92

Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Sir:

This is in reply to your letter dated 5 April 1978 and draft Environmental Impact Statement.

Trout Unlimited has little to add to the testimony which it presented at various public hearings. Our membership is strongly opposed to the proposed location of the the transmission lines as drawn by your office.

We feel that the impact of the lines, the herbicides necessary to clear them and the destruction of practically untouched woodland is not worth the savings in distance that might result.

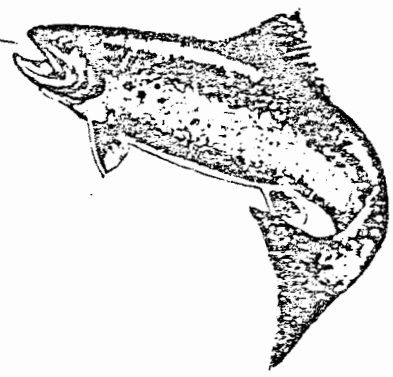
We are of the opinion that a transmission line and corridor running down the Eastern route through Chester, Millinocket, Bucksport, etc. would be much more acceptable to us from an ecological standpoint.

We strongly urge that the location of the the transmission corridor be reconsidered,, and that the woodlands which would be affected by the proposed route be spared in favor of Eastern locations which already have cleared rights of way or fewer wildland areas.

Sunkhaze Chapter of Trout Unlimited stands ready to assist you in this important and far reaching task.

Respectfully submitted,

Nick Albans



#56 JUN 1978

Ms. Irene M. Storks
29 Rutland Street
Dover, N.H. 03820

June 3, 1978

U.S. Department of Energy
Federal Building
Room 209
Bangor, Maine 04401

Dear Sirs,

I would like to submit a formal comment regarding the Transmission Corridor Environmental Impact Statement of the Dickey-Lincoln School hydroelectric project.

As a New Hampshire resident having an interest in the state's flora, I am concerned about the impact of the transmission corridor on certain rare plant species which occur within the proposed areas. I have noted in Appendix B of the Transmission Studies EIS, map 16.1, an indication of endangered and threatened plant species and their occurrence throughout the state, but there seems to have been little effort to determine what rare species occur along the proposed corridor itself. In Dartmouth College Grant, for example, grow several extremely rare plants found from a single site in New Hampshire. Draba lanceolata, Hackelia americana, and Hieracium robinsonii are known from cliffs and ledges of Diamond Peaks and Diamond Gorge, and are found nowhere else in the state. One of the proposed corridor routes passes right through this unique botanical area and clearly poses a threat to their continued existence in the state. The designation of a portion of the area as a "Dickey Natural Area" as indicated for the region in Appendix E does not appear to me as an adequate means of protecting the area. Activity generated by construction alone would be sufficient to cause damage to an unstable ledge system. Rerouting of the corridor is the only viable alternative for protecting this important area.

This is but one example of the botanical significance of ledge systems, evident in other parts of the state as well. The proposed transmission corridors pass directly through several other ledges in this state. Again there is no indication of field investigations conducted in these botanically rich areas, or in other areas designated as botanically significant by the transmission EIS.

Overall, there is no evidence of any effort to locate endangered, threatened, and rare plants along these avenues, and it is apparent that field work in this respect is lacking. Considering the importance of endangered plant species to the Dickey-Lincoln facility as a Federally financed project, it is most disturbing that rare plants have been so lightly considered in the Transmission EIS.

In conclusion, I would like to state my opposition to the proposed transmission corridors on the basis of an incomplete environmental impact statement with regard to endangered, threatened, and rare vascular plant species. The corridors pose a definite threat to at least several rare plants in the state, and due to a lack of field studies, serves as a potential threat to Federal candidate endangered and threatened plant species which may occur there.

Sincerely,

Irene M. Storks

#57 JUN 6 1978

NATURAL RESOURCES COUNCIL OF MAINE
51 Chapel Street, Augusta 04330
(207) 622-3101

June 5, 1978

Mr. Larry L. Wilkerson
Department of Energy
Federal Office Building
Room 209
Bangor, Maine 04401

Re: Dickey-Lincoln School Dams and Impoundment Project Transmission Draft Environmental Statement

Dear Mr. Wilkerson:

Enclosed please find comments on the Draft Environmental Impact Statement for the proposed Dickey-Lincoln transmission facilities prepared by your Department. These comments are submitted on behalf of the Natural Resources Council of Maine, the Environmental Defense Fund and the National Audubon Society.

These comments also include some observations on the overall project, some of which I stated in my oral comments at the public meeting on May 4, 1978, in accordance with the reopening of public review of the entire project. Accordingly, I am forwarding a copy of this letter and a copy of the underlying comments to the Corps of Engineers at Waltham, Massachusetts.

Sincerely yours,

Edward Lee Rogers

EDWARD LEE ROGERS
Counsel

Enclosure

cc w/enc: Peter K. Heimann, President, Natural Resources Council of Maine
Christian A. Herter, III, New England Regional Representative, National Audubon Society
James Tripp, Esq., Environmental Defense Fund, 475 Park Avenue South, New York, New York 10016
Ed Thompson, Esq., Environmental Defense Fund, 1525 18th St., NW, Washington, D.C. 20036

Peter Heimann, *President* L. Kenneth Fink, *Vice President* Elizabeth Brown, *Secretary* Christopher Ayres, *Treasurer*
Christian A. Herter, III, *Executive Director* Wayne C. Cobb, *Assistant Director* Edward Lee Rogers, *Counsel*

COMMENTS OF THE NATURAL RESOURCES COUNCIL OF MAINE, THE ENVIRONMENTAL DEFENSE FUND, AND THE NATIONAL AUDUBON SOCIETY ON THE DICKEY-LINCOLN DAMS AND IMPOUNDMENT PROJECT TRANSMISSION FACILITIES DRAFT ENVIRONMENTAL IMPACT STATEMENT AND SUPPLEMENTAL COMMENTS ON THE OVERALL DICKEY-LINCOLN PROJECT

These comments are submitted on behalf of the Natural Resources Council of Maine, the Environmental Defense Fund, and the National Audubon Society. They supplement the comments given in person by Edward Lee Rogers at the meeting in Augusta on May 4, 1978.

I. COMMENTS ON THE DEIS FOR THE TRANSMISSION FACILITIES.

Introduction

The basic reason for the difficulties with the DEIS which undermine its efficacy is that, despite the extensive efforts made by the consultants in studying the impacts of this aspect of the project, the work had to be done in an unreasonably truncated time span and important policy issues have not yet been resolved. As a consequence, certain aspects of the DEIS need substantial clarification to reflect the truly great devastation the project will bring to a extraordinarily important and increasingly rare type of area. In essence, as to several key issues, the Department of Energy (DOE) has said through the DEIS that because of the paucity of data or the failure to resolve policy issues, it doesn't really know what will happen--what the actual impact will be. Let us look at some of those critical issues.

A. Maintenance of the Right-Of-Way. While we recognize that there may be some reasons for not yet determining what type of entity, governmental or private, will maintain the right-of-way, that decision may affect policies regarding maintenance, the use of herbicides and policies regarding public access and use of the right-of-way. Therefore, we cannot yet know whether or not some of the most serious impacts will occur. This issue, among others, must be resolved before an adequate DEIS can be issued.

1. Use of Herbicides. Responsibility for, and the methods of, controlling vegetation within the right-of-way remains so vague in the DEIS so as to preclude any defensible conclusions regarding the project's impact upon wildlife and plant life. Certainly, the benefits to wildlife proclaimed by the DEIS, as well as project proponents, resulting from the maintenance of the right-of-way will be almost illusionary if responsibility for maintenance is delegated to local power companies and they choose, as is their tradition, to use 2,4,5-T or similar herbicides. Furthermore, blanket aerial herbicide spraying will inevitably result in some damage to crops, timberland, plant life and fisheries beyond the right-of-way, judging from our past experience both with herbicide spraying for hardwoods and pesticide spraying for spruce budworm. (Another question not resolved in the DEIS is how the resulting damage will be documented and whether individual owners must take the initiative to seek recovery in court and, if the DOE is willing to assume financial responsibility, whether that contingent liability has been included in the cost-benefit analysis.)

2. Uncontrolled Public Access To And Use Of The Right-Of-Way. As is true of the unresolved issue of the use of herbicides, the DEIS and the discussion at the May 4 hearing in Augusta also made clear that the DOE has also failed to resolve the important issue of public access to and use of the right-of-way. The general tone of the answers we received at the May 4 meeting were to the effect that the matter was not entirely resolved, that DOE would simply like to see adopted and would encourage policy appropriately restricting public access; the matter, however, might well have to be left up to the local landowner involved and that general uncertainty prevailed as to what the final policy and its consequences might be. Obviously, uncontrolled and unmonitored public access, given the variety of four wheel drives, ORVs, trail bikes and snowmobiles that could use both the access roads and, in many instances, the right-of-way itself, poses severe threats of devastation of

highly critical areas and abuse of other areas. It also could impose unreasonable pressures on certain wildlife stocks.

3. The Undetermined Location Of The Access Roads Themselves. At the Augusta hearing on May 4, Mr. Hurless acknowledged that the access roads to the right-of-way would be the means by which activities would result which would most likely have the most severe impacts on the area. In the light of this fact, the scientific and professional community involved should have been given the opportunity to comment on the location of these access roads. The DEIS, however, does not describe where such roads will be located and the resource maps do not contain information on sensitive resources beyond the right-of-way which would enable the roads to be routed away from such areas. As the DEIS now stands, no one can know for certain that access roads will not cross outstanding trout streams, approach osprey nests, or destroy rare plant communities discernable only by trained specialists.

The repetitive nature of the disturbances outlined above is not adequately considered. If we have unlimited public access, the free use of snowmobiles and other vehicles, coupled with herbicide spraying, we will have repetitive disturbances, month after month, year after year. Such disturbances are totally unlike and greater by magnitudes than the type of disturbance that occurs, for example, from a 40-year logging cycle. These repetitive disturbances could have serious adverse impacts on wildlife.

B. Impacts On Deer. Favorable coyote habitat will be created on the right-of-way (see Appendix E, pp. 4-33). As a consequence, particularly if trails are packed in the snow by snowmobiles, there may be substantially increased access to deer yards by coyotes and domestic dogs, resulting in substantially increased predation on deer in the area. Obviously, this is an impact of substantial concern to sportsmen, among others, and should have been fully evaluated in the DEIS.

C. Inventorying Of Flora And Fauna And Mitigation Procedures. As already noted, there was not adequate time to do a thorough inventorying of all impacted flora and fauna, both within and outside of the right-of-way (where access roads may be located), a matter of particular concern for rare and/or endangered species, both nationally and within the states involved. We note that Appendix E recommends further inventorying of these resources before the project is constructed and also just before construction occurs. Appendix E recommends a full seasonal cycle survey; for example, raptor nests are best inventoried in the late fall to avoid leaf camouflage problems, whereas rare plants should be looked for from spring through fall. It is not clear from the DEIS itself that this inventorying will be carried out in the manner and to the extent proposed in Appendix E. It is all together possible that the more complete inventorying of these resources proposed could call for at least minor realignments to the routing to avoid adverse impacts on recently discovered sensitive sites or habitats. We are concerned that if inventorying is done too late, after substantial planning and design expenses have been incurred, the temptation will exist to compromise the environmental resource. One of the fundamental purposes of the DEIS is to assure that the optimum routing is chosen from these perspectives. The more thorough inventorying of these resources is essential to accomplishing that objective, even if a finer tuned inventorying must be shortly carried out before construction begins. In that connection, it is also possible that the routing of the right-of-way may also affect the highly important question as to whether or not access roads will impact critical sites or habitats. This is another reason for locating the access roads now.

The failure of the DEIS to reflect adequate identification and inventorying of critical natural sites and habitats for a variety of flora and fauna, as well as for anthropological and historical resources was also documented in considerable detail by Mary Grow, a Board Member of the Natural Resources Council of Maine, as a Representative of the Maine Division, American Association of the University Women. We also endorse and incorporate her statement on those points submitted at the May 4th hearing, rather than reiterate them here.

Finally, we request that any future changes in the routing, because of discoveries made through a more thorough inventorying or for other reasons, be subject to the same systematic resource analysis that has been attempted (and will be attempted) for the routes described in the DEIS.

In conclusion on these points, it is essential that the DEIS reflect a policy decision, one way or the other, on the question of which entity, governmental or private, will maintain the right-of-way and what management policies concerning, among other things, the use (particularly aerial spraying) of herbicides, will be adopted. The issue of whether and to what extent there will be control of public access on the access road and on the right-of-way must also be resolved. Finally, access roads must be located and the rationale for those locations given.

Thereafter, there should be opportunity for the public, including interested knowledgeable members of the scientific community, to have input into this decision-making process, as required by the National Environmental Policy Act (NEPA). Only after these policy decisions and the other decisions referred to above are made and set forth in a public document--either a partial supplemental DEIS or by some other equally appropriate document which is then circulated for public comment--will it be possible to evaluate

and minimize adverse impacts in these areas, as required by NEPA.

D. The Manner Of Evaluating Aesthetic Impacts. Our primary concern, set out at the beginning of these comments, that the consultants retained were not given adequate time and therefore opportunity to carry out their respective tasks adequately, also underlies our concern with regard to the aesthetic judgments made. Regardless of any reliance on numerical evaluation systems (see Appendix B), in the final analysis, aesthetic judgments are subjective. Assuming the basic requisite training, experience, and general expertise of those persons, whether consultants or in-house personnel, who made these judgments, a critical question is whether they were given adequate opportunity to make the neccessary careful observations in the field as a basis for making their expert judgments. No matter what an expert's general knowledge, he would have to have a good knowledge of the landscape of the potential route areas and of the areas and viewpoints impacted there, if he is to make able judgments as to which routing will minimize visual impacts.

The DEIS, including the selection of the recommended route, fails to reassure us that such extensive observations were made or that they were the fundamental basis upon which routing decisions were made.

Our concern over this matter is only amplified by some of the criteria used to either quantify, verify, or modify the initial subjective judgments. As Mary Grow points out in her statement (p.2), VTN decided that--

> "a transmission line would have only a moderate impact on a national scenic trail, like the Appalachian Trail, but a high impact on an intensive recreation area, like a golf course. Most of the golfers I know wouldn't even notice a transmission line.... Another example...that the more traffic on a highway, the greater the visual impact of transmission lines. That's nonsense; motorists on roads like US 201 and I-95 have to watch the traffic, not the

> scenery. The drivers who prefer to dawdle along deserted back roads are the ones who'll notice and resent transmission lines.

It is hard to believe that if the experts on landscape had made their own extensive observations, they would have found it necessary or desireable to rely on such dubious premises.

Furthermore, while a series of public meetings and hearings have been held in the areas impacted, there is no evidence that any local citizens knowledgeable about the most aesthetically significant areas or impacts were actively sought out and consulted about least offensive routing possibilities from their perspectives. Again, time limitations (self-imposed) probably any such extensive cooperative observations and discussions.

The schedule for collecting aesthetic data also gives rise to concern. From February 9 through 25, 1976, Comitta Frederick Associates carried out all of its interviews at the "offices of Federal, State and local agencies, private groups and major landowners in Maine, New Hampshire, Vermont and Massachusetts". . . for the purpose of assessing the availability of relevant publications, reports, maps, etc." on 21 different complex and often technical topical areas, including aesthetics. It is difficult to believe that in that period of time, all of the most significant sources of information and knowledge regarding aesthetics, particularly knowledgeable individuals, could have been either interviewed or all of the relevant data collected.

In the light of the foregoing difficulties regarding aesthetic impacts and judgments, it is imperative that the public be advised of--

1. The identity, training and experience of those persons who made the aesthetic judgments affecting routing decisions.

2. The number of hours of observations on the ground and from the air, where those obervations were made, by each individual, and for what purposes.

3. A description of and rationale for each significant aesethetic judgment made.

Only if such information is made available will the public be able to make informed judgments and comments on these critical decisions.

II. SUPPLEMENTAL COMMENTS ON THE OVERALL PROJECT

In previous statements and comments on the DEIS on the proposed dams and inpoundments, we have reiterated our fundamental concern that there has not been adequate development and consideration of a combination of alternative measures for satisfying future peak demands, including energy conservation, electric rate reform, and alternative generating facilities, evaluated in the light of the most recent data from both utility and governmental sectors indicating a decline in the present and projected growth of peak demands in the New England region. Recent events only confirm our conviction that if these alternatives are properly considered and implemented, it will never be necessary to build Dickey-Lincoln, We have previously mentioned such proposals as an insulating and weather proofing program for New England buildings, the development of an adequate survey and evaluation of alternative small conventional hydropower and pump storage facilities, wood as an alternative generating fuel, particularly in Vermont and Maine, and solar heat, both for hot water heating in some applications and as passive (and highly economical) supplemental space heating systems coupled with wood heat as a backup system in others.

In addition, we are rapidly seeing the development of economic co-generators, available in a variety of sizes down to that suitable for use at the single house level and on up to community levels. For example, the Fiat Corporation of Italy has recently marketed a small co-generator suitable for a one-family home. This is hardly a matter of esoteric knowledge as it is

described in the August, 1977 issue of Popular Science, p. 10. Similarly, a co-generator is being developed for downtown Trenton, New Jersey. See Journal of Housing, Volume 35, Number 1, January, 1978. These co-generators, by using, rather than wasting, the heat generated as a by-product of producing electricity, will greatly increase the efficiency of fuel utilization. For example, the Trenton, New Jersey plant, with a capacity of 37.5 megawatts, will have an estimated fuel efficiency of 63% compared with 30-35% for a conventional power plant. The annual energy savings is 10,202 barrels of oil compared to a conventional power plant.

The Fiat generator will convert 66% of the energy input into heat, to be used for space or hot water heating, 26% into electricity, resulting in only 8% being lost. A conventional home furnace, by comparison, will convert only 40% to 65% of the input energy into space heating, with the balance being lost.

Not only are these generating plants cost-effective now and much more efficient, but they can be brought on line quickly and efficiently during hours of peak demand. They can also be used to run heat pumps for air conditioning and therefore help to alleviate both summer and winter peaks.

Initially, these co-generators, just like most of the rest of our New England energy system, may run on conventional fossil fuels, particularly oil. In time, however, it will be possible to runs these co-generators on alternative fuels, including gas fuels or liquid fuels from organic matter, particularly wood, as well as wood itself.

A recent study for the Department of Energy by the Mitre Corporation demonstrates that in cities as far north as Boston it is already economical to substitute solar collectors for electric or oil heat provided that the collector is designed to meet about half of the total requirement, relying on conventional systems for the remainder.

It is also to be noted that our present peak demands particularly winter peaks, have been exacerbated by a lack of intelligent energy planning. For example, Maine has experienced an unprecedented growth in electric resistant space heating. See "Indicators Of Housing In Maine, 1977, A Report of Housing Development Trends," by Sherman Hasbrouck, Cooperative Extension Service and Environmental Studies Center, University of Maine at Orono, February 1978, p. 8. This trend has already been reversed in another area, in Vermont, through electric rate reform and will soon be reversed in Maine and elsewhere in New England through changes in the rate structure and in the policies of federal housing agencies. These changes will also tend to further reduce the growth in peak demands in the New England area.

Part of our energy planning, of course, with or without Dickey-Lincoln, contemplates a continued but, in the long run, a lessened reliance on conventional fuels, including both oil and gas. In the meantime, in evaluating proposals such as Dickey-Lincoln, it is to be kept in mind that, contrary to what its proponents state, Dickey-Lincoln does not involve primarily the use of a renewable resource (water-flow) in lieu of a non-renewable one (oil). The St. John River valley that would be lost, as well as the area to be devasted by the transmission lines represent constantly renewing and renewable resources. The timber that would be lost forever--a form of solar energy--is renewable forever. Furthermore, it may prove economically feasible to tap much of it directly in the future for energy purposes. These areas, without Dickey-Lincoln, now ar in the future, will continue to provide a variety of renewable resources for many purposes--serving the economy of Maine and the recreational needs of many citizens, both of Maine and elsewhere. Dickey-Lincoln would destroy this composite productivity to assure that these areas would serve, instead, only one use--the production of electricity primarily for peak demands which can be satisfied with other means without such destruction. A fundamental purpose of NEPA is to make certain that such non-destructive alternatives are fully

considered and developed. The DEISs have failed to fulfill that objective.

Edward Lee Rogers
Counsel

June 5, 1978

#58

P.O. Box 618, Monroe Road
Littleton, New Hampshire
03561

June 2, 1978

JUN 7 1978

Mr. Larry Wilkerson, Asst. Project Manager
Dickey/Lincoln School Lakes Project
Transmission EIS Team
Federal Office Building
Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

After attending a meeting in St. Johnsbury, VT and reviewing the EIS about the Dickey/Lincoln Project, we feel that not enough evidence has been produced to prove the need for the sacrifice of all the acres of land destroyed plus the unusual impact to the North Country to transmitt peak power for such a short period of time. The costs of creating such a monstrosity to supply not so cheap electricity is almost beyoond reason. It is planned to cross our property beside existing power lines, so you could discount our opinion as having a direct interest. We only have 7 acres of land so taking anymore will destroy our small farm. We do notice the power flow from the existing lines and are concerned about high voltage going thru for the so-called peak demand. There are so many unanswered questions about the recreation (which was used as an inducement when Moore Dam was built but never followed thru with), area redevelopment will only improve during the building of the project then will die, a serious danger to wildlife with the 22 feet of down-draft in the winter, the 350 million KWH going into New Brunswick when no International Relations have been negotiated or agreed upon with Canada, archaeological sites on Map #59, Site #01/2/3* are Indian sites-EIS; the Visual-Recreational Impact from Link #37 to Link #48 is called <u>Severe</u>-a real blow to one of our only assets, a transformer would have to be built at Moore which takes 10 acres (we question if there is that much land between 302 and Moore; five dikes are needed to protect the Allagash with not enough answers about flood damage above the Dam: losses due to overland flooding of croplands have not been included pending further studys and evaluation, with recreation further defined and evaluated according to the Fact Sheet printed by the U.S. Army Corps of Engineers. The only thing that seems feasibil

at this time is the producing a product which can be sold at a profit to be paid for by the Federal Gov. (we the people) and paid for again as consumers (we the people). Each State and community is now working on energy problems as Hydro plants that used to be in operation (3,000 in NH) now only using (33) as alternative power--only 12% of energy used in 1977 was electricity in the U.S. and with the out back in demand the Public Service is still asking for rate hikes. We do reconize that large cities are completely dependent on outside energy but to have such centralized sources doesnot appear to be safe or sensible. The cancer producting nuclear power plants are no answer for human existence and humans are becoming an endangered species with the demands for power of a modern society. The black-outs and brown-outs of New York City were witnessed by myself and it was frightening - more concentration on Solar Energy for large buildings is being made and utilized as in Manchester, NH so that man may not need either Seabrook or Dickey/Lincoln anymore than New Jersey needed the Deaware Water Gap Project.

In conclusion, we feel that we do not need this miles of steel towers up to 165' high exposing our people to voltage levels so extremely high for profit in money. If the Department of Energy can create this, I am sure it can find alternative energy sources which will not destroy man's habitate (the world). It is also my understanding that this is just the beginning, that further exploitation of the whole project will be coming in the future, such discrimination should stop before it begins. The Federal, State or community government are suppose to represent the people--all the people--and who is to say one group should have cancer so another group can have lights? We also realize that none of the land can be taxed if the Federal Gov. takes on this project--good overall but bad in the local areas.

It has taken five(5) years for birds to return to this area of the power-line corridor which was sprayed with herbicide--that is all soft pedaled in promoting a saleable item like power, or the fact that trees are needed to purify the oxygen, though the EIS was very thorough, but not clearly presented to become wide-spread knowledgable information for lay people who are to foot the bill.

We realize a lot of money and man-power has been spent on this project which is as it should be but the people were little informed about each area at the meetings--only on the whole project. For example, Moore Dam would have to have transformers built to handle higher voltage--a man from Bethlehem brought out that and only knew about it because he is in that field. Why isn't Moore Dam utilized more or is it also just for peaking in high demand out of this area?

If the only way we can have a say in our environment is in voting then we will watch very carefully as we have been to see what our congressmen and senators do when the issues come up. We are against this project and against Seabrook and instruct our representatives to vote against the appropriation of our money for these projects. Better that the money goes to find clean sources of energy. To remain a strong country without power would be impossible. so this is a priority which we well understand.

Very truly yours,

Elva M. Reeg

Elva M. Reeg

cc: Representatives James Cleveland & Norman D'Amours
Senators John Durkin and Thomas McIntyre

#79

JUN 7 1978

Environmental Defense Fund

475 PARK AVENUE, SOUTH, NEW YORK, N.Y. 10016/212 686-4191

June 5, 1978

COMMENTS OF THE ENVIRONMENTAL DEFENSE FUND ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE DICKEY-LINCOLN SCHOOL LAKES TRANSMISSION PROJECT AND ON THE CUMULATIVE IMPACTS OF THE DICKEY-LINCOLN SCHOOL DAMS AND TRANSMISSION

On December 6, 1977, the Environmental Defense Fund (EDF) submitted comments to the Corps of Engineers on the Draft Environmental Impact Statement for the Dickey-Lincoln School Lakes Project. At this time, we are supplementing those comments in order to address the environmental impacts of the proposed transmission lines, and the cumulative impacts of the dam and transmission lines on the semi-wilderness character of northern Vermont, New Hampshire and western Maine.

Our previous comments addressed the inadequate analysis in the Corps EIS of the costs and benefits of the project, the need for public investment, and possible alternatives. We will not reiterate those comments here, although we still believe that the final EIS for the overall project will be fatally flawed if these inadequacies are not corrected.

Our comments on the Corps' EIS also addressed the need to view the environmental losses resulting from the dam in the context of the ever-increasing encroachment upon wilderness areas, particularly in this part of the country. The importance of this

comment has been amplified by a careful reading of the transmission EIS. Together, the dam and transmission lines will have a devastating impact on this area. Neither EIS begins to address this impact, or to place it in its proper context.

The transmission EIS, like the EIS for the dams, contains an overwhelming amount of detail regarding the mile-by-mile, foot-by-foot, stream-by-stream and plant-by-plant effect of the transmission lines and their construction. However, almost in a literal sense, both impact statements completely fail to see the forest for the trees. Nowhere in either document is any attempt made to understand what it means for this country to cut this permanent swath through one of the last remaining wilderness areas east of the Mississippi River. The EIS does contain segment by segment evaluations of the ecological and aesthetic impacts rated on various scales, and it also recognizes that many people put a value on the preservation of wilderness areas. But one searches in vain for the simple statement that this project will change permanently the character of the only major wilderness area remaining in this part of the country.

In our previous comments, we showed that the Corps' economic calculations were carefully designed to conceal the fact that this project is an economically unjustifiable boondoggle. If the federal agencies involved insist on continuing to support this project, they have an obligation to state publicly what its impact

will be. This obligation cannot be met solely with an excruciatingly detailed documentation regarding each individual segment. What really counts is the overall impact of the project within the context of continuous nationwide encroachment on wilderness areas. The final EIS must recognize this fact.

#60

STATE OF VERMONT

AGENCY OF DEVELOPMENT AND COMMUNITY AFFAIRS

OFFICE OF THE SECRETARY (802) 828-3211 MONTPELIER, VERMONT 05602

DEPARTMENTS OF:
Economic Development 828-3221
Housing & Community Affairs 828-3217

DIVISIONS OF:
Administration 828-3231
Historic Preservation 828-3226
Vermont Travel Division 828-3236
Vermont Life Magazine 828-3241

June 1, 1978

JUN 7 1978

Mr. Larry L. Wilkerson
Department of Energy
Federal Office Building, Room 209
Bangor, Maine 04401

Re: Dickey-Lincoln School Lakes Project
Transmission EIS Study Team

Dear Mr. Wilkerson:

We appreciate the opportunity to comment on the Dickey-Lincoln School Lakes Project and Transmission Study Draft Environmental Impact Statement. Our comments will be limited to the historic and archeological impact portion of the study pertaining to Vermont, as discussed in Appendix J.

The Historic and Archeological Study (Appendix J) conducted by the Public Archeology Facility, SUNY, Binghamton, is an adequate overview of the project's potential impacts on the known and predicted historic and prehistoric resources of the alternate project areas. We fully support their recommendation that full and complete intensive survey of all right-of-way and construction zones be undertaken

Regarding Link alternatives, construction of Link 43 going through Peacham, Vermont, would constitute a severe adverse effect on the visual and aesthetic qualities that contribute to make the village meet the criteria for inclusion in the National Register of Historic Places. We, thus, strongly urge that this alternate be avoided.

We feel, however, that a positive system and schedule complying with the Advisory Council procedures for the protection of historic and cultural resources, 36 C.F.R. 800.4, ought to be set up with specific reference to this project. This is particularly important in the area dealing with visual impact, as there are matters of professional judgment and evaluation involved.

We have no objections to the potential impacts set forth in the draft environmental statement but feel that they should be integrated with a specific procedure. In any case, there should be specific mention of the Advisory Council procedures for all aspects involved in mitigation of adverse effect on historic and cultural properties.

Sincerely,

DIVISION FOR HISTORIC PRESERVATION

William B. Pinney

William B. Pinney
State Historic Preservation Officer

WBP/EG/cjd

#61

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION

Department of Fish and Game
Department of Forests, Parks, and Recreation
Department of Water Resources
Environmental Board
Division of Environmental Engineering
Division of Environmental Protection
Natural Resources Conservation Council

Montpelier, Vermont 05602
OFFICE OF THE SECRETARY

May 23, 1978

JUN 7 1978

Mr. Harry D. Hurless
Project Manager
Department of Energy
Federal Office Building
Bangor, Maine 04401

RE: Dickey-Lincoln School Lakes Transmission Project

Dear Mr. Hurless:

The Vermont State Air Pollution Control Office has reviewed the Draft Environmental Impact Statement with regard to the potential air pollution impact from clearing operations outlined in Section 4.02 "Mitigation of Atmospheric Impacts".

The 1977 Amendments to Section 118 ("Control of Pollution From Federal Facilities") of the Clean Air Act broaden the section and clarify that Federal agencies and their activities must comply with "all" requirements of State air pollution laws to the same extent as any person. A new sentence has been added to subsection (a) which states that the requirements which must be followed are "any requirement whether substantive or procedural", including requirements regarding "permits". The Conference Report on the Clean Air Act Amendments of 1977 (No. 95-564) reinforces the new language by stating, concerning Section 118: "The conferees intend, by adopting the House amendment, to require compliance with all procedural and substantive requirements . . . and to subject such facilities to State sanctions". (p. 137).

Federal activities causing air quality impacts due to the construction of transmission lines through Vermont in connection with the Dickey-Lincoln School Lakes Project (as delineated in Section 4.02 "Mitigation of Atmospheric Impacts" on the Transmission Draft EIS) would therefore clearly be subject to all applicable State, as well as, Federal regulations.

Section 5-201 (Prohibition of Open Burning) prohibits any open burning except as provided for in Section 5-202 (Permissible Open Burning). Under subpart 8 of Section 5-202, open burning in remote areas maybe allowed only if written permission

is obtained from the Air Pollution Control Officer and approval is obtained from all other officials having jurisdiction (such as local, state, or federal fire wardens).

The Air Pollution Control Office will require that all merchantable logs be removed, and that all other wood products be chipped. The wood that must be removed should not be viewed as waste, but rather as an important fuel source that should be utilized as efficiently as possible. Open burning will be prohibited except in extreme circumstances where it is not feasible to use a chipper. There are approximately 1,300 acres of woodland in Vermont that must be cleared for the right-of-way. At 40 cords of wood per acre, there are approximately 52,360 cords available of which 20% or 10,470 cords will be merchantable logs. There then remains 41,890 cords or 104,700 tons of wood that must be removed and disposed of. This has a stumpage value of $1.00 per ton as chips and a market value of approximately $12.00 per ton delivered to a wood burning facility. There are presently three wood-fired boilers along the proposed transmission route that burn wood chips.

Conversely, if the wood, excluding merchantable logs, is disposed of by open burning, large quantities of particulates (TSP), carbon monoxide (CO), and hydrocarbon (HC), which would have a significant impact on the air quality, would be generated. Based on emission factors developed by EPA, the following emission estimates were made: particulates - 900 tons, CO - 7,329 tons, and HC - 1,256 tons. This would have a serious impact in the Burlington and Barre areas which are non-attainment for TSP, and Chittenden County which is non-attainment for oxidant (HC).

In conclusion, in order to maximize a value source of energy and to minimize the impact on the air quality, removal of merchantable logs and chipping of all other wood will be required for all clearing operations associated with the transmission project in Vermont.

Sincerely,

Reginald A. LaRosa
Acting Secretary of
Environmental Conservation

cc: William R. Adams, Jr.
Regional Administrator
U.S. Environmental Protection Agency

#02

JUN 7 1978

NORTH KENNEBEC REGIONAL PLANNING COMMISSION
16½ BENTON AVENUE - WINSLOW, MAINE 04902
----- TELEPHONE 873-0711 -----

COMPLETION OF A-95 AREAWIDE CLEARINGHOUSE PROCESS

Date: JUNE 5, 1978

Applicant: U. S. DEPARTMENT OF ENERGY

Project Title: DICKEY-LINCOLN SCHOOL LAKES PROJECT
TRANSMISSION ENVIRONMENTAL IMPACT STATEMENT

The North Kennebec Regional Planning Commission, designated by the Governor as the Areawide Clearinghouse for the North Kennebec Region under Circular A-95 of the U.S. Office of Management and Budget, has satisfactorily completed its review of your project. No further Areawide Clearinghouse action will be necessary. A copy of this letter has been forwarded to the State Clearinghouse.

THE AREAWIDE CLEARINGHOUSE:

1 (_____) Waives comment on the notification.

2 (_____) Recommends Approval without further comment.

3 (_____) Recommends Approval of this project with the enclosed comments.

4 (_____) Recommends Approval only after modification - (see attached comments).

5 (_X_) Recommends Disapproval - see comments.

Sincerely,

Elery Keene

W. Elery Keene
Planning Director

WEK:ndl

JUN 7 1978

NORTH KENNEBEC REGIONAL PLANNING COMMISSION

16½ BENTON AVENUE • WINSLOW, MAINE • 04902

A. RICHARD MEARS
CRIMINAL JUSTICE COORDINATOR
TELEPHONE 872-7819

ELERY KEENE
PLANNING DIRECTOR
TELEPHONE 873-0711

June 5, 1978

Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, ME 04401

Dear Sirs:

The North Kennebec Regional Planning Commission has voted unanimously at its May 31, 1978 Commission meeting to oppose the construction of the Dickey-Lincoln Transmission Line as proposed. The Commission's vote is based on the recommendation of its Executive Board of May 16, 1978, supporting the position of the towns of Jackman and Moose River in regards to Dickey-Lincoln.

Enclosed in this review is the complete record of written comments, statements and positions expressed by both staff and our constituents on this issue.

These are summarized as follows:

1. The towns of Jackman and Moose River oppose the construction of the Dickey-Lincoln transmission line. A survey of all Jackman residents showed that 62.7% of the residents oppose Dickey-Lincoln.

2. There was a lack of communication on behalf of the Corps of Engineers, the Department of Energy and various consultants with Jackman and Moose River officials in the collection of data and information for the draft EIS.

3. Much of the data collected was outdated and inaccurate.

4. The assumption that minimal impact to municipal services will occur is based on other transmission line studies of more populous areas. This does not relate well to the character of the Jackman region which is a remote, wilderness area, with limited municipal services available.

5. The potential increase in crime and other social problems is seen to be a significant problem.

6. An adverse impact on scenic and wilderness type recreational resources is expected to have a long term negative impact on the region's economy.

The North Kennebec Regional Planning Commission requests that lines of communication be reestablished to correct the deficiencies in the draft EIS, before the final EIS is made ready so that Jackman area people will know that the federal government clearly understands their situation before such material is finally published in the final EIS. We would be happy to work toward bringing the various interests together to bring this about.

Sincerely,

Elery Keene

Elery Keene
Planning Director

EK/jb

Encls.

#63

E. MARTIN KAUFMAN, M. D.
20 EAST 68TH STREET
NEW YORK, NEW YORK 10021
TELEPHONE 472-0825

JUN 8 1978

June 6,1978

Mr. Larry Wilkerson
Assistant Project Manager
Dept. of Energy
Federal Office Building
Bangor, Maine

Dear Mr. Wilkerson,

I was present with several of my neighbors at the Dickey-Lincoln meeting in Groveton, N.H., on May 8 of this year. We were, and remain, disturbed by the thought of the 345 KV lines coming through our community, but we were gratified by your apparent interest in the proposal, made simultaneously by several Stewartstown and Colebrook residents, of an alternate route approximately 10 miles to the east through the Swift-Diamond area.

Fortunately, enough people in the area from Pittsburg to Columbia are directly affected by the currently proposed route that a committee formed immediately and several actions are being taken, including letters such as the copy enclosed, which are being sent to the representatives concerned, and petitions to the same individuals.

We are also counting on your word, given to Robert Petrovsky of Stewartstown among others, to return and survey the area proposed. Both Mr. Petrovsky and Robert Burrel, of Colebrook, know the area in question and have undertaken to keep our committee informed on progress made with you on the alternate route. Hopefully they will be able to reach you although you are no longer at the address you gave out at the Groveton meeting.

The secretary of our committee is Valerie Herres, RFD 2, box 151, Colebrook, telephone 603-237-5203. It would be helpful to channel any communications through her so we can proceed in an organized fashion.

Wa appreciate all the help you can give us.

Sincerely,

Janice Kaufman

Janice Kaufman

cc: Valerie Herres

#64

VERMONT PUBLIC POWER SUPPLY SYSTEM, INC.
BURLINGTON, VERMONT 05401
585 Pine Street

JUN 8 1978

June 3, 1978

Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
U. S. Department of Energy
Federal Office Building, Room 209
Bangor, Maine 04401

Subject: Comments Concerning Draft EIS
on Dickey-Lincoln Transmission Lines

Gentlemen:

I appreciate this opportunity to comment on behalf of the Vermont Public Power Supply System (VPPSS) concerning the Draft Environmental Impact Statement on Transmission Lines prepared by the Department of Energy. The members of VPPSS are thirteen municipal and rural cooperative electric utilities in Vermont which are looking to VPPSS for all or part of their electric power supply requirements. Taken together, those thirteen utilities generate and/or purchase and distribute about 20% of the electric energy used in the State of Vermont.

Our Long-range Power Supply Plan shows that VPPSS members have a need for a minimum of 25-30 Mw of peaking power in the late 1980's. Those figures are based on minimum growth rates and minimum reserve requirements. By the mid-1980's, when a decision must be made as to what source of peaking power is to be selected from whatever sources are to be available in the late 1980's, the VPPSS members may well be able to use up to 50 Mw of power from Dickey-Lincoln.

Unless some presently unknown source of peaking power is developed and proven reliable before the mid-1980's, there are only two alternative sources of peaking power that are potentially available to meet our needs in the late 1980's. One alternative is the proposed Dickey-Lincoln hydroelectric project, and the other is an oil-fired gas turbine plant constructed by VPPSS. We believe that the Dickey-Lincoln alternative is preferable for the following reasons:

1. Dickey-Lincoln would generate electric power by falling water; whereas, gas turbines burn oil.
2. Water is a renewable resource; whereas, the quantity of oil in the United States and in the world is limited.
3. Water flowing in the St. John River is little used at the present time; whereas, oil is essential for transportation, chemicals, plastics and heating.
4. Once Dickey-Lincoln were built, there would be no additional cost for water to generate electric power; whereas, the oil burned by gas turbines will be priced at what the market will bear.
5. Water in the St. John River can be expected to be available forever; whereas, there is no assurance that oil will be available for electric generation after the demand for oil exceeds the supply of oil (some experts say that could happen in 1997--reference "Scientific American" for March 1978) or if other needs such as residential heating should be given (politically) higher priority of use.

6. Hydroelectric plants constructed 75 and more years ago are still operating; whereas, the life of a gas turbine is 20-30 years. (It would require two, three or more gas turbine plants spread out over future years to equal one Dickey-Lincoln.)

We recognize that transmission lines are needed to transport Dickey-Lincoln power to meet our need for such power in Vermont. The transmission studies for the Draft EIS were made by the Department of Interior working closely with the New England electric utilities. We concur with the transmission plan set forth in the Draft EIS that would connect the State of Vermont with the proposed Dickey-Lincoln Project and hope that whatever environmental, social, and economic problems which may arise can be resolved satisfactorily so that Dickey-Lincoln power can be delivered directly to Vermont.

The members of VPPSS have a need for peaking power in the late 1980's and prefer Dickey-Lincoln hydro energy to gas turbine oil energy. We are concerned about the availability of future peaking power for the people who rely on our member utilities for electric service. Over the long term that is one, two and three generations in the future, we believe that the economic and environmental price that must be paid for Dickey-Lincoln will be repaid many times over. VPPSS' representatives are ready to negotiate a long-term contract with the Department of Energy representative for the purchase of Dickey-Lincoln power.

Sincerely,

Harland G. Titemore

Harland G. Titemore
Manager, VPPSS

#65

JUN 8 1978

Dartmouth College HANOVER · NEW HAMPSHIRE · 03755

OFFICE OF INVESTMENT & LEGAL AFFAIRS · P.O. Box 31 · TEL. (603) 646-2443

PAUL D. PAGANUCCI
Vice President

June 2, 1978

The Dickey-Lincoln School
Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, ME 04401

Attention Mr. Larry Wilkerson

Dear Mr. Wilkerson:

As you may recall, Dartmouth's President John G. Kemeny wrote Secretary Andrus on September 1, 1977 to express the College's considerable concern over the possibility that the proposed Dickey-Lincoln School Transmission Line might pass through the Second Dartmouth College Grant in Northern New Hampshire. President Kemeny forwarded to Secretary Andrus with his letter a copy of an August 26, 1977 resolution of the Executive Committee of the College's Board of Trustees on this point. Since I believe that President Kemeny's letter and the Trustees Resolution continue to reflect accurately the College's viewpoint on this subject, I am enclosing copies of such materials for inclusion with this letter in your collection of written comments on the draft Environmental Impact Statement which was issued by your office March 1978.

I wish to confirm for your records that Dartmouth College strongly approves of your Department's announced preference for the northerly transmission line route which avoids the Second College Grant and the watersheds of the Dead and Swift Diamond Rivers. We were very pleased to note that the portion of the draft EIS dealing with the choice of routes in Segment C (Jackman/Moose River - Moore) gave particular recognition to the valuable ecological resources of the Second College Grant which would be subject to significant negative impact if the transmission line were to be located there.

On the basis of testimony which we heard presented at some of the public hearings on the draft EIS, it is our impression that no serious objection has been raised to your Department's

decision to prefer the more northerly route in New Hampshire. My colleagues have informed me that the comments made by persons living in the Colebrook area seemed only to be directed to the local siting of the line through that valley. Although some reconsideration of the specific location of the line in that local area may well be appropriate, we at Dartmouth would object strongly to any further consideration being given to routing any portion of the proposed transmission line to the east of the Dixville Peaks and would appreciate being consulted if that possibility again comes under serious consideration.

Thank you very much for your full and fair consideration of the College's views with respect to this project.

Sincerely,

Paul D. Paganucci

PDP/jg
Enclosures

cc: President John G. Kemeny

#65

DARTMOUTH COLLEGE
HANOVER · NEW HAMPSHIRE
03755

THE PRESIDENT

September 1, 1977

The Honorable Cecil D. Andrus
Secretary of the Interior
Department of the Interior
Washington, D.C. 20240

Dear Secretary Andrus:

Re: Proposed Dickey-Lincoln Transmission Line Through Second College Grant

It has recently come to our attention that, in connection with the proposed Dickey-Lincoln School Hydroelectric Project in Maine, your Department is proceeding with the selection of a route for a major power transmission line. In reviewing the alternative routes under consideration, we at Dartmouth were shocked and dismayed to learn that one of the routes being studied would place the proposed transmission line directly through the heart of the Second Dartmouth College Grant. The Grant is an unincorporated township of approximately 27,000 acres in Northern New Hampshire which is owned, managed and utilized for educational and related purposes by Dartmouth College.

Because of both the importance of this matter to Dartmouth and the possibility that your Department may be taking action in the near future concerning the route for the proposed transmission line, a special meeting of the Executive Committee of the College's Board of Trustees was convened last Friday for the sole purpose of considering this issue. Attached is a copy of the resolution which was unanimously voted at that meeting.

The Second College Grant has since its gift by the State of New Hampshire to the College in 1807 been an extremely valuable asset and resource for the College community. Free from permanent settlements or any other development (other than five cabins for temporary use by students, faculty, alumni, etc.), the valleys of the Dead Diamond and Swift Diamond Rivers and the adjoining forest land--all accessible by vehicle only through the gorge in the southeast corner of the Grant--serve as a unique area for students and other members of the Dartmouth

community to study and experience this special wilderness area. Any person who has been fortunate enough to visit and experience this very special part of Dartmouth's "outdoor campus" knows that the construction and maintenance of a major power transmission line anywhere in the Second College Grant would destroy those qualities which make the Grant such a special asset and resource for Dartmouth and a cherished part of the College's heritage.

We strongly urge you and your Department to abandon any plans to route the proposed Dickey-Lincoln transmission line through the Second College Grant. As your published materials indicate, several alternative routes are available and under study. Furthermore, even if a route in the general vicinity of the Grant were considered most desirable, it seems clear that a different and perhaps even shorter route for the line could be located outside the Grant through areas which, unlike the Grant, serve their owners only as a timber resource.

In view of the devastating negative impact which the proposed transmission line would have on the Second College Grant, we are greatly dismayed that neither the Department of the Interior nor any of its contractors in this planning process has ever contacted us to inform the College of your plans and to solicit our views on this proposed intrusion on our valued 27,000 acre wilderness tract.

Thank you for any consideration which you can give our request. Do not hesitate to contact me or, in my absence, our Vice President Paul Paganucci (phone 603-646-2443) if you need further information or wish to discuss this matter.

Sincerely,

John G. Kemeny

P.S. To assist you in understanding our concerns, I enclose a copy of your Department's Map No. 46 ("Errol N.H.-Me." U.S.G.S. quadrangle) on which is highlighted the Second College Grant and the segment of the proposed transmission line which would cut through the Grant.

Dartmouth College HANOVER · NEW HAMPSHIRE · 03755

BOARD OF TRUSTEES

AUGUST 26, 1977 RESOLUTION OF EXECUTIVE COMMITTEE OF BOARD OF TRUSTEES CONCERNING PROPOSAL OF DEPARTMENT OF INTERIOR TO ROUTE THE PROPOSED DICKEY-LINCOLN POWER TRANSMISSION LINE THROUGH THE SECOND COLLEGE GRANT

"Resolved: That the Trustees of Dartmouth College respectfully request the Honorable Cecil D. Andrus, Secretary of the U.S. Department of the Interior, and his colleagues to abandon any plan to penetrate the 27,000 acre tract of land in Coos County, Northeastern New Hampshire, known as the Second College Grant with a power transmission line from the planned Dickey-Lincoln School public power project on the St. John's River in Northwestern Maine.

The Second College Grant was donated to Dartmouth College in 1807 by the State of New Hampshire and has been carefully protected as a natural wilderness and wildlife preserve throughout the 170 years of ownership by the College. The Second College Grant has represented a vital resource in the education of Dartmouth College students for generations and is a priceless asset to the College as well as to the ecology of the State of New Hampshire.

Because the construction of the power transmission line through the Second College Grant wilderness preserve would destroy its unique natural character and impair the educational experience for future generations of students, the Trustees of Dartmouth College urge the Secretary of the U.S. Department of the Interior to determine that some alternative route for a power transmission line be chosen should the Dickey-Lincoln School public power project be constructed."

Certified a true copy this [illegible] day of August, 1977.

Assistant Clerk
Trustees of Dartmouth College

#66

Town Farm Rd.
New Gloucester, Me. 04260
June 2, 1978

Mr. Larry L. Wilkerson
U.S. Dept. of Energy
Federal Office Building
Bangor, Me. 04401

JUN 8 1978

Dear Mr. Wilkerson,

Due to my inability to attend any of the scheduled public hearings concerning the transmission facilities for the proposed Dickey-Lincoln School Lakes Project, I would like my comments via this letter to become part of the public record.

Having read both the environmental impact study on the proposed dam project & the study on the transmission project, I am totally opposed to both concepts. The transmission facilities which are an integral part of the overall project, are a further extension of an overly expensive, outdated & ill-conceived project.

Very simply, the state of Maine is being asked to sacrifice a largely inviolate & unique expanse of wilderness for a miniscule amount of electricity (which, by most accurate measurements, is not now needed). By means of conservation & simple rate structure adjustments on the part of our utilities, future peaking needs could easily be met without building needless dams & power lines.

To build the dams & clearcut 6000 acres of Maine's timberland for the support systems would be sheer folly. The true price our state is being asked to pay for our supplying energy to our overly consumptive neighbors to the south is far too high.

Thank you for your consideration.

Sincerely,
Mark F. Norton

#67

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION

Montpelier, Vermont 05602

OFFICE OF THE SECRETARY

Department of Fish and Game
Department of Forests, Parks, and Recreation
Department of Water Resources
Environmental Board
Division of Environmental Engineering
Division of Environmental Protection
Natural Resources Conservation Council

May 31, 1978

MEMORANDUM

TO: John Holmberg
A-95 Clearinghouse
State Planning Office
5th Floor, Pavilion

FROM: Eldon P. Morrison, Resources Planner

RE: Dickey-Lincoln School Lakes Project
A-95 Review (DRAFT - EIS)

The Agency of Environmetal Conservation has reviewed the Draft Environmental Impact Statement on the above project.

As you know this Agency requested a time extension for completion of the A-95 review and this request was officially denied. This affected the depth with which we reviewed the project because of 1) our involvement with the International Champlain-Richelieu Board review of the Regulation of Lake Champlain water levels. 2) We are reviewing a corridor and not an exact line. In many areas, where in the corridor the line falls will affect our comments. Most of the review to date was conducted by the Forests, Parks and Recreation Department, the Fish and Game Department and the Air Pollution Control and Solid Waste Office. (The Air Pollution comments have been forwarded to Mr. Hurless in a separate letter dated May 23, 1978).

It is understood that the proposed transmission lines and associated substations will be needed to provide peaking electrical power to the New England power pool. The power line will enter Vermont in Guildhall and travel westward across the state to Essex Junction. Along this route the line will be cleared to approximately 150 feet wide and in excess of 90 miles long.

The transmission line will cross a variety of land uses. Each of these uses will be impacted to some degree by the existence of the power line. Most of the impacted land is forested. For segments "D" & "E" it is estimated that forest land impacted exceeds 7000 acres. In addition, there is agricultural, residential, and commercial land along the route.

JUN 01 1978

Beyond the existing land uses is another which probably over shadows the others and that is the scenic beauty. The Vermont scenery will be considerable affected particularly along the Berlin to Essex Link where any power line of this size could be extremely visible from Route 2 and Interstate 89. This route is highly travelled at all seasons of the year, by Vermonters, by visitors from other states and Canada as well as connectin the central Vermont area with the Burlington area and Lake Champlain.

Further, we understand only a very limited amount of the energy will be available for Vermont customers.

Issues and Concerns with Respect to the Dickey-Lincoln Transmission Systems:

1) From the review of the impact statement there will be no significant opportunity to mitigate the loss of the forest resource. Indications are that there will be ever increasing demands for the forest resource in the near future. This raises the important of maintaining our forest land base.

2) At a time when agricultural land is decreasing, it is important to insure that no further loss of this resource occurs.

3) Each of the wetlands areas, deer winter yarding areas, flowages, streams, and ponds of all sizes on both public and private lands to be impacted by thi transmission line should be thoroughly studied. This is to ensure no loss of significant natural areas, endangered species of wildlife or vegetation, or loss of water holding capacity will result. Loss of basic cover may significantly alter the natural habitat.

4) An assessment relating to the potential scenic impact particularly along the Route 2 and Interstate 89 corridor, should be undertaken to thoroughly evaluate the visiual effects of the transmission line.

5) There is significant potential for impact on unique or historical sites along the routes.

6) The transmission line poses potential impacts on wildlife habitat, particularly the potential for destruction of deer yards, which are highly significant to the winter yarding of the deer.

Until such time that the total inventory and review of critical wildlife habitats along all likely corridors is made, on an individual basis, an objective analysis of environmental impacts can not be made.

7) There is a potential impact on the natural environment from the use of herbicides which are attendant with the types of clearing done for power lines.

Our Air Pollution Control office has reviewed the Draft EIS with regard to the potential air pollution impact from clearing operations outlined in Section 4.02 "mitigation of Atmospheric Impacts."

The 1977 Amendments to Section 118 ("Control of Pollution From Federal Facilities") of the Clean Air Act broaden the section and clarify that Federal agencies and their activities must comply with "all requirements of State air pollution laws to the same extent as any person . A new sentence has been added to subsection (a) which states that the requirements

which must be followed are "any requirement whether substantive or procedural" including requirements regarding "permits". The Conference Report on the Clean Air Act Amendments of 1977 (No. 95-564) reinforces the new language by stating, concerning Section 118: "The conferees intend, by adopting the House amendment, to require compliance with all procedural and substantive requirements ... and to subject such facilities to State sanctions. (p. 137)

Federal activities causing air quality impacts due to the construction of transmission lines through Vermont in connection with the Dickey-Lincoln School Lakes Project (as delineated in Section 4.02 "Mitigation of Atmospheric Impacts" on the Transmission Draft EIS) would therefore clearly be subject to all applicable State, as well as, Federal regulations.

Section 5-201 (Prohibition of Open Burning) prohibits any open burning excep as provided for in Section 5-202, open burning in remote areas, maybe allowe only if written permission is obtained from the Air Pollution Control Office and approval is obtained from all other officials having jurisdiction (such as local, state, or federal fire wardens).

The Air Pollution Control Office will require that all merchantable logs be removed, and that all other wood products be chipped. The wood that must be removed should not be viewed as waste, but rather as an important fuel source that should be utilized as efficiently as possible. Open burning wil be prohibited except in extreme circumstances where it is not feasible to use a chipper. There are approximately 1,300 acres of woodland in Vermont that must be cleared for the right-of-way. At 40 cords of wood per acre, there are approximately 52,000 cords available of which 20% or 10,470 cords will be merchantable logs. There then remains 41,890 cords or 104,700 tons of wood that must be removed and disposed of. This has a stumpage value of $1.00 per ton as chips and a market value of approximately $12.00 per ton delivered to a wood burning facility. There are presently three wood-fired boilers along the proposed transmission route that burn wood chips.

Consersely, if the wood, excluding merchantable logs, is disposed of by open burning, large quantities of particulates (TSP), carbon monoxide (C)), and Hydrocarbon (HC), which would have a significant impact on the air quality, would be generated. Based on emission factors developed by EPA, the following emission estimates were made: particulates - 900 tons, CO - 7,329 tons, and HC - 1,256 tons. This would have a serious impact in the Burlington and Barre areas which are non-attainment for TSP, and Chittenden County which is non-attainment for oxidant (HC).

In order to maximize a value source of energy and to minimize the impact on the air quality, removal of merchantable logs and chipping of all other wood will be required for all clearing operations associated with the transmissio project in Vermont.

It is recommended that this proposed project be subjected to the Public Service Board's 248 review process.

The Agency will, to the extend possible, cooperate in the location and asses ment studies as well as the management of affected wildlife resources along the proposed rights-of-way.

Again, some of these comments are general as we are evaluating a corridor and not a definite line. They are not meant to appear vague.

In view of the expressed and potential environmental impact of this project on the State of Vermont it is recommended that additional study be required to properly evaluate the economic and environmental feasibility of this project before a decision to build the Vermont portion of this project is made.

EPM/bmj

cc: Richard Saudek

#68

PUBLIC SERVICE BOARD

MONTPELIER, VERMONT

TE: May 31, 1978 TO: John Holmberg, State A-95 Coordinat

SUBJECT: Comments on Draft Environmental Impact Statement Regarding Dickey-Lincoln School Project FROM: Richard H. Saudek, Chairman

The Vermont Public Service Board (the "Board") has reviewed the Draft Environmental Impact Statement (Draft E.I.S.) for the Dickey-Lincoln School Lakes Transmission Project issued by the Department of Energy (the "Department"). Based upon this review, we offer the following comments regarding the potential impact of this project on Vermont, as well as on the methodology adopted and followed by the Department in preparing the Draft E.I.S.

Summary

The Board perceives two basic problems that should be commented on at this time. First, the Department appears to have applied fundamentally different criteria from that which the State of Vermont would apply when determining the potential impact that transmission lines may have upon the environment of this state; and second, the Department appears to base its determinations and conclusions upon inadequate and obsolete information.

I. Environmental Criteria

The Board, as the State agency responsible for passing judgment on proposed transmission facilities within the State of Vermont would normally review and evaluate proposed transmission lines and corridors using different environmental criteria than those apparently applied in the Draft E.I.S. (30 Vermont Statutes Annotated §248).

For instance, in discussing the land use impacts, the Draft E.I.S. apparently has not taken into account proposed land use, but only existing land use. In Vermont, considerable weight is given to future land use.

The Draft E.I.S. assumes that the impact of power lines on timberland is more severe than their impact on residential and other open lands. This may create the impression that the project will have less impact upon Vermont than in other states. This would not be the case. It has been the historical practice in Vermont to locate transmission lines in wooded areas to reduce the visual impact, which is given high priority in Vermont. As a result, the Draft E.I.S. tends to be contrary to Vermont past practices in siting transmission lines.

Furthermore, we note that the Draft E.I.S. proposes the use of double circuit steel structures along the 20-mile corridor between the Dickey and Moore substations. Although the double circuit steel structures may reduce the corridor width, their size and aesthetic appearance have made them generally unacceptable in Vermont. Instead of these steel structures, we would normally use two parallel wood pole H-frame structure circuits.

By way of example, we have attached an analysis, in the "Vermont manner," of the significance of the Dickey-Lincoln transmission line from Guildhall to the Moore station. The analysis compares the findings in the Draft E.I.S. with the findings as they would be made according to our procedures. The comparative maps and tables are followed by a summary of the impact.

II. Obsolete Information

A review of the Draft E.I.S. indicates that the Department has based its load and system requirements projections on a 1974 New England Power Planning Committee study (1974 Study) containing data which apparently dates back to 1973. Since that time, forecasted growth rates have changed considerably, resulting in a mid-1980's condition that would, at this time, be quite different from that upon which the Draft E.I.S. is based.

For example, a review of Appendix A of the Draft E.I.S., which includes certain charts of the 1974 Study, indicates that a "typical" December, 1985 week load curve would peak at 33,000 MW. A review of the January, 1978 New England Power Pool (NEPOOL) Load and Capacity report, however, forecasts the 1985-86 winter coincidental peak to be 21,484 MW. This is only 65% of the 33,000 MW projected in the transmission study. As seen another way, it would take until 1994-95 at the recently forecasted NEPOOL average compound growth rate of 4.68% per year to reach 33,000 MW from the 1977 December NEPOOL peak of 14,900 MW.

In addition, it is important to note that while the 1974 Study shows a future generation and transmission plan for New England in the mid-1980's which would support the then expected load of some 33,000 MW, these plans have been delayed or revised so that several differences now exist between the projections of the Vermont transmission grid made by the 1974 Study and those made by more current studies. The following differences are noted:

1. The second 345 KV line from Vermont Yankee south to Massachusetts would be deleted.

2. The second Vermont Yankee-Coolidge-West Rutland 345 KV circuit would be deleted.

3. The 1,150 MW Orwell nuclear plant would be deleted.

4. The double-circuit 345 KV line from West Rutland to Orwell and the single-circuit Orwell-Essex line would be replaced by a single-circuit West Rutland-Essex 345 KV line.

5. The Essex-Granite 345 KV line would be deleted.

In light of these changes, it is impossible to tell from the Draft E.I.S. whether the transmission lines would be capable of absorbing the output of the Dickey-Lincoln Project without adversely affecting the stability and reliability of the transmission system in Vermont.

We also note that the economic evaluation for transmission shown in Appendix A does not include the Granite to Essex line and the associated substation costs. We have been advised that this may be an additional cost of approximately $13 million in 1976 dollars, using the Department's own unit costs. (See Table A-5, Appendix A of Draft E.I.S.)

For these reasons, we believe that it is imperative that the Department conduct system studies based upon a mid-1980's condition as currently foreseen, and implement corrective design measures, if necessary, to assure that there will be no adverse effect upon the Vermont transmission system.

Conclusions and Recommendations

We draw no conclusions regarding the merits of the Dickey-Lincoln Project at this time. However, we believe that the studies made in connection with the Draft E.I.S. are not specific and precise enough to satisfy the State that the interests of Vermont and its citizens are properly protected.

A review of the Draft E.I.S. demonstrates that it is imperative that the Department conduct current and more complete studies which will more accurately reflect a mid-1980's load condition. Furthermore, it appears that the criteria upon which the Department bases its environmental impact study inadequately evaluates the impact of transmission placement on the Vermont landscape.

The State of Vermont has a strong, consistent and abiding concern that its development, including the siting of its transmission and generation facilities, be planned in such a way that they will be necessary for the well-being of Vermonters and that they will be situated and constructed at minimum cost to our environmental, regional and local planning, historical, scenic and economic well-being. We have in place the authority, through the hearing process, for the Vermont Public Service Board to determine whether these criteria are adequately met. We hold our utilities strictly to these standards and insist that our utilities prove that these standards will be met by new construction.

As demonstrated above, the Draft E.I.S. clearly fails to meet our criteria. The planned system should undergo the rigorous analysis that we accord other transmission lines in the State.

#69

JUN 9 1978

State of Vermont

AGENCY OF ENVIRONMENTAL CONSERVATION

Montpelier, Vermont 05602
Department of Water Resources

Department of Fish and Game
Department of Forests, Parks, and Recreation
Department of Water Resources
Environmental Board
Division of Environmental Engineering
Division of Environmental Protection
Natural Resources Conservation Council

MEMORANDUM

TO: State Planning Office

FROM: Vermont Pesticide Advisory Council

RE: A-95 Review Dickey-Lincoln School Project

DATE: June 2, 1978

Any application of pesticides on the Dickey-Lincoln Right of Way should be strictly prohibited on or near any lake, pond, stream or wetland to protect the aquatic environment. Herbicide application in mountainous regions is also viewed with concern because of the existence of delicate flora and the increased chance of runoff due to steep and rocky slopes. Cropland and meadows should also be avoided by the R.O.W. whenever possible.

The Vermont Pesticide Advisory Council wishes to see the development of a management scheme, to be included in the funding of the Dickey-Lincoln Project, for the establishment of low growing flora, such as junipers, along the Right Of Way. The establishment of such plant populations whereever practical would reduce the need for herbicide applications.

The main concern of the Council regarding the R.O.W. pesticide applications for the Dickey-Lincoln project involves Federal cooperation in following State regulations concerning pesticide applications. The Council feels it is not in the best interest of Vermont for the Federal Government to override State regulations that were established to protect Vermont's environment and people. Any federally owned stretch of the power right of way would mandate a guaranteed Federal subserviency to State Pesticide Law before the concerns of the Vermont Pesticide Council are alleviated.

Note: These comments will be acted upon by the Vermont Pesticide Advisory Council at their June 12, 1978 meeting.

JUN 9 2 1978

JUN 12 1978

NEW HAMPSHIRE WILDLIFE FEDERATION, INC.

AFFILIATE OF THE NATIONAL WILDLIFE FEDERATION

JOSEPH EZYK
43 LAVISTA
MANCHESTER, N.H.
03103

June 3, 1978

Mr Larry Wilkerson
Asst. Project Manager
Dept of Energy
Federal Office Bldg.
Bangor, Maine 04461

Dear Mr. Wilkerson:

Please accept the attached handwritten testi
opposing routes of transmission lines of
Dickey-Lincoln Dam Project.

Yours truly,

Joseph C. Ezyk
President

#70

JUN 12 1978

This paper is written in total opposition to Dickey - Lincoln, but specifically it opposes the installation of transmission lines through New Hampshire, the chosen, preferred route by the A. C. E. This letter represents the feelings of New Hampshire Wildlife Federation and reflects the attitude of 4000 people affiliated with the organization.

We would prefer, if a transmission line is to be routed, then plans A and B (southerly routes) would be more desireable than the proposed route because (if) would have less impact on wilderness regions.

We oppose the need to construct access roads to these lines for maintenance purposes because it means destruction of wilderness areas now almost inaccessible.

We oppose the use of herbicides to maintain clearance of the lines because of the harm to plant life, necessary to wildlife subsistence.

Joseph C. Ezyk
President
New Hampshire Wildlife Federation

#91 TJM

OFFICE OF COMPREHENSIVE PLANNING
STATE OF NEW HAMPSHIRE
26 Pleasant Street
Concord, N.H. 03301
603-271-2155

JUN 14 1978

June 12, 1978

Mr. Larry Wilkerson
Assistant Project Manager
Dickey-Lincoln School Lakes Project
Federal Office Building
Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson,

The Draft Environmental Impact Statement, Dickey-Lincoln School Lakes Transmission Project, has been distributed for review and comment to interested State and regional agencies.

To date, comments have been received by the Recreation and Resources Planning Office (Department of Resources and Economic Development), a copy of which is enclosed. Additional comments that may be received, although tardy, will be forwarded for your information.

Thank you for the opportunity to review the Draft.

Sincerely,

Peter F. Piattoni

Peter F. Piattoni
Review Coordinator

PFP:ms

Enclosure

#71

JUN 14 1978

NEW HAMPSHIRE DEPARTMENT of RESOURCES and ECONOMIC DEVELOPMENT
Recreation and Resources Planning Office

GEORGE GILMAN
COMMISSIONER

DATE: May 15, 1978

TO: Peter Piattoni, Review Coordinator
Office of Comprehensive Planning

FROM: David Hartman, Principal Planner DH

SUBJECT: Dickey-Lincoln School Lakes Project

This memorandum is in response to your request of April 12, 1978, to George Gilman, Commissioner, regarding the Draft EIS for the Dickey-Lincoln School Lakes Transmission Project. The following comments are made as to the relationship of the Draft EIS to the State's outdoor recreation plan.

The Draft EIS exhaustively treats many concerns associated with recreation and the environment along the transmission corridor. However, in its ambition to show that all things have been considered, the Draft comes across as a document prepared for any and all eventual defenses of the project. In doing this the Draft avoids making statements of the possible positive features of the project if it is undertaken.

Several recreational benefits could accrue with minimal expense to the overall project cost. Multiple use of the right-of-way for trails is an example. Access points to rivers and parking for trail and river users could be advocated. Certainly, there is positive benefit from the revegetation and proper maintenance of the right-of-way for wildlife of certain types. Depending on whether the property is operated by the Feds or by a private company leases and use agreements for multiple uses of the land need to be considered at the outset. They cannot be treated as add-ons. A policy statement with back-up material needs to be presented in the EIS to treat this matter.

It appears to be a foregone conclusion that the transmission tower designs are to be as shown in Figures 1.03-1 and 1.03-2. There may be alternatives to these designs and materials which would be more esthetically acceptable than those shown.

P. O. BOX 856 . . . CONCORD, N.H. 03301 TELEPHONE 603 271-2411

Of interest is the fact that the proposed cleared land for the power lines area in New Hampshire is 1,103 acres, about the acreage consumed by 7 normal ski areas in the State.

DH/ek

#72

JUN 14 1978

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D. C. 20250

June 12, 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
for Location & Engineering
Dickey-Lincoln School Lakes Project
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

We have had the draft environmental statement from the Dickey-Lincoln School Lakes Project reviewed in the relevant agencies of the Department of Agriculture, and comments from Soil Conservation Service and Forest Service are enclosed.

Sincerely,

BARRY R. FLAMM
Coordinator
Office of Environmental Quality Activities

2 Enclosures

JUN 14 1978

Enclosure: Comments on Draft

ENVIRONMENTAL IMPACT STATEMENT
DICKEY-LINCOLN SCHOOL LAKES
TRANSMISSION PROJECT
MARCH 1978

by

U.S. Department of Agriculture
Soil Conservation Service
Maine

May 30, 1978

(1) The suitability or limitations of the soil for the proposed action.
Comment -- Adequate coverage (see attached sheet entitled "Soils" noting corrected wording).

(2) Provisions for control of erosion and management of water during construction.
Comments --

a. Erosion and sediment control on access roads

1. Sediment traps or debris basins may be needed to protect intermittent and perennial streams, ponds and wetlands. These "traps" should collect runoff from roadside ditches. Some may be permanently needed. Temporary roads need less elaborate traps.

(3) Provisions for soil and water conservation management measures on project lands, rights-of-way, access roads, and borrow areas.
Comments --

a. Re-establishment of vegetation on disturbed areas (i.e., roads, tower areas, excavated gravel areas) should be carried out as follows:

1. Planned site-by-site to account for variable soils, slopes, etc.

2. Plant species selected must be tolerant to herbicides and useful for management purposes.

3. Maine Soil and Water Conservation Districts and the State Soil & Water Conservation Commission should be consulted in the planning process. Similar entities in New Hampshire and Vermont would be available for assistance.

4. The Soil Conservation Service's Technical Guides are adequate for planning revegetation of disturbed areas.

5. The first paragraph, page 3-7 - Four percent -- Does not agree with Table 3.03-2, Page 3-9 percent figures. Please check.

(4) The effect of water discharges from project lands or rights-of-way onto other properties.
Comment --

a. Vegetation control

1. Pesticides are a major non-point source of water pollution. Although most herbicides are short lived, they usually have short term high toxicity to fish, insects,

birds and mammals. The long-term effects of repeated application of herbicides (as usually needed on power-lines) is not known. It has been observed that soil organisms in cropland are reduced or eliminated by herbicides. This reduces the overall natural productivity, assimilative capacity, and ability of soil to support diverse plant life which provides wildlife habitat.

Stream and pond flora in watersheds where herbicides are repeatedly used is reduced. This reduces the biological productivity of streams. Vegetative filters are not completely effective in reducing the amount of water or oil soluble herbicides which reach waterways.

We would encourage manual vegetation control. This would be a relatively safe method and provide jobs for local people. Water quality problems would be reduced and better wildlife habitat would result.

(5) The effects of disruption of the natural drainage patterns and severance of private land units.
Comment -- None

(6) The impact on existing soil and water conservation management systems.
Comment -- None

(7) Impacts on prime and unique farmland.
Comment --

a. The draft EIS should specifically note effected lands. Definitions are:
Prime farmland is land best suited for producing food, feed, forage, and oilseed crops, and also available for these uses (the land could be cropland, pastureland, rangeland, forest land, or other land but not urban built-up land or water). Prime farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed, including water management, according to modern farming methods.

Unique Farmland is land other than prime farmland that is used for the production of specific high-value food crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to modern farming methods. Examples of such crops are cranberries, fruit, and vegetables.

(8) Impacts on ecosystems
Comment -- Good descriptions

a. Broad spectrum aerial spraying of herbicides will tend to reduce vegetation diversity and wildlife habitat values. Also, this method of vegetative management may not be compatible with maintaining the "scalloped" edge effect mentioned to improve habitat and visual impact.

(9) Impacts on SCS-assisted projects.
Comment -- None

In addition, we observe that many of the measures listed in sections 4.01 - 4.10 are <u>not</u> mitigation because:

1. Some measures are actions required by Federal or State law or regulation (e.g., LURC Statutes, Zoning Requirements, Great Ponds Act, Stream Alteration Act, Endangered Species Act, 1973). <u>Not</u> doing something which would be against the law is <u>not</u> mitigation.

2. Avoidance of damage is <u>not</u> mitigation.

3. Many actions described are simply good practices.

We would suggest that the word "reduce" be used along with "mitigation" as is done on page 4-7, Section 4.05. Both terms are applicable.

Please note that the definition of "wetland" on page 2-24 is not within Federal guidelines. Also, the designation "Great Pond", page 2-100, 2nd paragraph, is not used correctly. A great pond includes all lakes and ponds in Maine ten acres or larger and does not "denote remote characteristics."

Clarification of Section 2.0 - DESCRIPTION OF THE ENVIRONMENT WITHOUT THE PROPOSAL.

Page 2-1, 5th paragraph - rewrite to read: "Pleistocene glaciers shaped the main features in the region's landscape. These glaciers stripped way part of the rock mantle and early soils and left behind till sheets of unconsolidated, unweathered, rocky materials in which thin, infertile soils formed. Some may not support agricultural or commercial forest crops!"

Page 2-5, 1st paragraph, 7th line - change "till" to glacial drift."
2nd paragraph, 3rd line - strike the word "any."
3rd paragraph, 4th line - strike the words, "and moraine." Moraine is a land form, not a till.
5th paragraph, 4th line - add "glacio" to read "glacio-lacustrine deposits."
5th line - add "glacio" to read "glacio-marine sediments."

Page 2-10, 6th paragraph - Rewrite to read:
"The Stetson-Allagash association consists of soils formed in outwash plains and terraces. They are composed of water-deposited sands and gravels and some silts. Soils of this association are found in most stream valleys along the route. Most of the soils in the association are well drained. The well-drained Allagash and Salmon soils and the moderately well drained Madawaska and Nicholville soils are found on the lower terraces. These soils are mostly sandy and generally have medium erodibility. In wetter areas their erodibility is high. Stetson and Machias soils are found in the higher terraces and are usually more gravelly. These soils have low to medium erodibility."

JUN 1 1978

Forest Service Comments

Re: DICKEY LINCOLN SCHOOL LAKES TRANSMISSION PROJECT,
Maine, New Hampshire, Vermont

The major transmission line will not affect the Forest. Ultimate development, as shown in the Appendices, however, shows crossing of White Mountain National Forest (the line to Beebe Lake).

Page 5-3 says the line will be visible from "a small portion of the Allagash Wilderness Waterway." Just this "small portion" might ruin the wilderness experience for some people. It would be better if they could avoid such visual impact completely.

There are several references to what may or might be done in the way of vegetative maintenance. To enhance wildlife habitat there should be a continuous zone of shrubs maintained by selective basal spray. Broadcast spraying of the R/W should be avoided at all times.

Exceptions to crossing of streams at right angles might be called for at times. A more natural opening might be visible from the stream, under some conditions if the power line and cleared area reached the stream at an angle.

Because route turns of up to five degrees can be made without using "dead end" towers, some curvature can be incorporated into the routing to avoid straight lines extending for several miles. This curvature together with "feathering" of the borders of the right-of-way, will approach the appearance of natural openings.

(Page 127) Sites for substations are cleared of trees in preparation for construction. Some trees could be left standing when they do not interfere with construction, to form part of the landscaping for the finished building site.

Total loss of forested land from impoundments and transmission lines is well over 110,000 acres. Feeder lines such as the one to Beebe Lake, New Hampshire, will cause more loss. Under present conditions some of this timber can be supplied from other sources, but by the year 2000 timber production of all kinds will probably be extremely valuable. The energy content of the wood might then be a practical consideration. In the meantime, power production will decline due to siltation of the lakes.

We believe that a strong effort should be made to give appropriate consideration to such unquantified amenities as deer yards and scenic views. The company should consider provision of access to public waters and other recreation areas while constructing the line.

#73

DEPARTMENT OF
INLAND FISHERIES AND WILDLIFE
284 STATE STREET
AUGUSTA, MAINE 04333

JUN 15 1978

MAYNARD F. MARSH
Commissioner

J. WILLIAM PEPPARD
Deputy Commissioner

June 9, 1978

Mr. Larry Wilkerson
Department of Energy
Room 209, Federal Building
Bangor, Maine 04401

Dear Mr. Wilkerson:

We have completed our review of the Dickey Lincoln Transmission Line EIS and would like to offer the following comments and suggestions:

Wildlife

Two general points present themselves. First, the conclusions regarding impacts on wildlife are based on a preconceived idea of what the proposed right-of-way will look like and how the right-of-way will be managed. However, the report did not suggest a proposed management scheme or plan for the right-of-way; nor do we know of any binding commitment that would require the responsible agency to abide by any such management plan. We would recommend these points be more clearly discussed in the final report.

Secondly, the mitigation measures discussed on pages 4-6 and 4-7 should be discussed in more detail. Also, a clearer distinction should be made between mitigative measures and preventive measures. In other words, is it truly mitigation just to avoid doing damage? We would recommend that this section be expanded to discuss, in more detail, measures that would counteract any adverse impacts that will occur in addition to the discussion of the prevention of such impacts. Additional points of comment follow:

Pages 2-66 and 2-67 - This section, dealing with remoteness, seems ambiguous, with many value judgments that may not be factual (i.e., does remoteness protect individuals from "severe stress" or does remoteness make wildlife "a significant esthetic resource to man"). These concepts can be argued both for and against remoteness.

Page 2-69 - Under the section "Dickey-Moose River" the statement that "beaver, waterfowl and marten are probably more common here than in any other area in Maine" is open to question. The reference should be cited.

Page 2-100, Paragraph 2, Line 7 - The term "Great Ponds" is used and defined incorrectly.

Page 3-48, Paragraph 1, Line 1 - Although deer wintering areas may vary somewhat from year to year, the general sites can be quite traditional and a great deal of consistency exists. This point should be noted.

Fisheries

The reports are accurate in stating that siltation, herbicide spraying, and water temperature alteration are the three major potential problems for aquatic organisms, especially fish. The consultants have done an adequate job of evaluating impacts on fish and other aquatics, considering the admittedly scanty data for many of the waters involved. Obviously a much more detailed study will be needed if the project is to be implemented. Recommended measures to mitigate impact on aquatic resources are sound.

The following errors or omissions are noted:

1. Draft EIS Sec. 2.06, page 2-31 and App. E., page 3-110 (line 1c)

   It should be mentioned that Fish River between Eagle Lake and Fort Kent also supports significant populations of landlocked salmon (juveniles and adults) as well as brook trout.

2. App. E., page 3-214, fourth line from bottom of page

   Pond name was omitted.

Sincerely,

Maynard F. Marsh

Maynard F. Marsh
Commissioner

MFM:cs

cc: Charles Wyman, Governor's Office
U.S. Fish & Wildlife Service, Bureau of Ecological Services

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

NEW ENGLAND REGION
12 NEW ENGLAND EXECUTIVE PARK
BURLINGTON, MASS. 01803
Tele: (617) 273-7244

#74

JUN 15 1978

JUN 9 1978

Mr. Larry L. Wilkerson
Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, ME 04410

Dear Mr. Wilkerson:

We have reviewed the Draft Environmental Impact Statement for the Dickey-Lincoln School Lakes Transmission Project (March 1978) and are concerned with the potential for impact of the proposed lines on several airports.

To determine whether the proposed lines obstruct air navigation an accurate measurement of their distance from adjacent airports and their elevation relative to the airports is needed. The draft does not adequately provide this information. Instructions on the cover sheet of the enclosed copies of FAA Form 7460-1 should assist you in planning the routing of the lines near airports. After your plan is developed an FAA Form 7460-1 should be executed for each situation falling in the criteria given in the instructions. If more copies of the forms are needed at that time, please advise and we will forward them to you. Upon receipt of the executed forms we will determine whether any of the proposed transmission lines would constitute a hazard to air navigation.

From the information available the proposed lines would pass within six miles of the following airports, so should be checked against the requirements for notice of proposed construction (FAA Form 7460-1 cover sheet):

Ft. Kent Municipal, ME
Clayton Lake SPB, ME
Sky Lodge (Jackman), ME
Moose River SPB (Jackman), ME
Newton Airport (Jackman), ME
Lake Parlin, ME
Colebrook, NH
Errol, NH
Groveton Papers, NH
Berlin Municipal, NH
Twin Mountain, NH
Whitefield, NH
Burlington International, VT
Edward F. Knapp, VT

Thank you for the opportunity to review the potential impact of the proposed project on aviation activities.

Sincerely,

ROBERT E. WHITTINGTON
Director

Enclosures

#75

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203

JUN 16 1978

June 14, 1978

Mr. Harry Hurless
Bonneville Power Administration
U.S. Department of Energy
Federal Building
202 Harlow Street
Bangor, Maine 04401

Dear Mr. Hurless:

We have completed our review of the Draft Environmental Impact Statement (DEIS) for the proposed Dickey-Lincoln Transmission Project in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act.

This 345 KV transmission line is proposed in order to deliver power to New England's electric system from the proposed Dickey-Lincoln hydroelectric project. We understand that the Corps of Engineers (COE) and the Department of Energy (DOE) intend to issue a single final environmental impact statement on both the dam and the transmission line, and we agree that this course of action will present the cumulative impact of the project in a more understandable way to the reviewing public.

Our detailed comments on the environmental impact of the proposed transmission line are contained in the attachment to this letter but are summarized in the following paragraphs.

The construction and maintenance of a 365-440 mile transmission line across the headwaters of many of New England's rivers concerns us. The DEIS is frank in identifying the potential for severe impacts of the project and suggests that these impacts can in many cases be moderated by adjustments in siting, routing, or other mitigative measures during construction. We agree with this and believe the Final EIS should contain a firm commitment to undertake stringent mitigative measures, including those recommended in Appendix E, "Ecological Resources Impact Study". Despite mitigation, portions of some streams containing high quality fisheries will be lowered in quality; these should be clearly identified in the Final EIS. In order to avoid localized air quality problems associated with the burning of slash and non-merchantable timber, the Final EIS should consider alternative disposal methods, including chipping, for use in erosion control and on-site disposal to improve wildlife habitat. As detailed in our technical comments, the potential for widespread application of herbicides, particularly those

containing 2,4,5-T, concerns us; 2,4,5-T is now being investigated by EPA because of a potential hazard to health. The Final EIS should include a more complete investigation of alternative maintenance techniques.

It is our understanding that the COE, in preparing their portion of the Final EIS, is doing a further study of structural alternatives to Dickey-Lincoln, but that this study will not include an analysis of the required transmission facilities. We believe that it would be useful for the joint Final EIS to contain a general study of both the selected and alternative generation/transmission systems. As we commented in our December 7, 1977 letter to the COE, many of the alternatives to the selected generation project (Dickey-Lincoln) would probably require transmission facilities with less economic costs and environmental impacts.

We believe that the DEIS inadequately addresses the impact of the additional 74 mile, 345 KV transmission line required at the ultimate level of development of the Dickey-Lincoln project. Though the DEIS states that the DOE evaluated the project at both the authorized and ultimate development levels, the DEIS does not analyze the environmental impact of this line in any of the route identification or route impact studies. Though the corridor evaluation study screens three alternative corridors for this line (and recommends one), it is impossible, from the information presented in the DEIS and its appendices, to locate these corridors with any degree of certainty. It is apparent only that all three corridors pass through substantial portions (up to 25 miles) of the White Mountain National Forest. Accordingly, we find it impossible to comment on the potential environmental impact of this portion of the project. We understand the difficulties of attempting a detailed analysis of the impacts of ultimate project development for all the alternative system plans. However, in the case of the recommended plan, and in view of the national significance of this area (which the DEIS appendices clearly acknowledge), the Final EIS should include route impact studies for these corridors at the same level of detail as done for the authorized project, and a further analysis of non-National Forest corridors.

Based on the above, and in accordance with our national rating system (see enclosed explanation) we rate this project ER-2. We look forward to reviewing the Department of Energy's and the Corps of Engineers' joint final impact statement on the overall Dickey-Lincoln project.

Sincerely yours,

William R. Adams, Jr.
Regional Administrator

cc: Col. John Chandler, Division Engineer
U.S. Army Corps of Engineers, New England Division

EXPLANATION OF EPA RATING

Environmental Impact of the Action

LO -- Lack of Objections

EPA has no objections to the proposed action as described in the draft environmental impact statement; or suggests only minor changes in the proposed action.

ER -- Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating federal agency to reassess these aspects.

EU -- Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

Adequacy of the Impact Statement

Category 1 -- Adequate

The draft environmental impact statement sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 -- Insufficient Information

EPA believes that the draft environmental impact statement does not contain sufficient information to assess fully, the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft environmental impact statement.

Category 3 -- Inadequate

EPA believes that the draft environmental impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement.

If a draft environmental impact statement is assigned a Category 3, no rating will be made of the project or action; since a basis does not generally exist on which to make such a determination.

WATER RESOURCES IMPACTS

EPA is the principal Federal Agency responsible for implementing the Federal Water Pollution Control Act, the goal of which is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Sections 303 and 404 are particularly applicable to the Dickey-Lincoln transmission project.

Section 303 requires EPA and the States to develop water quality standards and to implement programs to achieve those standards. Water quality standards specify physical and chemical parameters which are designed to protect uses of waterways.

Under Section 404(b), EPA developed "Guidelines for the Discharge of Dredged or Fill Material into Navigable Waters" (FR Sept. 5, 1975). These Guidelines are applicable to the Dickey-Lincoln Transmission Project to the extent that construction of access roads, towers, and other structures may involve placement of fill in waterways and wetlands. The Guidelines require consideration of alternative sites to ensure that the proposed activity is the least environmentally damaging. The Guidelines also state that selection of sites for placement of fill should avoid degradation of water quality; destruction of important wetlands; and significant disruption of fish spawning and nursery areas. The Guidelines further require minimizing adverse turbidity levels; degradation of aesthetic, recreational, and economic values; and the impact on habitat, food chain, and community structures of wildlife.

The EIS and Appendix E thoroughly document the impacts of the authorized level of this project on water resources. Of the 39 links that comprise the preferred route, portions of 11 links are described as causing "severe" impacts due to crossings of streams, lakes, and wetlands. Portions of an additional 11 links are described as "highly" impacting water resources.

In accordance with the objectives of the Federal Water Pollution Control Act, as specified in Sections 303 and 404, we urge DOE to make every attempt to avoid these significant adverse impacts through application of stringent mitigation measures including alternative alignments as recommended in Appendix E. Our specific comments on water resource impacts and our recommendations for mitigation measures are as follows:

The DEIS identifies three major mechanisms by which the construction, operation, and maintenance of the transmission line will impact water quality. They are: erosion and sedimentation from access road and tower construction; runoff of herbicides used to control vegetation in the right-of-way; and the increased temperature of water bodies due to streambank vegetation removal in the right-of-way. The first of these is generally a short term impact and the last two have potential for impacts in the long term.

As Section 8.0 of Appendix E to the DEIS (entitled "Critical Data Gaps") indicates, a total ecological analysis of the project is impossible until such time as access road alignment and tower locations are specified and the types of herbicides and their methods of application are chosen. Such a level of detail is perhaps not possible at this stage in the project, but due to these data gaps any assessment of impacts will be uncertain and incomplete and will be based on assumptions and individual judgements.

The EIS identifies about 14.6 miles of the ROW as having high erosion potential and 129 miles with a moderate erosion potential. In these areas of high erosion potential, ROW stream crossings and long parallel sections adjacent to waterways will result in localized but significant water quality deterioration, and short term violations of water quality standards are probable.

The waters involved are primarily Class A and B and many suppport excellent fisheries. We are pleased to note that the DEIS presents a thorough discussion of the nature and mechanism of erosion and sedimentation. It is not clear, however, that DOE will adopt the maximum possible mitigation measures which are identifed in the Ecological Resources Impact Study, Appendix E to the DEIS.

The impact of herbicides on aquatic resources is a function of chemicals being sprayed directly onto receiving waters and the runoff of chemicals sprayed in a stream's watershed. The DEIS does not specify the method of vegetation control. However, aerial spraying of herbicides is commonly used on utility rights-of-way. The DEIS does state that herbicides would not be applied aerially within 100 feet of shore lines and would not be applied from the ground within 10 feet of any water body. We are concerned that actual implementation and control of this mitigating measure would be difficult. For example, it is unclear whether the 100 foot aerial prohibition refers only to lakes and wetlands or to stream crossings and ROW sections paralleling streams as well.

Additionally, there appears to be a difference between the herbicide mitigating measures recommended by the Ecological Resources Impact Study, Appendix E, and those proposed by the DEIS. It is requested that the rationale for these differences be discussed in the FEIS and any additional impacts associated with them be identified and discussed.

The third mechanism which will cause degradation of water and fisheries quality is the increased temperature in streams which are crossed or paralleled by the cleared ROW. The extent and severity of these impacts appear to be well documented by the EIS, and we are concerned with what the DEIS characterizes as severe impacts associated with certain links, for example, those ROW sections which parallel the Cupsuptic, Magallaway, and Nash Rivers.

We are especially concerned with those links which are identified by the DEIS and Appendix E as having the potential for "very severe" impacts on high quality receiving waters and associated fisheries. The DEIS identifies 11 links in which some streams, ponds and wetlands will be severely impacted due to sedimentation and/or herbicide runoff. Some mitigation of these impacts can be expected by careful placement of the ROW in the final design stages. However, in some cases, for example, link 20, Appendix E to the DEIS states that adjustments of the ROW would not significantly mitigate the impacts and suggests that a new alignment (link) be considered. In addition, there are several other links for which Appendix E recommends either relocation outside of the studied area (Links 7, 11), locations within the link area to allow for perpendicular crossings (Links 1, 44), selection of another link (Links 55, 22), or mitigating measures not discussed in the DEIS (Links 14, 15). We feel that in preparing the Final EIS, DOE should establish and evaluate alternate links to some, if not all, of those links with severely impacted aquatic resources or describe how, by movement within the link, the severe impacts identified by the DEIS can be mitigated.

USE OF HERBICIDES FOR VEGETATION CONTROL

Although the EIS briefly discusses various methods for controlling right-of-way vegetation, there is no indication of which method or methods will actually be implemented. The EIS does state that aerial spraying of herbicides is commonly used on utility rights-of-way, and 2,4,5-T is the frequently preferred herbicide.

We wish to point out several important limitations on the use of 2,4,5-T under current federal restrictions which were not discussed in the DEIS:

- Since 1970, the use of 2,4,5-T around homes, recreation areas (e.g., camping areas, hiking trails, etc.), and waterways has been prohibited primarily to protect women of child-bearing age from a possible birth defects threat.

- 2,4,5-T is toxic to fish and its application is prohibited where runoff into waterways is likely to occur.

- 2,4,5-T is not approved for use on any food crops except rice, so edible plants (blueberry bushes, fiddleheads, etc.) exposed to spraying in the right-of-way should not be harvested for human consumption.

- The U.S. Forest Service Policy on Pesticide Use (FR May 2, 1978) states that 2,4,5-T may be used on Forest Service land, such as the White Mountain National Forest, only where no other environmentally acceptable and economically feasible alternative is available.

Subsequent to release of the Draft EIS, EPA began a formal investigation of 2,4,5-T based on findings that 2,4,5-T has caused birth defects and tumors in laboratory animals, that an ample margin of safety may not exist for persons applying the herbicide and people exposed to aircraft spraying of it, and that scientific evidence exists of a potential health hazard. The investigation is being conducted under the Federal Environmental Pesticide Control Act's "Rebuttable Presumption Against Registration" (RPAR) process. The process, which enables 2,4,5-T producers, users, and the general public to rebut the evidence, will result in a decision by EPA to allow continued use, to restrict use, or cancel its use altogether. The RPAR process may not be completed for some time, and in the meantime, 2,4,5-T may continue to be sold and used.

In light of the concerns discussed above, we request that the Final EIS:

1. Analyze the comparative environmental risks and benefits of all potential methods for vegetation control.

2. Contain a recommendation for a method or combination of methods for vegetation control. If herbicide application is recommended state specifically which herbicide(s) will be used and how they will be applied.

3. Disclose the current status of the 2,4,5-T RPAR process.

4. If 2,4,5-T is selected, discuss how it could be used in a way that will assure that humans, recreation areas, and waterways will not be exposed to spraying, and adopt as a mitigative measure the requirement that notices be published to warn people in advance of spraying.

AIR QUALITY

The DEIS discusses the potential impact of open burning of slash and unmerchantable timber and mentions that such operations by construction contractors would be subject to local, State and Federal air pollution regulations. DOE should be aware that some of these authorities may prohibit open burning or subject such operations to permits which, due to the extent of the impacts, may be denied. As a result of recent amendments to the Clean Air Act, all actions of the Federal government are subject to State air pollution regulations. There is a very good possibility that burning of slash and unmerchantable timber may not be a viable option for certain sections of the project. In order to avoid localized air quality problems associated with the burning of this material, the final EIS should consider alternative disposal methods including chipping for use in erosion control as well as on site disposal which would possibly improve wildlife habitat.

May 3, 1978

To the Dept. of Energy and the Army Corps of Engineers;

76 BPA

After sufferin g throughtthe reading of the Draft Environmental Impact Statement and Appendix H, I feel that I live in an area that no one cares about. It also appears that you feel that the Jackman area is small and can be overlooked with out any trouble.

I know that Dickey Lincoln is a politicians Dream come true, but did any one stop to realize what effects it could have on a small area such as Jackman??? It sure dosent show up in the EIS.

The impact projections that you list, gathered from your survey in Eastern Maine have no bearing on the Jackman area. How you ever saw a possibility of comparing Jackman to Eastern rural towns is beyond me. The towns surveyed were not isolated in any sense of the word,. They were not natural scenic woodlands and could never feel an impact compared to what Jackman will feel if Dickey Lincoln is built. The questions asked of those surveyed were not even relevant to our area.

The facts that are listed about Jackman are consistently incorrect, or outdated. It only proves that no contact was made with our Planning Board or Selectmen, for correct information concerning our town.

Our schools, Econdmy and Municipal Services are at such a strained point now that any intrusion by a large number of people or project such as Dickey Lincoln would surely put the Town into a disterous position. We do not want to be a Boom town, created by Dickey Lincoln. The Government is offering payment for lands and homes destroyed by Dickey Lincoln. What are they offering for the destruction of Towns???

The people concerned with the final decision should be aware of these facts and should realize that from our strong, town feeling and facts presented to you at the May 3 hearing that the line would be better situated somewheres else. If the people surveyed already have apower line and don't think it impacted them very seriously, give them another. It amazes me that politicians can overlook and already spoiled area and pass that up for unspoiled wilderness. Our woodlans are a natural, scenic beauty. They provide jobs for us, which are renewable, plus recreation. You have no right to interfere and spoil with that which we need to survive on.

Jackman is one of the few towns struggling to sell scenic beauty to vacationers. How can we possibly sell our area to visitors for fishing and hunting and scenery after a project like Dickey Lincoln.? Will there be any fish left in the streams that receive run-off after you spray herbicides?? Will our local scenery be anything to look at once it is traversed with a Transmission line????

Sincerely,
Carole Coley,
Box 146
Jackman, Maine

TSM

#79

JUN 19 1978

HARVARD ENVIRONMENTAL LAW

SOCIETY

U.S. Department of Energy
Federal Building
Room 209
Bangor, Maine 04401

Dear Sirs:

We remain in opposition to the Dickey Lincoln Dam and to the transmission corridor which its construction will necessitate. The project is not cost-effective at any realistic interest rate. The United States must pay in the neighborhood of 8% to procure money. Even at the 6 3/8 % rate, proper calculation of the true costs of the intrusion of the transmission line into an area which does not now have one and the destruction of visual and recreational values along the proposed route make the project a non-viable one economically.

We have three specific comments. (1) The DEIS does not give an accurate and instructive indication of the true effects upon the visual and recreational resources along the route of the 150 foot wide corridor. In particular, the crossing of roads, trails, and waterways at a perpendicular angle with no doglegs will create long unsightly vistas in an area which has been free of this sort of eyesore. Moreover, the location of the right-of-way ("ROW") has not been accurately established. The result is that it is impossible for those who will be affected by the ROW to gain a true picture of what that effect will be.

(2) Although the DEIS does indicate that there are many adverse effects from the use of herbicides to keep open the ROW, it does not commit the DOE to make all efforts to avoid their use. There are many studies being done that suggest adverse short- and long-term effects. The DOE has not committed itself to going beyod the letter of current laws to avoid these effects. The suggestion that 2,4,5-T is a proper herbicide, given what has already been learned about its mutagenic effects is a sign that the DOE has not exercised that independence of judgement which NEPA requires in order to protect the environment. This omission is particularly serious, in that the ROW crosses many waterways and passes along other bodies of water, whose flora and fauna will be harmed by the use of herbicides. The use of heavy aerial spray is a practice to be avoided, because of the frequent lack of control over where the spray will land. There also is

no indication in the DEIS of the wind conditions along the ROW that are less than 7 m.p.h., which would allow safer aerial spraying.

(3) The DEIS also understates the effects of the transmission lines electrical field on objects and living creatures within its vicinity. There have been many reports of large shocks under certain conditions which have made life for farmers and others living near power-lines, particularly ones as large as this one, extremely unpleasant. There is no indication in the DEIS that there will be any attempt to recompense those who will have to live with the fear of electrical shocks for the damage done to the piece-of-mind. The DEIS seeks to play down the Russian studies, although responsible scientists in the country have found them to be a cause for concern.

Thus, although the DEIS attempts to provide an adequate assessment of the environmental impacts of the transmission line for the Dickey-Lincoln Dam Project, it remains inadequate because it has not fully explored nor given sufficient information on sveral important aspects of the project and its effects. Moreover, even if the DEIS itself were adequate, the Project--Dam and Transmission Line--are not cost-effective at a reasonable rate of interest, nor even at the artificially low legal rate of interest, if the true value of the loss of areas as yet unmarred by powerlines and a monster dam were taken into account.

Sincerely yours,

John H More jr

John H. More jr

Harvard Environmental Law Society

JUN 22 1978

DEPARTMENT OF HEALTH
60 MAIN STREET
BURLINGTON, VERMONT 05401
(802) 862-5701

STATE OF VERMONT
AGENCY OF HUMAN SERVICES

June 13, 1978

Larry L. Wilkerson
Assistant Project Manager
Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, Maine 04401

Re: Proposed Transmission Corridor Impact on Public Water Supplies

Dear Mr. Wilkerson:

Enclosed is a listing of ground and surface public water supply systems that are believed to be effected by the proposed transmission line corridor. Please note that the first nine systems listed are located in the one half mile wide route. The remaining systems are approximately 500 feet from the outer edges of the proposed corridor.

We have major reservations regarding chemical brush control and its possible related adverse affects on water used for drinking. The division's present policy regarding herbicide spraying along power transmission lines is as follows:

1. No spraying shall take place within 400' of the wells and springs that have been marked on the map submitted by the utility.

2. No spraying shall take place within 100' of the watersheds marked on the same map.

3. The utility shall notify all homes along the spraying route to mark their water sources in order that the location of these sources may be identified. No spraying shall take place within 100' of these individual supplies.

4. No spraying shall take place within 100' of houses in any residential area.

5. One of the principals of the applicator firm must notify one of the following persons by phone at the State Health Department within 3 days of the application. These people will then be able toarrange follow up testing due to this spraying. It will also enable us to check brown areas to determine the effectiveness of spray control.

Harold E. Sargent
Steven Goodkind
Roger Dickinson
Douglas Zorzi

We are especially concerned with your proposal to cross the Barre City water supply watershed in the Town of Orange. We would hope you could arrange an alternate route outside that watershed. Please let us hear your suggestions.

Thank you for your cooperation and assistance in this matter.

Sincerely,

Harold E. Sargent

Harold E. Sargent, P.E.
Public Health Engineer
Division of Environmental Health

HES/DZ/lf

cc: John E. Holmberg, State Planning Office
Regina Webster, Planning Division, AHS

Location	Name of System	Source	Latitude / Longitude
Richmond	Green Acres	Spring & Well	43°37'25" / 72°56'30"
Bolton	Bolton Water Company	Spring	44°22'35" / 72°52'25"
Bolton	Ward's Trailer Park	Well	44°22'20" / 72°52'05"
Moretown	Duxbury Water Works	Springs	44°19'00" / 72°44'00"
Barnet	Dunbar System	Well Field	44°18'05" / 72°03'36"
"	"	Dug Wells	44°18'05" / 72°02'54"
Barnet & Ryegate	McIndoe Falls F.D. #3 & #4	Wells (2)	44°15'29" / 72°04'27"
"	"	Coburn Pond	44°15'28" / 72°04'28"
Berlin	Crystal Springs (Berlin F.D. 2)	Springs	44°10'50" / 72°29'10"
Orange	Upper Orange (Dix) Reservoir	Reservoir & Watershed	44°10'10" / 72°77'21"
Barre	E. Barre F.D. #1	Aux. Reservoir & Intake	44°09'00" / 72°77'21"
Essex	River Hill Trailer Park	Spring	44°29'10" / 73°04'50"
Bolton	Larned System	Spring	44°23'25" / 72°54'51"
Moretown	Patterson Trailer Park	Well	44°19'30" / 72°44'50"
		Well	44°19'30" / 72°44'50"
Berlin	Swasey Trailer Park	Well	44°15'20" / 72°36'30"
Berlin	Roland's Trailer Park	Spring	44°13'01" / 72°32'38"

#79

JUN 22 1978

TROUT UNLIMITED

MANCHESTER CHAPTER

3 Profile Drive
Merrimack, N.H. 03054
June 12, 1978

U. S. Department of Energy
Federal Building
Room #209
Bangor, Maine 04401

Re: DOE/E.I.S.-0008-D
Dickey-Lincoln School Lakes
Project EIS Study Team

To whom it may concern:

I am writing in behalf of Trout Unlimited - Manchester, N.H. Chapter. We of Trout Unlimited are primarily concerned with the potential affects on the water quality and cold water fisheries as related to the above project. If this project is executed (which we oppose), we would like to see the following approach to the various aspects of construction of the transmission facilities.

1. At all stream, river and pond crossings the approach should be a right angle only to minimize damage to the water ecosystem.
2. The use of herbicides should be restricted and of such a type so as not to kill the fish, other aquatic or wild life. The E.I.S. did not cover adequately the effects of the several types of herbicides discussed in the text. The use of herbicides should not be along the banks of water ways because of the effect of causing increased water temperatures and losses in the food chain to cold water species.
3. Clearing land of vegetation should be minimum and access to general traffic (other than necessary construction equipment) should be restricted so as to reduce erosion. Along stream banks minimum Rip-Rap should be used to permit normal growth of vegetation as soon as possible to prevent erosion and maintain cooler ambient temperatures.

We have previously gone on record with the Army Corps of Engineers as opposing the Dickey - Lincoln School Lakes project and still do. We feel the price in terms of the environment, particularly the water, wild life and vegetation rescources do not in any way justify this project especially when there is available both the technology and rescources needed to develop more reliable scources of electrical energy and in more abundant quantity.

Your attention to this matter and consideration of our point of view will be appreciated.

Sincerely,

S. Franklin Ruhl

S. Franklin Ruhl
Vice President
Manchester, N.H. Chapter
Trout Unlimited

#80

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUN 26 1978

ER 78/294
ER 77/858

JUN 22 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
for Location & Engineering
U.S. Department of Energy
Federal Office Building, Rm. 209
Bangor, Maine 04401

Dear Wilkerson:

Thank you for your letter of April 5, 1978, transmitting copies of the Department of Energy's draft environmental impact statement for the Dickey-Lincoln School Lakes Transmission Project in Maine, New Hampshire and Vermont.

Our comments address both the transmission project as well as the proposed lakes.

Mineral Resources

According to the Bureau of Mines Minerals Availability System, the western branch of the transmission corridor crosses the Kibby prospect at longitude 45°20'46" N. and latitude 70°32'44"W. This gold and silver prospect was field checked in 1958.

Our greatest concern is with possible conflicts with potential mineral deposits in the area of northern Franklin and Oxford Counties where the transmission corridor would cross a belt of sulfide mineralization. This belt extends from the New Hampshire border and Parmachenee Lake in Oxford County northeasterly to Van Buren in northeastern Aroostook County.

Some of the most useful techniques for finding hidden massive sulfide bodies involve electromagnetic (EM) geophysical methods. Prospecting by reconnaissance, airborne or ground EM methods are at best hindered and commonly are useless in areas of power transmission lines. Thus, the construction of the Dickey-Lincoln Lakes transmission system could conceivably eliminate the chance for discovery of buried massive sulfide deposits. This issue should be addressed more fully by the final EIS.

In addition to identifying Land and Water Conservation Fund assisted areas to be crossed by the transmission lines, the final statement should specifically note the type of crossing, i.e., whether solely an areal easement or some other type. The applicability of Section 6(f) should be discussed.

Several sections of the draft statement incompletely identifies candidates for the National Wild and Scenic River System. A complete list is: Baker Branch, North Branch, Penobscot River (Abacotnetic Stream), South Branch of the Penobscot River, Moose River, Kibby Stream and the Connecticut River. Appropriate changes should be made in the final statement.

The above minor corrections notwithstanding, we believe the project analysis for the Dickey Lincoln School Lakes Reservoir and the transmission line corridor, as described and reflected in both draft statements, is clearly faulty since the costs of the proposed project to recreation water and land related resources have not been accurately defined. We know the values ascribed to the loss of recreation resources in the draft statement are substantially less than actually would be the case.

The determination of an accurate value "for the benefits foregone" to recreation resources is of the most critical importance in connection with this project. The Dickey Lincoln School Lakes Project would involve a trade-off between hydroelectric power with the reservoir and transmission lines and in the value and futures of the resource in its present pre-project condition. Perhaps the most important value of that resource is the St. John River, a free flowing stream, which we have found to qualify for inclusion in the National Wild and Scenic Rivers System. This is one of a very small and diminishing number of such streams and one which provides enjoyment for increasing numbers of people and employment for local area residents.

For this possible trade-off, decisionmakers will know the benefits to be realized, but they will not know the correct cost to the river resource and to recreation. The cost to the St. John River, as an unique recreation resource, have not been studied by the project sponsor who instead has relied on procedures guided by Principles and Standards, that is known to be implacable. In this regard, we do not believe that informed decisionmaking for this project can occur until a recreation study as previously recommended in our letter of December 15, 1977, to the Corps of Engineers is made to determine the correct resource values. A copy of that letter is attached for your consideration.

Fish and Wildlife Resources

We note a significant omission which is not covered in either the socio-economic or recreation sections. This is the impact on the public use of fish and wildlife resources through fishing, hunting and trapping. The natural environment through which the transmission line would be built, supports a wide variety of fish and wildlife, as noted elsewhere in the draft statement. The fish and wildlife, in turn, support a tremendous amount of fishing, hunting and trapping and incidental nature study and wildlife photography. Human use of these resources then generates considerable expenditures for licenses, permits, clothing, equipment, supplies, travel, lodging and for maintenance of hunting dogs. This public use of fish and wildlife resources in the more remote areas of the affected states is a significant factor in total resources management and in the economy of the area. As such, it should be addressed in the final statement.

Mitigation

We enthusiastically endorse the planning effort being made to avoid certain adverse impacts where possible. This is more desirable than reducing a loss after it occurs. Use of the word "mitigation" to describe avoidance actions often leads to a misunderstanding of potential impacts of the project. A mitigative action generally results in a negative impact because only a part of the loss can be recovered, therefore, avoiding the loss is preferred.

No mitigation measures are described in the project proposals. Instead, the draft statements confuse "mitigation" and "loss avoidance." If there is a reasonable and prudent alternative to a proposed project which will cause losses to fish and wildlife resources, that alternative should be pursued. If not, then the project-induced losses should be mitigated. The combined final statement should assess this issue.

Preliminary data which were generated in the habitat evaluation procedures applied to the transmission line portion of the project, indicate there will be minor net gains in terrestrial habitat value if the line is constructed. The gain in habitat value, however, is relatively small in contrast to the loss which would result from construction of the reservoir portion of the project. Mitigation would be required, therefore, for a major part of the expected terrestrial habitat losses in the reservoir area.

It should be noted that replacing 100 acres of inundated stream and adjoining land with 100 acres of stream and land elsewhere, in fact, does not mitigate the impacts of inundation. The "replacement area" already would be supporting fish and wildlife at, or near, its carrying capacity.

Mitigation would require the acquisition and management of replacement lands to support wildlife in numbers equal to those lost from the area inundated plus those present on the replacement lands without management.

Mitigation of Water Impacts

We note that mitigation of water impacts is to include prohibiting the application of herbicides from the ground within 10 feet of any body of water, except in cases where the chemicals are known to be safe. However, the statement should also consider similar mitigation with respect to ground water, particularly for portions of the route where the depth to water table is shallow, where permeabilities of surficial materials are high, and where habitations, wells and/or springs are near the corridors. Mitigation by dilution is suggested by comparing the area(s) of aquifers crossed by the rights-of-way with total aquifer extent. This does not appear to be a generally valid basis for the following reasons:

(1) ground water moves slowly compared to most surface streams and generally moves without turbulence or much mixing;

(2) dilution and dispersion are greatly delayed in ground water; pollutants tend to move for long distances essentially in a linear downgradient course; and

(3) ground water, especially shallow ground water, is usually rather directly tributary to a stream, for which it helps to sustain base flow -- but the arrival of pollutants at the stream will be considerably delayed.

Therefore, we suggest that the impacts of herbicides or other pollutants on shallow ground water should be more adequately considered in the final statement. The evaluation should specifically address the protection of ground water by mitigation against spills of herbicides, lubricating oils, transformer oil, fuels, etc. Corrective measures should also be described in the event that a spill occurs.

Unavoidable Adverse Impacts

Although a short-term increase in runoff and erosion from vegetation removal and surface compaction are identified as unavoidable impacts on page 5-1, mitigating measures should be considered to minimize soil erosion and sedimentation if delays should occur during construction.

Critical Data Gaps

Appendix E states that more specific data are needed on design and routing of access roads. Tentative data in the draft statement itself suggest that about 445 miles (1,080 acres) of access roads will be required. Until final right-of-way determination is made, however, it is not known how much of this access will require new roads and how much will use existing roads. Projected data show 207 miles (502 acres) of access will likely be off the right-of-way.

This section also notes deer wintering areas and potential rare plant sites should be inventoried at a time as close to construction as possible. This information should be provided in the draft statement itself.

Specific Comments

Section 2.07.4 - Should be changed to read, ". . . New Hampshire have been proposed for designation as threatened or endangered plants and thus in the future may be legally protected."

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The New England cottontail should be listed for Vermont also. The mountain lion should be listed as Eastern cougar. The timber wolf should be Eastern timber wolf. The yellow-nosed vole is listed as concerns to New Hampshire and Maine; delete Maine and add Vermont.

Section 5.03 - The final statement should describe the measures being considered to mitigate the unavoidable losses; e.g., traversing a control portion of a deer yard, of placing an access road through a deer yard or a wetland.

Appendix E

A more appropriate title for this appendix might be Natural Resources Impact Study, since Figure 8.03-2, Level A-3 uses the term Natural Systems to describe the components thereof.

We hope these comments will be helpful to you in the preparation of a final statement.

Sincerely,

Larry E. Meierotto
[illegible] SECRETARY

Enclosure

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 77/858
ER 78/294

JUN 22 1978

John P. Chandler
Colonel, Corps of Engineers
Division Engineer
Department of the Army
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Colonel Chandler:

We have reviewed the Department of Energy's (DOE) draft environmental impact statement for the Dickey-Lincoln Lakes Transmission project.

In the course of this review, further issues relating to the dams and lakes were identified. These issues are described in our letter to DOE, a copy of which is attached.

These issues should be addressed in the final statement for the entire Dickey-Lincoln project.

We hope the comments will be helpful to you.

Sincerely,

Larry E. Meierotto
Deputy Assistant SECRETARY

Enclosure

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 78/294
ER 77/858

JUN 22 1978

Mr. Larry L. Wilkerson
Assistant Project Manager
for Location & Engineering
U.S. Department of Energy
Federal Office Building, Rm. 209
Bangor, Maine 04401

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Our comments address both the transmission project as well as the proposed lakes.

Mineral Resources

According to the Bureau of Mines Minerals Availability System, the western branch of the transmission corridor crosses the Kibby prospect at longitude 45°20'46" N. and latitude 70°32'44"W. This gold and silver prospect was field checked in 1958.

Our greatest concern is with possible conflicts with potential mineral deposits in the area of northern Franklin and Oxford Counties where the transmission corridor would cross a belt of sulfide mineralization. This belt extends from the New Hampshire border and Parmachenee Lake in Oxford County northeasterly to Van Buren in northeastern Aroostook County.

Some of the most useful techniques for finding hidden massive sulfide bodies involve electromagnetic (EM) geophysical methods. Prospecting by reconnaissance, airborne or ground EM methods are at best hindered and commonly are useless in areas of power transmission lines. Thus, the construction of the Dickey-Lincoln Lakes transmission system could conceivably eliminate the chance for discovery of buried massive sulfide deposits. This issue should be addressed more fully by the final EIS.

Considerable mineral exploration has taken place in this area in the last few years and a significant zinc-copper discovery was recently made in Aroostook County about 15 miles northwest of Ashland. Because of the potential for additional deposits in this area of Maine, a detailed mineral survey by a competent consulting mining engineer should be made of the areas of this sulfide belt intersected by the proposed transmission line corridors.

Indian Lands

No Indian lands under Federal trust nor any State Indian reservation would be impacted by the proposed transmission corridor.

Cultural Resources

Cultural, natural and recreation resources have been identified at appropriate levels of detail for this stage in project planning and commitments are included to follow resource protection procedures, such as those in the National Historic Preservation Act of 1966 and Executive Order 11593. A wide range of impacts to those resources similarly is discussed. From this perspective the draft statement is adequate with respect to the programs of the Department.

Recreation Resources

The final statement should identify recreation areas and parklands such as Allagash Wilderness Waterway which have received financial assistance from the Land and Water Conservation Fund. Any crossing of those lands would directly involve the jurisdictional interests of this Department. The use of Land and Water Conservation Fund assisted lands for the project would require the Secretary of the Interior's approval pursuant to the conversion requirements of Section 6(f) of the Land and Water Conservation Fund Act. That section provides:

> "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with then existing comprehensive State outdoor recreation plans and only upon such condition as is necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonable equivalent usefulness and location."

In addition to identifying Land and Water Conservation Fund assisted areas to be crossed by the transmission lines, the final statement should specifically note the type of crossing, i.e., whether solely an areal easement or some other type. The applicability of Section 6(f) should be discussed.

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Section 5.03 - The final statement should describe the measures being considered to mitigate the unavoidable losses; e.g., traversing a control portion of a deer yard, of placing an access road through a deer yard or a wetland.

Appendix E

A more appropriate title for this appendix might be Natural Resources Impact Study, since Figure 8.03-2, Level A-3 uses the term Natural Systems to describe the components thereof.

We hope these comments will be helpful to you in the preparation of a final statement.

Sincerely,

Larry E. Meierotto
Deputy Assistant SECRETARY

Enclosure

This is A copy of Comment letter #62 received ON 19 Dec 77.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER 77/858

DEC 15 1977

John P. Chandler
Colonel, Corps of Engineers
Division Engineer
Department of the Army
424 Trapelo Road
Waltham, Massachusetts 02154

Dear Colonel Chandler:

Thank you for your letter of August 31, 1977, transmitting copies of the draft environmental statement for the proposed Dickey-Lincoln School Lakes Project in Maine.

Our comments are presented according to the format of the statement or by subject.

General

We believe the draft statement requires certain revisions and considerably more data acquisition in order to adequately assess the environmental impacts of the project. A major concern is the failure to consider the entire project, namely the Canadian lands which would be impacted by the Dickey reservoir. These impacts should be adequately discussed in the final statement.

There is some confusion in the various sections and in the Appendices concerning specific project information, such as acres to be cleared, areas of pools, amount of Canadian lands to be affected, and miles of the river and its tributaries to be affected. Perhaps a comprehensive table of this initial information in the project description section would be helpful.

We are also concerned about the high levels of mercury in the waters and its potential impact upon the future fisheries. We understand, however, that the Corps is continuing studies of this problem. The final statement should include more conclusive and definitive information on this subject.

We note that certain important impacts are omitted entirely. Discussion of effects on terrestrial and aquatic systems should be included for the following:

(a) The "borrow pits" outside the pool area to be used for construction materials.

(b) The relocation of households, cemeteries, and the eight miles of State Highway Route 161.

(c) The clearing of the Lincoln School Reservoir area to elevation 623 (msl).

It is difficult to review the draft statement without the incorporation of mitigative features. The Fish and Wildlife Service has prepared a Conservation and Development Report, soon to be released, under the Fish and Wildlife Coordination Act, which provides mitigation proposals. These measures with appropriate costs should be included in the final statement. Based on the severe environmental impacts indicated in the above Report, the Fish and Wildlife Service is recommending that, if the project is to be built, that substantial mitigation measures be included in the final plan submitted to the Congress.

Need for Power

We note from page 1-3 that the electrical use rates cited for New England, namely, 5.4 and 5.2 percent are higher than recent estimates of electrical growth rates for the country as a whole, and New England's growth rate has been consistently below the national average in recent years.

We have learned from our contacts with the Massachusetts State Planning Office that Edwin Zeitz of that agency has completed a study of projected growth in New England's electricity demand. This is a Department of Energy funded project and is not yet published, however, the anticipated publication date is January 1978. We understand that Mr. Zeitz, in predicting annual electricity demand for New England, has given extensive consideration to the effect of conservation measures and price-induced reduction in

demand. It is indicated that his estimates of annual electricity use may vary by as much as 25 percent less than the utility forecast depending on whether or not price-induced and other conservation measures are considered. The final statement should indicate whether the projections reported in the draft statement take into account the effect of energy conservation measures and incentives thereto--such as Massachusetts' new policy of peak pricing. The results of the State Energy Planning Office Report, if available, should be coordinated with the estimates given in the final statement.

Mineral Resources

Because of the general lack of information on mineral resources within this 89,000-acre reservoir area, we are in agreement with the letter from the University of Maine, Department of Geological Sciences, dated June 23, 1977, which appears in Appendix J, Public Workshops. This letter indicates that participation by the State geological community has not been adequate and that a meeting of the Corps and in-State geologists should be arranged. The Workshop Reports, Appendix J, note that a letter has been sent to the Maine Department of Conservation requesting a scope of work from its Bureau of Geology for a mineral survey within appropriate areas of impoundment. We understand that the Corps will meet with the State Geologist and the Geological Society of Maine on December 3, 1977, in Brunswick to discuss the need of a mineral evaluation prior to project beginning. The final statement should report fully on the status of this proposed minerals survey.

Impacts on Water Supply

Base-flow characteristics of streams below the impoundments may be affected by locally raised groundwater levels as indicated on page 5-1. These potential effects should be assessed in the final statement.

Impacts of the proposed labor camp on water supplies and sanitation should be treated in more detail in the final statement and should be accompanied by suggested mitigation. Plans for improving water supplies and sanitation in affected towns should be included; or the possible temporary use of package sewage treatment plants should be considered as an alternative.

Indian Lands

No Indian lands under Federal trust protection nor any State Indian reservations would be impacted by the proposed dams. However, legal suits of certain Indian tribes against the State of Maine, which are now pending, may involve parts of the project area. The final statement should address this issue and indicate what impacts this may have on the project.

Cultural Resources

The Corps has given extensive consideration to the protection of cultural resources within the immediate project area. However, we believe the following subjects should be treated more fully in the final statement.

Historic Sites - Fort Kent, a National Historic Landmark, listed on the National Register of Historic Places, is located in Fort Kent, Maine, along the only road access to the project. It is reasonable to consider potential heavy equipment traffic impacts and increased population effects on this historic resource. The State Historic Preservation Officer's favorable commentary of June 20, 1977 addressed itself principally to historical and archeological aspects within the Dickey-Lincoln Lake impoundment areas. Further contact with the State Historic Preservation Officer is recommended to determine his views concerning possible effects on Fort Kent.

Archeological Sites - The Corps has proposed a plan to mitigate the adverse effects of the project to prehistoric and archeological resources which is limited to more intensive investigations at nine of the thirty-seven sites identified. We recommend an expansion of this plan to allow examination of the extent to which these nine sites are an accurate representation of the kinds and relative frequencies of prehistoric sites in the area and to remedy potential deficiencies.

One of the important kinds of information which the prehistoric sites are expected to yield concerns the prehistoric use of the project area. It has been hypothesized that the area was mainly a conduit for prehistoric travel and that the prehistoric sites in the area are the result of temporary camps made by aboriginal groups. In order to examine the validity of this hypothesis and understand prehistoric use of the area, it is necessary to examine a sample which is representative of the

varieties and frequencies of the total population of sites in the project area. The representativeness of the sample of thirty-seven sites which were identified and assessed could not be certified by the results of the single season investigation. Time limitation, weather and logistical problems, and the previous unknown nature of the archeological record in the project area account for this. The investigators themselves noted that their original ideas about prehistoric site locations were modified during the field season, as discussed in Appendix D, pages 11-14.

We suggest the Corps include additional time and funding in the mitigation plan for the project in order to assess the representativeness of the first season's sample and expand the sample and concomitant investigations if necessary.

Significant Natural Resources - The Corps should be advised that the National Park Service is scheduled to conduct studies commencing in the last half of fiscal year 1978 to identify sites of national natural significance in the New England-Adirondacks theme study area which includes northern Maine. For further information on this schedule, contact can be made with Frank Ugolini, Natural Landmark and Theme Study, National Park Service, Denver Service Center, Denver, Colorado 80225.

Design Memorandum 4A - General Design - Vol. II - Our review primarily focused on Design Memorandum No. 4A, Volume II, Appendix A, Chapter II and Appendix C, Chapters II, V and VI, wherein significant historical, archeological and natural resources were discussed. By and large, these portions of text directly reiterate the treatment of these resources in the draft environmental statement, hence the substance of our comments above are applicable to these Appendices. We take particular note of the citation of unavoidable adverse effects on cultural resources and rare and unique plants under Chapter VI, C.2, page 73. We feel that Chapter V should deal much more specifically with mitigation of these effects. The draft environmental statement and our comments above note the possibility of further archeological investigations and salvage as mitigative efforts and it is possible that the National Park Service natural resource theme studies, mentioned above, can help to confirm, disavow or provide information for mitigation work.

Outdoor Recreation

The Bureau of Outdoor Recreation has made an independent review of recreation in the project area including a ground and aerial reconnaissance of the Upper St. John River, the Allagash Wilderness Waterway, and the North Maine Woods; discussions with State and regional officials; the gathering of relevant related reports; and limited field checks of recreation user costs.

Based on this review, the Bureau of Outdoor Recreation has summarized its comments on the draft environmental statement as follows:

(a) The recreation and related values of the Upper St. John River are inadequately described and substantially undervalued.

(b) A preliminary evaluation of the resource values of the Upper St. John River indicate that it would meet the criteria for inclusion in the National Wild and Scenic Rivers System.

(c) The adverse impacts and loss of free-flowing stream recreation opportunity resulting from construction of the project can be properly and accurately evaluated only by detailed field studies and analysis.

(d) Benefits assigned to the project do not reflect relevant factors and conditions; and therefore those benefits likely may not materialize.

(e) The proposed recreation development is not in accord with the State Comprehensive Outdoor Recreation Plan (SCORP) and other relevant reports. The project area has an abundance of land and lake resources; no additional lake resources need to be created to meet recreation demands for water and water enhanced activities. The State and other organizations have active programs to provide access and facilities to meet needs where and when they arise.

The attachment hereto presents the details of the comments prepared by the Bureau of Outdoor Recreation and substantiates the conclusions made.

Specific Comments

Section 1.03.2, page 1-4. - Are the data in Table 1.0-2 proposed annual power sales? If so, this should be specified.

Section 1.11, page 1-22. - It would seem that the flood protection benefits of the Local Protection project must be subtracted from those benefits assigned to this project. It should be indicated whether the item in Table 1.0-7, page 1-24, Prevention of Flood Damages, has been adjusted to give credit for this local project.

Section 3.03, page 3-5. - The last paragraph refers to additional lands that may be required for fish and wildlife mitigation. The final statement should consider more fully any proposed plans for acquiring management and development rights to mitigating lands and their associated costs.

Section 4.01, page 4-1. - Shoreline erosion is not mentioned here. This description should include information on the maximum and mean amounts of diurnal and annual fluctuation in water level, expressed in terms of acres of "beach" area subject to alternate flooding and exposure and the amount of shoreline erosion expected from this source. These contributions to the silt loading should be included in the calculations of sediment loading treated in the second paragraph of page 4-6.

Section 4.10.3, page 4-33. - In this section, the second paragraph concerning the reproductive potential of the species relative to available habitat; and the fifth paragraph which discusses the fate of displaced mammals, require supportive field data and appropriate literature citings to substantiate the conclusions drawn.

Page 4-37, 5th complete paragraph. - It is implied here that budworm is the major food supply for nearly all bird life in the impoundment area. It has not been documented that this is true, except for a certain group of birds, namely, warblers. It is true, however, that inundation will eliminate nearly all food supplies for birds.

Section 4.14, page 4-46, 3rd paragraph. - Does this paragraph mean that without recreational facilities, there are no educational opportunities or that one cannot appreciate the environment? The relation to aesthetic impacts is not clear.

Section 6 - Alternatives. - We do not find any discussion of the tidal power alternative, specifically the Passamaquoddy-Cobscook Bay tidal power project which is now being studied by the Corps of Engineers. A discussion of the viability of this alternative should be included in this section.

Appendix E. Aquatic Ecosystems and Fisheries Study. - The report appears adequate except that there seems to be no detailed description of the St. John River mainstem and its resources. The section on brook trout populations, page 17, provides no data which shows the numbers of catchable trout that can be expected in the streams over the project life. These estimates are needed to describe the resource base which would support the fishing pressure.

Appendix F. Terrestrial Ecosystems Analysis. - Although this appendix contains a large amount of information available from the literature and from unpublished sources, it suffers from a lack of data gathered specifically within the project boundaries.

Page 4, line 8. The scientific name for yellow birch is not the same as that given on page 85, line 7.

Page 74, 3rd para., last sentence. In Table 1.3-3, most of the birds listed are not passerines.

Page 106, next to last sentence, and page 107, 2nd sentence. The ideas concerning biota changes expressed in these two sentences do not agree.

Page 114, last para., last sentence. The statement regarding the creation of lakeside environment is doubtful and highly speculative. It deserves more explanation. The fluctuating water level in the permanent pool could have severe negative environmental effects along the water edge.

Page 120, last para., 1st sentence. The term "carrying capacity" is not used properly. It is the equilibrium level around which a population fluctuates, depending on biotic and physical factors. What is described as a "carrying capacity" on page 120 is actually above the carrying capacity.

Page 133, last para., 1st sentence. What is the significance of the statement that implementation of the dam may isolate populations of the wood turtle from invading northeastern Quebec?

Page 144, last para., and page 158, last para. These paragraphs summarize the main result of the investigation. They indicate that the project will result in major losses of terrestrial ecosystems. Also, mitigation efforts cannot replace the lost terrestrial habitat and its ability to produce renewable terrestrial resources which will be lost for at least the life of the project. These paragraphs should be referenced in Section 4.10, Terrestrial Ecosystems, and Section 8.0, Irreversible Commitment of Resources.

Appendix G. Recreation Resources. We note, however, that para. 6.14.1, page VI-35, states that the U.S. Fish and Wildlife Service is planning to prepare a detailed fish and wildlife management plan for the project. While the Service is preparing mitigation proposals, preparation of a detailed management plan is a joint effort with the primary responsibility resting with the agency assigned to manage the lands and waters. Final management plans only can be completed when the extent and nature of mitigation lands are known.

Preliminary Fish and Wildlife Coordination Act Comments

Based on the available information and field reviews and the concerns noted in these comments, the Fish and Wildlife Service anticipates that it would object to the issuance of any needed permits for this project. Because of these concerns by the Fish and Wildlife Service, the Corps is urged to continue consultation and coordination with the Service.

We hope these comments will be helpful to you.

Sincerely,

Acting
Deputy Assistant SECRETARY

Attachment

ATTACHMENT

DICKEY-LINCOLN SCHOOL LAKES PROJECT

The Bureau of Outdoor Recreation, referred to as the Bureau herein, has reviewed the draft environmental statement and prepared the comments which follow.

The Bureau's review of the statement also included a ground and aerial reconnaissance of the Upper St. John River, the Allagash Wilderness Waterway, and the North Maine Woods; discussions with State and regional officials; the gathering of relevant related reports; and limited field checks of recreation user costs.

The draft environmental statement is inadequate in its discussion of outdoor recreation and related concerns of this Bureau. These inadequacies are discussed below under four major headings.

A. Upper St. John River Values

The draft environmental statement substantially underestimates the uniqueness of the free-flowing Upper St. John River as an outdoor recreation resource of national significance.

The draft statement makes occasional reference to the uniqueness of the river as a recreation resource. Two statements are found on page 2-59 of the draft statement and page II-15 of Appendix G, respectively: "The upper St. John River is one of the last lengthy segments of free-flowing, near wilderness rivers remaining in the densely populated northeastern United States," and "The remoteness and undisturbed character coupled with some of the most challenging whitewater river segments in the Northeast makes a canoe trip down the Upper St. John River a memorable experience." The river recreation experience, although recognized by the draft statement to be significant, is not given the attention it deserves as a resource of national significance.

The Upper St. John River is located within the North Maine Woods, a 2.5 million acre area of commercial forest land. The 1972 North Atlantic Regional (NAR) Water Resources Study, Appendix N (page N-177), provides the following evaluation of the St. John River Basin: "The extent of wilderness in the basin is unique in the NAR, however, and its remoteness (more than five hours driving time from any metropolitan center) makes it one of the largest, least accessible and most primitive geographical units east of the Mississippi." (emphasis added)

Due to an extensive network of logging roads and because the North Maine Woods is under multiple use management, the area in total should not be considered as true wilderness. Nevertheless, public access to the Upper St. John River is limited and its overall shoreline is relatively undisturbed upstream from Dickey. The draft statement identifies the area as "semi-wilderness."

The National Wild and Scenic Rivers Act, as amended, authorizes the preservation of some of the nation's freeflowing rivers that have ". . . outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, and other similar values . . . ." The Act designated eight rivers as initial components of a National Wild and Scenic Rivers System and prescribed methods and standards by which additional rivers would be added to the System. The Bureau of Outdoor Recreation is currently engaged in a survey of all rivers within each physiographic province located east of the Mississippi to identify additional rivers to be studied for possible inclusion in the National Wild and Scenic Rivers System. Such a system would consist of a balanced representation of rivers (or river segments) that reflect the diversity of the nation's natural physiographic provinces.

Through the Bureau's wild and scenic rivers survey, we have evaluated over one thousand rivers in the following physiographic provinces: Adirondack, Appalachian Plateau, Blue Ridge, Central Lowland, Coastal Plain, New England, Piedmont, Ridge and Valley, and St. Lawrence Valley. Initial study results, supported by field inspections, have identified the Upper St. John River as a superlative river resource. From the study we know that the river is the seventh longest freeflowing river free from major development in the northeast region and the longest in the New England Physiographic Province; no other major river in the region as long as the Upper St. John has less development within one-quarter mile of either side of the river; and finally, only nine major rivers in the region, regardless of size, have less development within their corridor than the Upper St. John. It should also be pointed out that the Big Black and Little Black Rivers, tributaries of the Upper St. John which would also be affected by Dickey Lake, are two of the nine rivers.

Appendix G (page II-15) indicates that of the 2,328 canoeing visitor days recorded for the Upper St. John River during 1975, 81 percent of the users were nonresidents. Considering the distance a nonresident must travel to reach the Upper St. John and the Bureau's evaluation of it in relation to other river resources, we conclude that the river is certainly of regional and perhaps national recreation significance.

In 1970, the State administered Allagash Wilderness Waterway became a part of the National Wild and Scenic Rivers System. The ninety-two mile corridor encompasses 200,000 acres of forest, lakes, ponds and streams. Appendix G (page IV-11) indicates that user group characteristics are similar for both the Allagash and the Upper St. John. The rivers are similar in that both possess many of the same qualities that appeal to the user. Both have outstanding, although somewhat different, natural values. The preliminary findings of the wild and scenic rivers survey and our recent project field evaluation suggest that the Upper St. John River also qualifies for inclusion in the National System.

The draft environmental statement, in its overall evaluation of the Upper St. John River, does not address itself to a unique resource of regional and national importance, but instead considers the St. John largely from a local perspective. The final statement should evaluate the river's freeflowing attributes from a national and regional perspective.

B. Lack of a Recreation Environment Cost Study

With the exception of fishing, the project's environmental study process did not provide for an indepth environmental/economic analysis of the Upper St. John River's freeflowing recreation resource values.

The draft statement and Appendix G refer to the significant recreation resource attributes of the Upper St. John and the fact that most canoeists are nonresidents. However, the river users have not been comprehensively studied, with the exception of the fisherman in the 1976 Creel Census and Fisheries Utilization Study. Many types of resource studies were accomplished as part of the draft environmental statement process, but no broad recreation user study was undertaken.

As noted under A above, it is known that the Upper St. John River represents a most unusual and unique recreation resource. There are very few comparable rivers. This project, as proposed, would result in adverse environmental impacts to, and the loss of, that resource

and its associated recreation values. We believe this fact is so important in the environmental and decisionmaking process for the Dickey-Lincoln Project that it is necessary to perform detailed, field user studies to determine project losses. Without such a study, we believe any environmental statement for this project is inadequate and, as documented below, probably erroneous.

We recommend that a formal study of at least one season's duration be undertaken to provide an objective evaluation of the recreation values of the Upper St. John River in its freeflowing state. This should perhaps involve a variety of methods, including an indepth analysis to determine willingness to pay and the user's perspective of resource values. The study also should include externalities, the valuation of aesthetics and other intangibles, and energy costs.

C. Recreation Losses

The draft environmental statement does not reflect an objective, indepth evaluation of the primary and potential secondary recreation resource losses due to project implementation. In the absence of a comprehensive analysis of the recreation resource values associated with the freeflowing Upper St. John River, there is a serious question as to the validity of the estimated value of recreation benefits to be forgone and the project's overall recreation benefit/cost analysis.

The draft environmental statement reflects the use of Principles and Standards for evaluation of the loss of the Upper St. John River as a freeflowing recreation resource. A maximum of nine dollars per visitor day for losses is used even though there is a provision for departing from the range of unit values when that is considered appropriate. In this case we believe a field survey and study is required and that the departure provided for in Principles and Standards is warranted. To judge the accuracy of this finding, we have gathered some limited available information on actual costs. This was done pursuant to Principles and Standards, page 51: "A variety of other approaches may be taken toward the evaluation of recreation goods and services. In general, however, no one method is completely satisfactory to the exclusion of all others. The applicable rule to follow, taking cognizance of the unique circumstances of a particular setting, including the availability of actual market data and experience, is to use that procedure which appears to provide the best measure or expression of willingness to pay by the actual consumer of the recreation good or service. . . ."

The information gathered confirms our finding that the draft environmental statement does not reflect the potential primary and secondary recreation river losses and that, as presented, the statement substantially underestimates (undervalues) those losses. Our data are as follows:

Not counting expenses incurred enroute, the actual cost per day to the recreationist for a trip on the Upper St. John River from Baker Lake to Dickey would vary according to the services required. A sample of outfitters, guides and seaplane operators who service the Upper St. John River and Allagash Wilderness Waterway provided the following use and cost data: a. Approximately 90 percent of their business is from nonresidents (5 percent of which are Canadians); b. Almost 90 percent of the recreationists bring most of their own equipment with 20 percent renting canoes; c. Of those requiring transportation services to and from the rivers, 85 percent use ground transportation and 15 percent charter a seaplane; d. Of those using a seaplane shuttle, 75 percent are destined for the Upper St. John, 25 percent to the Allagash; e. Only 10 percent of the parties require a guide. The comparative cost data, see Table A, are based on a party of two remaining on the Upper St. John River (from Baker Lake to St. Francis) and the Allagash Wilderness Waterway (from Telos Landing to Allagash Village) for a ten day trip based on a range of services which might be required.

Based on the data received, the daily cost per person for a trip on the Upper St. John River can vary from $51-$69 with full service to $9-$14 for minimum services required, excluding the added cost of getting from one's residence to the North Maine Woods area.

According to the 1973 Survey of Allagash Wilderness Waterway Visitor Use and Visitor Use Characteristics, most nonresident users are from New England and the Middle Atlantic States of New York, Pennsylvania and New Jersey. Assuming the average nonresident user of the Upper St. John drives a personal vehicle 1,000 miles roundtrip to and from the North Maine Woods area with food and lodging for two complete travel days, the added cost could total $240. This is based on $170 for the cost of transportation (1,000 miles at $.17/mile), $40 for two nights lodging double occupancy (at $20/night), and $30 for food (at $15/day). Divided by two people, the cost per person would be $120 or $12/day, if spread over a ten day period, and should be added to the cost of the additional services as required upon reaching the North Maine Woods.

TABLE A

St. John River Trip Departure Location	Shuttle Transportation	Daily Cost Per Person* A	B	C	D
St. Francis, Maine	Ground Service	$52.00	$27.00	$35.00	$10.00
Allagash, Maine	Ground Service	$51.00	$26.00	$34.00	$ 9.00
Greenville, Maine	Ground Service	$69.00	$44.00	$39.00	$12.00
Greenville, Maine	Flying Service	$56.00	$31.00	$37.00	$14.00
Millinocket, Maine	Flying Service	$55.00	$30.00	$38.00	$13.00
Shin Pond, Maine	Flying Service	$54.00	$29.00	$36.00	$11.00
Allagash River Trip Departure Location					
St. Francis, Maine	Ground Service	$51.00	$26.00	$32.00	$7.00
Allagash, Maine	Ground Service	$52.00	$27.00	$35.00	$10.00
Greenville, Maine	Ground Service	$66.00	$41.00	$40.00	$9.00
Greenville, Maine	Flying Service	$57.00	$32.00	$29.00	$15.00
Millinocket, Maine	Flying Service	$53.00	$28.00	$36.00	$11.00
Shin Pond, Maine	Flying Service	$59.00	$34.00	$36.00	$11.00

Level of services upon which daily costs per person are based:

A. Shuttle transportation, full equipment rental (including canoe, tent, cooking and sleeping gear), food, guide services, entry and/or camping fees.
B. Same as A -- excluding guide services.
C. Shuttle transportation, guide services, entry and/or camping fees.
D. Same as C -- excluding guide services.

*Does not include costs incurred enroute to the point of departure.

Considering the total costs involved for the Upper St. John River experience, a more reasonable, but still partial, minimum unit day value might be in the range of $50 to $75.

Revision of the data presented in the draft statement would appear to be in order including the following: Table 1.0-7 (pages 1-23, 24) and Appendix G, Table XII-2 (Page XII-2), Table XII-3 (page XII-3), Table XII-4 (page XII-4), Table XII-5 (page XII-5), Table XII-6 (page XII-6), Table 6 (page EX2-7), Table 7 (page EX 2-8), Table 8 (page EX 2-9), and Table 9 (page EX 2-10), the Average Annual Recreation Benefits Without Dickey-Lincoln School Lakes (page EX 2-11), Table 10 (page EX 2-12), Table 14 (page EX 2-16), and the Cost and Benefit/Cost Ratio (page EX 2-17).

These data are, of course, only a partial representation of true total willingness to pay. Many user costs likely are unknown including equipment and time values; and the degree to which user fees would influence willingness to pay is unknown. The North Maine Woods and Allagash Wilderness Waterway user fees included in the previous cost evaluation are relatively low. Therefore, an actual willingness to pay figure may be substantially higher than the $50 to $75 range.

The uniqueness of the Upper St. John River experience, although mentioned in the draft statement, is not reflected in the overall evaluation of the recreation resource values which would be lost as a result of project implementation. In addition to the revision of the benefit/cost analysis, we recommend that the final statement better reflect the uniqueness and irreplaceable nature of the Upper St. John River as a recreation resource in Sections 4 (IMPACTS), 5 (ADVERSE IMPACTS), 7 (RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY), and 8 (IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES).

More specifically, the final statement should recognize the importance of maintaining the Upper St. John in its freeflowing state and the magnitude of its loss from a regional and national recreation resource perspective. Inclusion of pertinent data such as the wild and scenic rivers survey would add substantially to the document.

The draft environmental statement also inadequately considers secondary impacts to other significant recreation resources, namely the Allagash Wilderness Waterway, and the North Maine Woods which provides the unique setting for both rivers. To date, the Federal government has invested $1.45 million in preserving the Allagash Wilderness Waterway experience. Appendix G (page VIII-1) states that "Because the Allagash is so near

its capacity, the transfer of any proportion of canoeists to it from the St. John River would force the Allagash to reach its optimum use sooner than it would if the dams were not built." Sections 4, 5, 7 and 8 of the final statement should specifically address the probable adverse effects of project implementation on both the recreationist's experience and management of the Allagash. The secondary impacts to the Allagash River likely constitute costs which should be included in the consideration of this project.

Similarly, the North Maine Woods is described in the statement as a semi-wilderness area. The construction of the project would eliminate that particular resource quality and recreation experience in at least a portion of the North Maine Woods. Again, that may constitute a substantial loss associated with the project. We note that adverse impacts (and costs) to the Allagash River and North Maine Woods are not included in the formulation of the benefit/cost analysis for this project and are not described in the present statement.

Project implementation could be in conflict with the 1972 North Atlantic Regional Water Resources Study (Appendix N, page N-177) which indicates that the major need for the St. John River basin ". . . is the preservation of 6000 square miles of unique wilderness quality landscape." The relationship of that study to the presently proposed project should be described in the final statement.

D. Project Benefits

The draft environmental statement presents project related recreation benefits which appear to be based on conditions which are inappropriate to this situation. The Bureau specifically questions the following:

1. The use of standard Corps methodology for projecting day use demand at such a remote project site;

2. The use of annual activity participation growth rates which appear to be inconsistent with data presented in the Maine Statewide Comprehensive Outdoor Recreation Plan (SCORP);

3. The failure to fully consider the impact on the estimated project visitation of existing and potential alternative recreation facilities located closer to the day use, weekend, and vacation markets;

4. The failure to consider the probable impacts of water temperature on the estimated swimming use, and wind and wave action on the estimated boating use.

Considering the location of the project in relation to major U. S. and Canadian cities, the projected visitation is highly questionable. Even in Appendix G (page VI-1) it is admitted that the ". . . remoteness factor could limit recreational use of the project area, especially day use activities such as picnicking, swimming and sightseeing."

After reviewing the Appendix G (page V-2) discussion of the unsuitability of using the standard Corps methodology for estimating project visitation at Dickey Lake, the reader is surprised to learn on page V-5 that the ". . . Corps of Engineers recommended procedure for estimating initial reservoir recreation use has been applied to the projections of demand for day activities, which includes sightseeing, boating, picnicking, swimming and hiking." The final statement should fully discuss the use of standard Corps methodology for estimating project visitation in this situation where it is thought that such a methodology is inappropriate because of remoteness.

The annual growth rates used in projecting demand for camping and day use activities, as listed on page V-4 of Appendix G, appear to be considerably higher than those identified in the 1977 SCORP (Table 3, page VI-5). Accordingly, even the day use and camping demand projections for the area without project implementation, Appendix G (Table V-3, page V-10), appear inconsistent with the SCORP. Moreover, Appendix G (page IV-7) states that residents within the day use market area currently use the project area primarily for hunting and fishing; nonresidents and those residing within the weekend market area most often come to canoe the Upper St. John or hunt. The final statement should discuss why the current trend in use might be expected to change.

The SCORP (page VIII-9) identifies the need for additional hiking, cross-country skiing, interpretive trails, bicycling, picnicking, camping, swimming, and canoe access resources within the Northern Maine Planning District through the year 1990. According to the SCORP (page VI-18) additional inland boating facilities will not be needed within the Androscoggin, Kennebec, and Northern Maine Planning Districts until sometime after 1990. The 1972 North Atlantic Water Resources Study (Appendix M, pages M-77, 79) provides a similar overall evaluation of water resource needs within Subregion A which includes most of the State of Maine: "It should be noted that although gross water surface acreage needs are, for the most part, of considerable magnitude, no net needs have been identified -- even under the Environmental Quality Objective for 2020. Thus, the use of recreation, either singly or in combination with other purposes, as justification for proposed impoundments would be extremely difficult to justify," and, further, "What is required, specifically, are public access areas to those streams which offer good canoeing, and also overnight campsites along those streams and lakes favored by canoeists."

It is important to note that the State of Maine and North Maine Woods Association have excellent and active programs to meet recreation needs as they arise for the above identified activities. This is being done at existing land and lake resources. Hence, the development of recreation facilities at Dickey-Lincoln would substitute, in part, for those programs.

The day use visitation estimates associated with the project do not reflect the impact of existing, planned or potential recreation facilities which are or would be located closer to the expected users. Although existing alternative recreation areas are identified in Chapter IV of Appendix G, there is no clear indication of their effect, if any, in terms of lost visitor days on the visitation projections presented in Chapters V and VI or in the main statement. For example, the SCORP (page VIII-8) states that the current 97-acre regional park deficiency in the Presque Isle/Caribou urban area (population 43,125) could be met through the development of a regional park on State owned land at Squapan Lake. Appendix G (pages VIII-2, 3) even admits that "Any development of this site could substantially affect the potential visitation to the proposed Dickey-Lincoln School Lakes from the day-use and weekend-use zone." However, there is no estimate of project visitor days lost through competition with Squapan Lake.

Canadians now visit the project area primarily to fish and hunt. We question the number of Canadians who might be expected to visit the project, especially those included in the Trans-Canada vacation group identified in Table V-4 (page V-11) of Appendix G. It is stated on page IV-14 of Appendix G that few Canadians using the Trans-Canada Highway have northern Maine as a primary destination. Also, there are six existing Canadian recreation areas within the day use zone that are identified by Appendix G. Collectively these outdoor recreation resource alternatives would appear to be more easily accessible to more Canadians than the proposed project.

There are over 106 lakes of sufficient size and recreation development potential in northern Maine. According to Appendix G (page IV-9) ". . . all of these lakes do serve as a considerable potential source of recreational supply when considered together," and "Presently, the majority of these resources are under-utilized and overcrowding is unlikely to occur in the near future." Considering the abundance of existing land and water resources, their potential for recreation use, and their present under-utilization, we believe that the draft statement grossly underestimates the probable effects on project visitation of these other intervening resources.

The final statement should better reflect the actual visitation impact, if any, of all significant existing or planned alternative outdoor recreation resources within the day use, weekend, and vacation market zones which would be in competition with the project.

We also question the validity of using entire state population data for New Jersey and Pennsylvania for the vacation market zone when the five hundred mile radius projected in Figure 5 (page IV-4) of Appendix G clearly excludes most of each state.

Appendix G (page VI-7) suggests that Dickey Lake's cool water temperature might discourage some users from swimming. Also, wave action on the lake could present a safety problem to boaters during windy weather as mentioned on page VI-4. Appendix G does not specifically discuss how, if at all, the visitation estimates for swimming and boating were adjusted to compensate for undesirable water temperature and wave action. The final statement should address this subject in its discussion of project visitation.

In sum, we believe that the draft statement substantially overestimates projected visitation, and therefore recreation benefits to the project. Factors are present which clearly will limit use including distance, remoteness, intervening opportunities, and active State park and other similar programs. None of these appear to have been adequately considered in the present statement.

SUMMARY COMMENTS

After review of the draft statement and other relevant reports, and field studies, the Bureau finds:

1. The recreation and related values of the Upper St. John River are inadequately described and substantially undervalued.

2. The Upper St. John River is of regional and perhaps national importance in its freeflowing state as a recreation resource. A preliminary evaluation of its resource values indicate that it would meet the criteria for inclusion in the National Wild and Scenic Rivers System.

3. The adverse impacts and loss of freeflowing stream recreation opportunity resulting from construction of the project can be properly and accurately evaluated only by detailed field studies and analysis.

4. Benefits assigned to the project do not reflect relevant factors and conditions; and therefore those benefits likely may not materialize.

5. The proposed recreation development is not in accord with the SCORP and other relevant reports. The project area has an abundance of land and lake resources; no additional lake resources need to be created to meet recreation demands for water and water enhanced activities. The State and other organizations have active programs to provide access and facilities to meet needs where and when they arise.

The Bureau recommends that the final statement fully discuss the impacts on recreation which have been identified above.

TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401

AUG 11 1978

AUG 14 1978

Mr. Larry L. Wilkerson
Dickey-Lincoln School Lakes Project
Transmission EIS Study Team
Federal Office Building, Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

In response to your request of April 5, 1978, we have reviewed the draft environmental impact statement (DEIS) for the Dickey-Lincoln School Lakes Project. The effort that went into the DEIS is obvious from the depth and detail of the environmental concerns discussed. The extensive use of charts, diagrams, and maps greatly aids the reader in understanding the impacts associated with the project.

We believe an EIS should primarily focus on the environmental impacts actually associated with a project and that background material should be capsuled or eliminated when possible. While the DEIS does discuss the actual impacts of the project and the mitigation measures that will be taken, the exhaustive discussion of background material seriously detracts from the reader's understanding. The detailed examination of the project's potential impacts tends to be obscured by the discussion of background material. For example, section 3.08.4 devotes seven paragraphs to a general discussion of "edges" and "islands" and one paragraph to a specific discussion of the potential project impact of increased interspersion.

We suggest that the bulk of the background material be deleted and the remainder summarized to the extent possible. This would highlight the more than adequate discussion of the relevant environmental concerns associated with the project.

We appreciate the opportunity to review the draft statement.

Sincerely,

J. Clement Haddock

Harry G. Moore, Jr., Ph.D.
Acting Director of Environmental Planning

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OFFICE OF COMPREHENSIVE PLANNING
STATE OF NEW HAMPSHIRE
~~STATE HOUSE ANNEX~~. CONCORD 03201
26 Pleasant Street
(603) 271-2155

July 26, 1978

Mr. Larry Wilkerson
Dickey-Lincoln School Lakes Project
Federal Office Building
Room 209
Bangor, Maine 04401

Dear Mr. Wilkerson:

Enclosed are the North Country Council's comments on the Draft Environmental Impact Statement. Although tardy, I am sure you are interested in their comments.

Sincerely,

Peter F. Piattoni

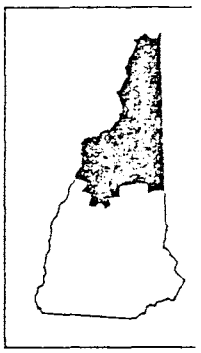
Peter F. Piattoni
Review Coordinator

PFP:am

Enclosure

7/18/78

North Country Council, Inc.



Karl T. Bruckner, President
Gerald I. Coogan, Executive Director

P. O. Box 40 Franconia
New Hampshire 03580

Telephone 603/823-8108

July 14, 1978

Mr. Peter F. Piattoni
Review Coordinator
Office of Comprehensive Planning
26 Pleasant Street
Concord, NH 03301

re: Dickey/Lincoln School Lakes Project

Dear Mr. Piattoni:

The North Country Council would like to compliment the Department of Energy on the thoroughness and detail of the data collection and analyses contained in The Draft Environmental Impact Statement and appendices. One comment regarding the organization of the voluminous information: though the many kinds of data and impacts are well-tied to their specific segments and links, it is sometimes difficult to separate this material as the line passes from one state to another. Could the data be summarized on a county basis?

The North Country Council's Regional Land Use Element (May 1978) identifies three general policies which should be considered in regional land use decisions:

1. To recognize those agricultural and forestry enterprises best suited to conditions of the North Country and to cooperate with agriculture and forestry agencies to assure that agriculture and forestry will make their maximum contribution to the total economy.

2. To place special emphasis on the preservation and conservation of prime agricultural land in the North Country.

3. To recognize and maintain the desirable qualities of the unique natural resource heritage of the North Country.

Practically all of the land which the proposed route and its alternatives will cross would be described by NCC's Land Use Element as Rural Resource or Conservation Areas. The goals and policies for these two areas, while directed in large part to smaller-scale land use decisions, also serve as a basis for the evaluation of large projects such as The Dickey-Lincoln transmission lines.

In Rural Resource Areas, the overall goal is the maintenance of residential use of low or scattered density and the planning of new development to maintain the rural integrity of the land. There are three goals which guide the use of Conservation Areas:

1) To conserve agricultural, forest, water, historic and cultural resources, and other natural resources for long-term production and utilization.

2) To protect unique or fragile natural features and resources from uncontrolled or incompatible development.

3) To limit development of those areas which because of locational or natural characteristics pose significant hazards or serious environmental problems if subjected to uncontrolled development.

The greatest impact of the transmission line and towers will occur on the North Country's most important features: the forest resources (which are of economic and ecologic value), agricultural land, and the aesthetic quality of the total landscape.

1. The DEIS documents the significant economic loss of timber resources which would result from the location of the transmission lines. For the proposed route, the estimated maximum economic loss of the removal of 941 acres of forest land in the North Country is approximately $3 million. We are concerned with the impact of timber removal on the local and regional economies.

2. Due to the relatively small quantity of agricultural land in the northern part of the region and NCC's policies with respect to "ag land", proposed new uses must be critically evaluated. Should the project be built, the actual location of the line and towers should be directed to less valuable land. Any impact of a temporary or permanent nature that would unavoidably result to a private farm land owner should be minimized.

3. The proposed line traverses large portions of mature and regenerating forests. Due to the dominant forest vegetation along with topographic changes and surface water patterns, the Moose River-Moore Dam segment ranked very high in a number of important areas:

   a) The habitat value for species of special concern and harvested species is the highest of the entire route.

   b) More areas are highly valued for species diversity in this segment than in any other.

   c) Cover types are rated high as habitats for all species.

   d) This segment has the second highest rating for rare species potential.

4. The aesthetic quality of the landscape will be significantly altered by the proposed line and towers. While judgment of the value of landscape quality remains much an individual matter, the Council is concerned that the proposed route will intrude into the attractiveness and appreciation of the Connecticut Lakes area, the Kidderville area east of Colebrook, and three valleys - Nash Stream, Upper Ammonoosuc, and the Connecticut River.

The severe impacts of the proposed project as documented in the DEIS and the goals and policies of NCC's Land Use Element together raise serious questions about the

appropriateness and the reality of locating the proposed route across Northern New Hampshire. It is evident that any alternative corridor location will have significant environmental and economic effects. The North Country Council intends to more fully evaluate the Final Environmental Impact Statement.

The Council suggests that the goals, policies, and objectives contained in the Land Use Element be reflected in the final planning and design of the Transmission Line Project. We realize that all forms of energy development will necessitate trade-offs with the natural, aesthetic, and social environment. Each region in the country should be prepared to accept the impacts. We hope that these impacts can be minimized and are compatible with the existing land use.

Sincerely,

Mary Ellen Barnes

Mary Ellen Barnes
Regional Planner

MEB/emr

5.2
18.33

JACKMAN STATEMENT ON DICKEY-LINCOLN
SUBMITTED BY
CAROL COLEY - JACKMAN PLANNING BOARD
EXECUTIVE BOARD MEETING - MAY 16, 1978

Jackman, as many of you know, is a small isolated community near the Canadian Border. Its main industry is tourism, with local men working for the paper industries. Jackman would suffer irreversible economic tragedies plus an asthetic-visual loss if the proposed Dickey-Lincoln Project is built.

At a hearing May 3, in Jackman, residents stood and informed representatives of the Dept. of Energy and the Army Corps of Engineers that their facts and data included within the Draft Environmental Impact Statement was incorrect and out-dated as far as reports on Jackman. I stated that by listing incorrect data, those persons making a judgment on the Dickey-Lincoln Project did not know the true impact Jackman could suffer. During the same hearing a representative of Senator Hathaway's office made a statement on behalf of the Senator. His statement included Hathaway's idea that Dickey-Lincoln would create an economic boost to the Jackman area and provide necessary jobs for all of our unemployed. You see, the EIS states that Jackman has a 12.6% unemployment rate. In reality we have less than 1% of unemployed. The statistic used by the EIS is 8 years old.

The EIS also states that Jackman has a working force available of 778 persons. In reality it is approximately 4-500 persons including women and teenagers.

The projection for right of way clearing crews, is between 60 and 120 persons. The number could increase if some workers bring their families for the summer months or if survey and construction crews are in the area at the same time. The salary projections for men clearing on the right of ways is $10.00 per hour, gravel costs are listed as $5.00 per cubic yard. Both of these costs are inflated compared to prices today in Jackman. Woods workers do not earn wages of $10.00 per hour and gravel can be purchased for 50¢-$1.00 per cubic yard. There is gravel available for Jackman's future needs but not enough for the needs of the access roads for the Dickey-Lincoln Project.

We do have a housing shortage at present in Jackman. Our municipal services, sewer, water, and schools, are at a strained point. Any type of growth on a large scale would put the Town into financial difficulties, trying to provide municipal services. The EIS states that working camps could be created on the right of ways to provide housing for the workers. It also lists the possible problems workers would face being isolated and problems the Town could assume

in trying to cope with workers coming into Town in the evenings seeking a social night life. Jackman is far from being a hot social night spot, with two bars and one cocktail lounge available. Problems could arise with our local law enforcement and related crimes.

The EIS reports that Jackman would be a center point for construction since it is the only town in the corridor possessing a major secondary highway, an airport, and a railroad.

The transmission corridor passes through an area of watershed for a large portion of the North East section of the State. The effects of herbicides and siltation on ponds, lakes, and streams could have disastrous long range effects on fishing in the area and the quality of our vacation land. The proposed route would cross more than 60 streams and border more than 10 lakes in the Jackman area. The EIS states that 91% of the streams would suffer a moderate to severe impact from herbicides and an 88% impact from siltation. 78% of the lakes would suffer a moderate to severe impact from herbicides and a 100% impact from siltation. The transmission corridor will be visible from many locations throughout the Jackman area. The Town is advertised as the Switzerland of Maine with emphasis on the scenic beauty and easy access to wilderness conditions. The EIS lists the area as being low to moderate on viewsheds, but only lists major highways as areas where you could see the lines from. Just because our area is isolated wilderness does not mean it is not seen. In today's age of 4-wheel drive and camping many vacationers come to the area for wilderness beauty. The infringement of a transmission corridor can only detract from the natural beauty and cause repercussions in our tourist trade.

I feel that those involved with the preparation of the Draft EIS have done the residents of Jackman a great injustice by not allowing our responsible representatives to supply correct information during the preparation of the EIS. The EIS continually lists statements pertaining to the open contract, that was supposedly held with corridor towns. Jackman's Town Manager received one phone call seeking information about industry and recreation. No member of the Board of Selectmen, or Planning Board was ever contacted for information about the area. At one point the Jackman Chamber of Commerce was contacted and gave incorrect information as to the formation of Jackman's Snowmobile Trail System.

Jackman is now portrayed as any little town somewhere in the State of Maine. We are in fact unique, not only in our location, but in our economy and survival as a wilderness town. The residents of Jackman wish to remain in their unique town without the imposing Dickey-Lincoln Project cutting corridors through the wilderness.

TOWN OF JACKMAN
JACKMAN, MAINE 04945

The Jackman Board of Selectmen, while not taking an official position for or against the proposed transmission lines or the Dickey-Lincoln Project as a whole, has passed a resolution of objection to the Environmental Impact Statement made on the proposed transmission lines as they would affect the Jackman area. This objection is made because the Impact Statement, in the judgment of the Board of Selectmen, has not, and cannot, accurately and adequately assess the potential impacts, either positive or negative, on the Jackman area in so much as only negligible and inconsequential contact was made with the Town's Officials and people. In most instances, there was no contact at all concerning any of the potential impacts. If the E.I.S. is to have any meaning or validity whatsoever, it must present accurate and complete data on the effects of the proposed transmission lines on our area. The E.I.S. itself recognizes the uniqueness of the Jackman area, and yet provides no primary data on the areas of greatest potential impact such as public municipal services, private municipal services and tourism, upon which approximately 30% of Jackman's economy is based. This could have been accomplished simply through contact with the Municipal Officials from the different Towns, but no effort was made to do so. It is this absence of contact to which the Jackman Board of Selectmen officially registers its objection.

Respectfully submitted,

Thomas H. Hall
Chairman
Jackman Board of Selectmen

STATEMENT: POSITION PAPER - TOWN OF MOOSE RIVER - RE PROPOSED DICKEY-LINCOLN SCHOOL LAKES PROJECT

At the outset, let me state that we are not experts in the field of Hydroelectricity. We do not intend to direct ourselves to those areas dealing with the aesthetics or installation of the transmission lines.

Our primary concerns are those to which I addressed myself at the May 3, 1978, meeting and one other point I did not raise at that time, "inexpensive electricity."

The Town of Moose River is a small community of 255 persons. Because of our size, we do not provide any services directly to our residents. All of our services are on a contractual basis with the Town of Jackman.

In view of our position and after consultation with the Board of Selectmen of Jackman, the Jackman Planning Board and Mr. Bob Gramigna of the North Kennebec Regional Planning Commission, we agreed to a joint statement which was presented by the Jackman Planning Board and Mr. Gramigna at the May 3rd meeting.

We wish, at this time, to reaffirm those statements.

During the meeting, we raised several points. One was, had any thought been given to or any study undertaken in connection with the possibility of a crime problem as a result of the concentration of construction crews in our area.

Your answer was no.

I, therefore, sent to those towns listed on page B-3, Appendix "H", the Maine State Police and the Governor of Alaska, a letter in which we made the following inquiry: "Our purpose in writing is to ascertain whether your town experienced any increase in crime due to an influx of transients during the construction period."

The inquiry to the Governor of Alaska was modified to refer to the construction of the pipe line.

At this point, permit me to digress a moment. We are not implying that construction workers are criminals and by their presence crime would increase.

Our concerns are with those elements of society which feed upon this type of operation. Another concern, perhaps not as serious; but one which may prove to be so, is possible conflict between residents and crews because of social and economic mores.

The replies received from the towns solicited were negative for various reasons. (1) Location to other facilities, (2) lack of facilities, and (3) lack of sufficient records to provide statistics.

Col. Allan H. Weeks, Chief, Maine State Police responded negatively, advising, "the State of Maine did not start keeping Uniform Crime Reports until July 1, 1973. A very recent report issued by the Bureau of Safety informs us that the crime rate for the first quarter of this year rose 2.65 percent.

He did inform us, however, that "any influx of transients into any area could be a contributing factor to the amount of crime. The exact amount of crime would depend on the number of transients and the quality of people brought into the area."

As of this writing, we have not heard from Alaska. Should a reply be received in time to meet the June 6 deadline, we will forward an appendage.

Once again, we reiterate our concerns as previously stated.

Neither town has a police force. We rely upon the Somerset County Sheriff's Office and the Maine State Police for our law enforcement. The area assigned to the Trooper is so vast it precludes his being available at a moment's notice. Our deputies are part-time and because of other employment, are not available on a full-time basis. These conditions cause serious deficiencies in our law enforcement. Any increase of transients over a protracted period would add further hardships.

I would like to draw your attention to the Section entitled, "Public-Private Sector" page 3-77, third paragraph, next to last sentence, which reads, "It is also possible..." I will state it is not only also possible, but probable. That is a condition we do not care to have.

The next point to which we direct ourselves is the one of crew size. The explanations given, we feel, are grossly inadequate.

If you will refer to page 3-69, the terminology used is <u>workers</u>. If this terminology, which has not been sufficiently defined means, "those who get their hands dirty", then I suggest to you there would have to be additional personnel such as administrative and staff. This would increase the total personnel in our area.

Increases by the Canadian Pacific Railroad to handle traffic flow, increase by the Government to handle Border flow, increases in any or all ancillary services would increase personnel in our area.

Again, I refer you to page 3-69, where the following statement is made, "Any decision to accelerate will increase size of crews and total number of workers." Because of conditions in our area, especially in the winter, this statement is probably the truest one in the report. Particularly so, if the project were to be completed under present standards.

In closing, I would draw your attention to a statement which seemed to be the theme of the presentation on May 3, "inexpensive electricity." I would remind you of an answer to a question, "a Transformer could be added to the sub-station to provide for local service."

Your answer, undoubtedly true, did not go far enough. It would cost between 300 to 500 thousand dollars to install such a system (transformer and lines) to meet the needs of this area. I know of no Company, especially one with stockholders, who would be willing to invest such a sum without a fair return on their investment. If they did, it certainly would not be "inexpensive electricity."

Additionally, how can electricity which is transported out of the State to a "pool" and then returned to the State be considered as "inexpensive electricity." We are only lay people, but any thought given to that statement would lead one to believe that unless specific rates were regulated by law and were sufficiently low to protect the consumer, regular rates would be eaten by our present rate of inflation.

An expenditure of approximately one billion dollars for 2½ hours a day of generation, an expenditure by the way of tax payers dollars, adds to the conclusion that the theme of the presentation was very misleading. There are no doubts that benefits are there, however, not for residents of this area or the State of Maine.

Based upon the foregoing, as well as, the position statements submitted by the Jackman Planning Board and Mr. Bob Gramigna of the North Kennebec Regional Planning Commission, the Board of Selectmen of Moose River on behalf of its residents rejects the Impact Statement as not properly reflecting the feelings of the community nor the true picture of the community. As a result, the report contains many inaccuracies. The serious consequences to our environment, both human and animal, would be catastrophic. For these reasons, we cannot support the Dickey-Lincoln School Lakes Project and sincerely request that more viable alternatives be considered.

STATEMENT BY ROBERT GRAMIGNA BEHALF OF NKRPC
DICKEY - LINCOLN PUBLIC HEARING - AUGUSTA, MAY 4, 1978

At the public hearing last night in Jackman, I read a statement for the record in regards to the disappointment the Towns of Jackman, Moose River, and Dennistown Plt. had in not being made part in the preparation and input in the DEIS on the transmission line. Later in the discussion, Mr. Larry Wilkerson made a statement for the record informing that this was due to the fault of myself and the NKRPC.

For the record, I would like to state that:

1. When we first tried to contact for a public meeting in the Jackman area there was resistance from both the Dept. of the Interior and Corps of Engineer. Mr. Wilkerson stated that it was their wish that those effected make their comments on Dickey-Lincoln through our agency.

2. We stated that this was not our customary practice. We stated that those people directly impacted should participate with the experts and technicians. We further explained that from our experience with other similar projects, the best approach was to work with the affected towns. Misunderstanding is overcome and a knowledgeable public is less resistant due to their participation and input.

3. After some time, it was agreed that we would arrange a meeting in Jackman. Due to the situation of resignation and new appointment to the Planning Board, the meeting was delayed somewhat.

4. When the meeting was finally held, the following statement was written into the record of the Jackman Planning Board Minutes.

   I quote:

   > "Mr. Larry Wilkerson of the Dept. of Interior acknowledged that the DEIS was conducted without major input from any local residents and officials and that more contact should have been made from the Dept. of Interior directly to Jackman."

STATEMENT BY ROBERT GRAMIGNA
Behalf of Jackman, Moose River, and Dennistown Plt.
Dickey-Lincoln Public Hearing
May 3, 1978

As a planner for 43 towns in central and northern Maine for several years, I have found that in any planning process, key importance has always been placed on establishing and maintaining constant and open communication with local officials and concerned citizens. The Dickey-Lincoln Transmission Line studies have failed in following this fundamental planning procedure. At the last public hearing here in Jackman, it was stated that the various elements of the DEIS would be done by numerous professional consultants who would be getting in contact with Jackman, Moose River, and Dennistown Plt. With the exception of a telephone conversation with Jackman's Town Manager and brief comments obtained from the Chamber of Commerce, no substantial lines of communication and input were ever established.

Though identified as being significantly different from the typical county and state profiler, due to the area remoteness, isolation and small population the DEIS makes an overall comparison of the potential situation and input here to studies conducted in more urban and populous areas. Overall assumptions that transmission lines have little impact on towns, and municipal services were built into the Jackman area report at the start of the study based on studies of Austin 1975 and Berkshire County R.P.C. in 1974, yet this area has been mentioned in the DEIS as having a greater potential for construction impacts due to its particular geographic location and small population. Particular emphasis was made in reference to the areas available, labor supply, housing, police protection, medical facilities, general resources, and rail service, yet no opportunity was given to the area residents and officials to evaluate and comment on their services. I feel that the assumption that municipal services and impact are minimal is not pertinent to the particular situation here in the Jackman Region.

In conclusion, I would say that it is disappointing that the preparation and information gathered in the DEIS does not include or reflect input from this area. Though remote, these towns represent the only real population to be affected greatly by the construction of the transmission line here in Maine. I hope that in the final EIS, the decision makers will take into account the interest and concern this area has in regards to Dickey-Lincoln.

APPENDIX B - FISH AND WILDLIFE REPORT

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
One Gateway Center, Suite 700
NEWTON CORNER, MASSACHUSETTS 02158

DICKEY-LINCOLN TRANSMISSION LINES PROJECT, ME, NH AND VT

Conservation and Development Report of the U. S. Fish and Wildlife Service on a plan being developed to transmit electric power from the proposed Dickey-Lincoln School hydroelectric project in Maine, into the New England Transmission System in Maine, New Hampshire and Vermont by the U. S. Department of Energy.

_____ Date

_____ Regional Director
Northeast Region

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PREFACE

The proposed Dickey-Lincoln hydroelectric project was authorized by the Flood Control Act of 1965, Public Law 89-298. The project is in the late stages of post-authorization planning. Plans for power transmission lines are being developed by a team initially established by the Department of the Interior (DOI) and transferred to the Department of Energy (DOE). A Draft Environmental Impact Statement (DEIS) on the transmission lines was released April 5, 1978, and a Final Environmental Impact Statement is planned for August 30, 1978.

This Fish and Wildlife Service report is prepared under authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), in coordination with the Maine Department of Inland Fisheries and Wildlife, the New Hampshire Fish and Game Department and the Vermont Fish and Game Department. The only previous report concerning transmission lines submitted by the Service was a Planning Aid Report dated December 27, 1976 (U. S. Fish and Wildlife Service, 1976).

The Department of Interior/Energy team contracted a number of studies to assist in selecting the best transmission line route. One such study was an evaluation of the natural environment. Fish and wildlife resources were a component of these studies. The Fish and Wildlife Service, the Maine Department of Inland Fisheries and Wildlife, the New Hampshire Fish and Game Department and an environmental consultant (the Center for Natural Areas) participated in an evaluation of possible project impacts on fish and wildlife resources. The Center for Natural Areas, under contract to the team, provided a modified habitat evaluation (CNA, 1977).

We have recommended that the proposed Dickey and Lincoln School Lakes on the St. John River in northern Maine not be constructed due to the predicted impacts of the reservoir construction upon fish and wildlife resources (USFWS, 1978). Construction of a transmission line is a part of the overall project. All facets of the project have been evaluated for an economic life of 100 years.

PROJECT DESCRIPTION

The U. S. Army Corps of Engineers is planning construction of a combination hydroelectric, flood-control and recreation project on the St. John River near Dickey, Aroostook County, Maine. Transmission facilities will be needed to transmit power from the project area into the New England Transmission System in Maine, New Hampshire and Vermont via four destination points, all existing substations. A midpoint switching station will be added between the Dickey and Moore, New Hampshire, substations. The furthermost destination is Essex, Vermont. A microwave communication system also will be required.

The hydroelectric project is authorized for 830 MW of generation. However, the output could be increased to an ultimate level of 1,240 MW, with the addition of more generator units. Alternative plans, therefore, were designed to integrate the output from Dickey-Lincoln School at both the authorized and the proposed ultimate levels of generation. Additional transmission lines would be built to connect to other existing substations in the New England Transmission System only if the authorization were amended to increase capacity to the level of 1,240 MW through supplementary pumped-storage operations. See Figure 1 in Transmission Reconnaissance Study (DOI, July 1977).

Five alternative transmission system plans have been evaluated. Previous Energy Department studies provided the basis for the recommendation of one plan (Plan E) from the five plans under study. Broad corridors within this plan were selected to avoid, insofar as possible, essential habitat areas such as deer yards, osprey nest sites, wetlands and shorelines of lakes and streams.

The choice of alternative routes within each corridor was dependent upon further refinement of feasibility and environmental data (VTN, 1976). The term "route" describes possible one-half-mile wide segments through which the line will pass within the six-to ten-mile wide corridors. Alternative routes were identified from Ft. Kent to Dickey; to Jackman/Moose River, Maine; to Moore substation (near Littleton, NH); to Barre; to Essex, Vermont. Alternative routes considered total about 770 miles; the constructed line would be about 365 miles long. A map accompanies this report for further geographical clarification.

The alternative routes were labelled numerically, for analysis purposes, starting at the Fish River substation, Maine, and proceeding southwesterly to Essex substation, Vermont. Each consecutive route segment, from junction to junction, was assigned a link number, and mileposts were assigned along each link to locate specific points. Seventy-five links comprised the entire alternative-route study area; the proposed route consists of thirty-seven links.

The Department of Energy's selection of a route was based on the findings of the several consultive studies. The evaluation of project impacts on fish and wildlife resources will be limited to the proposed route. Additional details concerning the transmission-line alternative-route's study are available in the Department of Energy's Draft Environmental Impact Statement. Details on fish and wildlife resources on the alternative routes are available in Appendix E, Ecological Resources Impact Study, of the DEIS.

The right-of-way will be 150 feet wide, except that portion adjoining an existing right-of-way which will be 100 feet wide. Transmission voltage will be primarily 345 kV (345,000 volt). There will be a short section of 138-kV circuit line on a 100-foot right-of-way. The exact location of the right-of-way within the route is subject to environmental and other considerations. For study purposes it was assumed to be in the center of the route.

A single set of 165-foot high steel-lattice towers supporting a double circuit will be employed for the 345-kV line. Five towers will be required per mile. A midline conversion can be made, as necessary, in visually-sensitive areas, to 75-foot high single-circuit wood pole transmission. The right-of-way width in the latter case, however, increases to 250 feet, as contrasted to the 150-foot width required for single-lattice towers.

The distribution of power over the integrated system is dependent, in part, upon a reliable communication system. The existing microwave communication system, according to preliminary planning, would be augmented by the addition of microwave facilities at Dickey Dam, Lincoln Dam and Jackman substations, by active repeater-station facilities at nine sites and a passive repeater at one site. Substations and active repeaters would have towers about 80 to 100 feet high depending upon local line-of-sight obstructions. The passive repeater would be a billboard-type structure on a self-supporting tower about 15 feet high. The new microwave system, as planned, would provide communication for the system originating at Dickey-Lincoln School Lakes and terminating at Moore substation. Most of these facilities would not be located on the right-of-way. Therefore, additional habitat will be changed or destroyed.

Access roads, buildings, switchyard facilities, tower-base areas and fuel-storage areas would occupy lands in addition to those required for the transmission line. Buildings and related facilities would occupy areas varying in size from 0.2 acres to 5.2 acres. Gravel access roads varying from about 2 miles long to 7 miles long (a total of about 17.3 miles) would have to be constructed. Since lands for these facilities have not been identified, a survey of them has not been included in this report.

ENVIRONMENTAL SETTING WITHOUT THE PROJECT

The Ecological Resources Draft Technical Report (CNA, 1977) is the source of the information on the fish and wildlife resources of the recommended route and environs.

A. Fishery Resources

Fishery resources of the waters crossed by, or in close proximity to, the proposed right-of-way include both cold-water and warm-water species. Table 1[1] lists the fish species and the habitat and temperature preference of each. Table 2 lists the fishery values of streams, lakes and ponds within the 37 links of the recommended route.

[1]All tables and figures are at the end of this report.

The cold-water streams generally are the upstream, small, fast-moving, shaded waters, whereas the warm-water streams generally are larger, slower moving and with less streambank cover. The majority of the streams in the project area contain brook trout as the major cold-water fishery resource. This resource is perpetuated through natural reproduction, although stocking of rainbow, brook and brown trout does occur in some Vermont and New Hampshire streams.

For the most part, an ample amount of fishing opportunity for brook trout exists in Maine and New Hampshire; in Vermont, demand exceeds opportunity. Stream fishing pressure for the other trout probably is commensurate with present stocking rates.

Lakes and ponds in the project area also provide a variety of cold-water fishing opportunity, including landlocked salmon, lake trout, brook trout, brown trout, whitefish, smelt and burbot (cusk). Fishing opportunities exceed the demand in the majority of these waters.

Warm-water fishing opportunity far exceeds the low demand at the present time in Maine and New Hampshire; in Vermont, however, the demand for warm-water fishing is high. Chain pickerel and yellow perch are the major warm-water species sought.

Over the 100-year analysis period, there should be ample opportunity for cold-water fishing. Localized areas will receive heavy fishing pressure, but this will be a problem of fisherman distribution rather than a problem of too few fish. Warm-water fishing opportunity probably will be adequate, except for Vermont.

There was no detailed analysis made by consultant services of fishery utilization in waters crossed by, or in close proximity to, the proposed right-of-way. We have no comments on utilization, therefore, other than the general statements above.

B. Wildlife Resources

Introduction

It was decided that an evaluation of project impact on terrestrial wildlife resources would have to relate to the impacts on the habitat. A qualitative evaluation would have to be made to provide a measure of the capability of vegetative types to support various species of wildlife.

It was assumed that the various vegetative habitat types (Figure 1) which occur along the alternative routes under study would continue to support wildlife at about the same rate as at present unless major changes in land use occur. Any changes in the habitat, therefore, could be expected to reflect at least subtle changes in the wildlife populations. It was decided that the Service's Habitat Evaluation Procedures (HEP) would be used for the evaluation.

Use of the Procedures involved formation of an evaluation team of wildlife biologists representing the state fish and wildlife agency(ies), the planning agency and the U.S. Fish and Wildlife Service. In this instance biologists from the Maine Department of Inland Fisheries and Wildlife and from the New Hampshire Fish and Game Department represented their agencies in their respective states; the Vermont Department of Environmental Protection declined to have a representative of the Fish and Game Department participate. The planning agency's representative was a biologist from the environmental studies consultant firm, Center for Natural Areas.

The HEP team selected ten representative wildlife species to be evaluated on sample sites of each of the habitat types. Sixty-three species were used on the study, including game and non-game species of birds and mammals, and herpetiles (Table 3). Habitat criteria were developed for each species so that the value of each habitat type could be determined for the ten indicator species selected (for that type). A total of 175 sample plots were evaluated: 91 in Maine, 39 in New Hampshire and 45 in Vermont. Table 4 shows acreages, by habitat types, in the study area and in right-of-way, without the project and with the project.

The team determined the habitat value per acre for each of the selected species on each sample site on a scale of 1 to 10, in ascending order to the highest value, with 5 representing average habitat. The totals for each habitat type were then added for each of the 10 selected wildlife species. This provided ratings on a scale of 1 to 100. The ratings provide a judgmental measure of the capability of the site to support the selected species. The higher ratings represented higher habitat value.

Habitat unit values then were determined by multiplying habitat values by the acres of habitat types. The result was an index of habitat value for each of the habitats being evaluated.

In conformity with the Dickey-Lincoln School Lakes project methodology, target years of 10, 30 and 100 were selected on the basis of anticipated timber-cutting cycles. The year 0 was assumed to be the year of construction. The team assigned a value to existing habitat. Other values were predicted for the habitat with and without the project over the assumed 100-year project life. The data were computed on an annualized basis. (The project life of 100 years is the period used by the Corps of Army Engineers for purposes of determining economic losses and/or benefits.)

Existing conditions had to be determined to form a base from which changes could be predicted. The impact of the project was measured by the difference between habitat units expected to exist without the project and habitat units with the project, over the 100-year project life.

Criteria for evaluating potential habitat changes are based on several assumptions made by the team. We assumed that the wildlife resources of the project area and environs are at or near equilibrium populations and will remain so as long as the habitat is not drastically changed. It is assumed that Maine and New Hampshire, in the route environs, will remain largely forest land and in ownership of a few major forest industry companies; average stand age probably will decrease as a result of forest-cutting practices. Vermont will tend to remain largely in small woodlots not under ownership of major industries; average stand age probably will increase. The mature spruce/fir habitat type and its value to wildlife will remain essentially unchanged. Utilization of forest products will increase, thus a trend will evolve toward shorter cutting cycles and overall lower tree heights.

It is further assumed that regeneration stands will grow into mature stands at a rate equal to that of mature stands regressing to regeneration stands (clear-cut, fire, etc.). Row-crop fields and pastures now in production likely will remain in production. No drastic changes among habitat types are foreseen; therefore, without the project, the terrestrial habitat probably will continue to produce and sustain wildlife populations at about the same average annual rate as at present, providing there are no significant unforeseen changes in land use. Wildlife resources, both resident and migrant, include at least 165 bird species, 54 mammals and 35 reptiles and amphibians (CNA, 1977).

Wildlife Habitat

Generally, the more common vegetative types are distributed as follows:

a. Spruce/fir - All three states, with the heaviest concentration in north-central Maine, scattered in New Hampshire and Vermont.

b. Northern hardwoods - All three states, heaviest concentration in Vermont, primarily northern and southern segments of routes in Maine, scattered in New Hampshire and Vermont.

c. Transitional hardwoods - Maine and New Hampshire only, but limited to one area on selected route.

d. Lowland hardwoods - Limited to New Hampshire; very little along route.

e. White or red pine/hemlock - Very limited area along New Hampshire-Vermont border in Connecticut River Valley.

f. Open agricultural land is present in all three states; heaviest concentration is in Vermont, northern Maine and Connecticut River Valley.

Wildlife habitat types and respective acreages without the project and with the project are listed in Table 4.

Wildlife populations (single species) and wildlife communities (several species) are influenced by many factors. These factors include, but are not limited to, habitat, climate, predator/prey relationships, activities of man, geographic location and disease. These factors can be further defined. Habitats, for example, can provide for feeding, resting, courtship, reproduction, nursery and seasonal shelter areas. Man's activities can include forestry, agriculture, hunting, trapping, fishing, mining, urban and commercial development and recreational development. These factors interact to varying degrees, so that fluctuations in wildlife populations seldom can be related to any one factor.

Various factors can modify or alter the usefulness of a specific habitat for specific species. The alteration, however, often diminishes the habitat value for one or more species and at the same time increases its value for other species.

Table 5 provides an analysis of the expected changes in acreage and habitat unit changes over the project life, without the project.

Table 6 summarizes the annualized habitat unit changes and areas for compensation, also without the project. It should be emphasized that the last column, "area for compensation," simply shows the results of land-use changes in terms of habitat unit value if the project is not constructed.

Endangered or Threatened Wildlife

Three federally listed endangered species, the eastern cougar, the bald eagle and the peregrine falcon, have been known to occur within the project area. However, no recent reports of eastern cougars can be substantiated anywhere in the Northeast. A few migrant peregrines probably pass through the area in spring and fall but no nesting is known to occur. An historic nesting area is located adjacent to Link #49.

No threatened or endangered wildlife or species of special concern are known to be directly dependent upon the habitat of the selected route. However, over the 100-year project life it is possible that any of several species in the rare, threatened, endangered or special-concern categories could become important in the area.

Wildlife of Special Interest

The lynx is extremely rare and completely protected by law in all three project-area states. The project area is along the southern periphery of the lynx's range, and occasional sightings and reports are received. It may exist as an occasional breeding mammal in remote areas within the

project area. The lynx is currently under review by the Office of Endangered Species to determine whether it should be given a federal endangered or threatened classification. Also, the lynx is included on Appendix II of The Convention on International Trade in Endangered Flora and Fauna. The United States does not allow lynx pelts to be exported.

Bobcats are found throughout the area. The bobcat, like the lynx, is listed on Appendix II of the Convention, and a Notice of Review to determine whether it should be given endangered status has been published in the Federal Register. Hunting and trapping pressure have led to a minor reduction in the population in Vermont but not enough to warrant placement on the endangered species list. In New Hampshire the Legislature, with the support of the Fish and Game Department, closed the season on the bobcat for two years due to a slight decline in population; the decline is not considered serious enough at this time to merit placement on the endangered species list.

The marten also has been the subject of a Notice of Review to determine whether it should be listed as endangered or threatened. Vermont and New Hampshire have few, if any, marten but Maine supports a good population.

Raptors

Raptor species that occupy the project area at various times include certain accipiters, buteos, falcons, eagles, osprey, marsh hawk and owls. Some species occur year-round, some occur seasonally, and others, such as the snowy, great gray, and hawk owls, only irregularly. Raptor occurrence and abundance are shown in Table 7. They are expected to remain at approximately the current level without the project.

Deer

The white-tailed deer probably is the most important game animal in the region. Hunters contribute millions of dollars annually to the economy of Maine, New Hampshire and Vermont, through expenditures for licenses, equipment, travel and lodging. An intangible benefit also accrues through studying and observing deer in the wild.

Exact populations and complete harvest data along the proposed route are not available, although Maine and Vermont do have an index of abundance for deer populations and harvest trends for townships along the route (CNA, 1977).

In the winter, deer seek out habitat that gives them protection from deep snows, high winds and extreme temperatures. In Maine, these areas commonly consist of spruce-fir in the 35- to 64-foot class with a crown closure of 70 percent or more. Other softwood stands, such as white pine, hemlock and cedar, also are utilized as deer-wintering areas. In Vermont and New Hampshire these same vegetative types are utilized, but

in addition, south-facing slopes also are widely used as wintering areas. A critical aspect of the deer-yard situation is the abundance of nutritious and palatable food within or adjacent to the wintering areas. If enough nutritious or palatable browse is not available to sustain the deer concentrated in the deer-yard, they will succumb to starvation.

Recreational Value of Wildlife

Although all wildlife species are important components of the total environment, some species are considered to be of particular economic value. These are the species which are hunted or trapped; they provide recreation, and, in the case of the furbearers, a source of income to the trapper. The hunters and trappers make extensive expenditures associated with these activities for travel, lodging, meals, equipment, supplies and license fees. The continued existence and use of the wildlife by the public, therefore, contribute considerably to the area economy.

Many other non-harvested species provide enjoyment to birdwatchers, nature students, wildlife photographers and the casual observer. The economic value of non-hunted, non-trapped species is not readily apparent, yet they, too, are of value to man. Moose, for example, are protected by state law in the three-state project area. In spite of the fact they are not hunted (legally, at least), they represent a valuable resource to the casual observer, the nature student or the wildlife photographer.

C. Rare, Threatened and Endangered Plants

Pedicularis furbishiae is listed as an endangered species; it is not known if any specimens exist within the study area. The Department of the Interior has published in the Federal Register proposals to include several plants which may occur within the study area on the national list of threatened or endangered species. A list of these plants appears in Table 8. In addition to the national list, Maine and Vermont have developed lists of plant species of state concern. Although Maine provides protection for two members of the heath family (Ericaceae), Rhododendron maximum and Kalmia latifolia, neither species is known to occur in the vicinity of the selected route. Vermont has established a list of endangered plants which are protected by law. New Hampshire does not have an official program to protect that state's endangered species. The late Dr. A. R. Hodgdon compiled a list of endangered New Hampshire plants (CNA, 1977).

Detailed information of threatened or endangered plant species of national or state concern in the study area is not available. Based upon the occurrence of plant communities noted for their rare plants, such as bogs, cedar swamps and mature hardwood stands, it is reasonable to deduce that populations of one or more of these species may be present within the right-of-way or its area of influence. Twenty-one of the selected 37 links contain habitats which may be expected to support rare species (see Table 9).

ENVIRONMENTAL IMPACTS WITH THE PROJECT

Introduction

An electric power transmission line right-of-way, unlike a reservoir, exemplifies a condition where habitat is not completely destroyed, but may be so altered as to be unrecognizable from its former state. Depending upon the habitat it traverses, it may produce no significant change at all (e.g., a row-crop field which remains in production, or an open body of water), or it may change naturally growing forest into a regenerating woodland where vegetative development is controlled by man.

Project impacts can be qualified as short or long term, minor or major, beneficial or harmful. Impacts can be beneficial to some species and harmful to others; some impacts can benefit wildlife and harm fisheries, or vice versa. There are other impacts which have no significant effect on fisheries, for example, and can be both beneficial and harmful to wildlife, depending upon site and/or species. It is important to note that often there are subtle gradations between the arbitrary designations short or long term, minor or major, beneficial or harmful.

CNA's Work Table for Impact Evaluation presents a thorough summary of approximately 45 potential impacts of transmission line construction and operation. Inspection of the summary shows 39 impact situations rated low or very low magnitude, 25 moderate and 5 high, for a total of 69 situations. All five high magnitude impacts are long term, but two of the five are beneficial impacts.

Table 10 shows which conditions have a potential impact on fisheries and/or wildlife. It should be noted that some project-generated conditions were evaluated and considered unlikely to produce either beneficial or harmful impacts. Some conditions, on the other hand, were considered likely to produce an impact only on the fisheries, or only on the wildlife, and still others, both beneficial and harmful impacts on wildlife, depending upon species.

The 1977 CNA report (Proposed Mitigative Measures, Section 6.0) states that "If federal standards for mitigation of powerline impacts are followed..., considerable progress will have been made toward mitigating adverse impacts." It is appropriate to note that many agencies use the word "mitigate" to mean "prevent or avoid." We submit that some impacts can be avoided, while others simply cannot. Mitigation, then, is an action that moderates the severity of a loss from an impact that cannot be avoided.

Table 11 summarizes the potential significant impacts that could be anticipated and gives an estimate of their magnitude and duration. The nature of each impact (whether beneficial or adverse), the possibility for avoiding the impact, and the necessary measures for mitigation or compensation should the impact be unavoidable also are noted.

A. Fishery Resources

The major adverse impacts of the transmission line on the aquatic resources are: (1) sediment runoff from line construction activities; (2) sediment runoff from access road construction; (3) herbicide runoff from line-maintenance activities; and, (4) increased water temperatures from removal of streamside vegetation. CNA evaluated each of these impacts on each stream and lake on a scale of 1 to 5, with 1 having the least impact and 5 having the most severe impact. The final impact quality ranking for each stream and lake was calculated by adding the above four impact values to the existing quality ranking (see Fisheries Without the Project) and dividing by five to obtain an average. Streams which are paralleled by the line and the right-of-way would be severely impacted and thus received an automatic impact quality ranking of 5. A total of 214 streams and numerous lakes and ponds would be impacted by the project.

An additional adverse impact would be the disruption of the aesthetic qualities associated with fishing the remote sections of streams in the project area. This impact is unquantifiable, but the project will be a permanent intrusion into a semi-wilderness area and will unquestionably degrade that quality of the fishing experience.

A beneficial impact of the project could be the improvement of fisherman access to areas previously inaccessible. This could, however, lead to overuse on some streams which rely on natural reproduction to sustain fishing pressure. There are no plans to stock any of these areas. Overall, fisherman use with the project should be the same as without the project except for localized areas mentioned previously.

B. Wildlife Resources

The project will have both negative and positive effects on the area's raptor populations. Possible negative effects include collisions, disturbance from construction activity, disturbance from periodic maintenance and destruction of nest trees. Potential positive impacts include the creation of hunting and resting perches, increased edge, increased open space and increased diversity of vegetative types and their associated fauna.

Some collisions with power line structures are expected to occur; however, their significance should be minor unless threatened or endangered species are killed. The only way to prevent collisions is to place transmission lines underground, which would be both impractical and cost-prohibitive. Electrocution of large raptors will not be a hazard; transmission-line tower design eliminates this possibility.

Disturbance to raptors is potentially one of the more serious negative impacts associated with construction and maintenance of the transmission lines. The creation of more open area may provide better feeding conditions for raptors which normally take prey from open areas. Poles will provide hunting and resting perches in the newly opened areas.

A greater diversity of habitat types may result in a greater number of prey species, which could provide a more stable food source for certain raptors at some stretches of the right-of-way. It must be noted in a discussion of potential project effects that the species of raptors already present in the project area are adapted to existing conditions. Changes in habitat will benefit certain species in some respects at the expense of other species. No two species can occupy the same niche, so changing the existing conditions will change the usefulness of the area for the species involved.

At this time, it is not possible to determine the quantitative impact on white-tailed deer resulting from powerline right-of-way construction and associated activities. A qualitative prediction is even highly speculative, since deer-wintering areas may be lost or significantly modified, and other food cover types may be created.

Portions of 25 recognized deer-wintering areas within the three states will be crossed by the 150-foot powerline right-of-way, affecting a total of about 138 acres of deer-yard habitat. This statement is qualified by several factors, however. First, the size of a recognized wintering area used by deer may vary from year to year, and thus, some wintering areas shown on the right-of-way may be changed at time of construction. Second, unknown deer-wintering areas may be crossed by the powerline. Third, the right-of-way centerline possibly could be shifted within a half-mile wide corridor to avoid known deer-wintering areas.

The specific impact on a deer-wintering area, and the severity of such an impact, would depend on how it is crossed. A cleared strip 150 feet wide through the middle of a small deer yard could render it useless, or severely reduce the carrying capacity of a large yard. On the other hand, a right-of-way parallel to a deer-yard along its major axis could provide an increase in food plants available to the deer. Thus right-of-way management should be planned with the welfare of the deer in mind. This beneficial impact would be in the long term, since food species in cleared areas may take several years to grow to the stage utilized by deer.

Additional impacts on deer populations would include increased human access with snowmobiles or all-terrain vehicles and short-term construction. Studies of the effects of snowmobiles on deer have found differing impacts, ranging from negligible to detrimental. Site-specific factors such as weather conditions, conditions of the wintering area and degree of human harrassment are relevant.

Table 12 shows the changes in acres and habitat units over the 100-year project life if the project is constructed. Table 13 summarizes the annualized habitat unit changes and area for compensation (mitigation), with the project.

There will be a gain of 22,036 habitat units with the project. This is a net figure derived from a habitat unit gain of 245,913 among three habitat types and a habitat unit loss of 223,877 among seven habitat types. It should be noted, however, that habitat unit totals may not give an accurate comparison of relative quality between habitat types.

C. Rare, Threatened, and Endangered Plants

If stands of these species of concern are on, or adjacent to, the right-of-way, it is anticipated that they would be adversely affected by:

1. Construction activities, on the rights-of-way and access roads which would directly eliminate these plants.

2. Drainage alterations resulting from construction activities.

3. Long-term changes in the microclimate of the site such as increased light, lower humidity, greater temperature fluctuations, which will result from clearing the right-of-way.

4. Increased competition from species favored by right-of-way maintenance activities.

5. Maintenance activities such as brushing, clearing, cutting, burning, and herbiciding.

BENEFICIAL IMPACTS

A. Fishery Resources

While construction and operation of the transmission line will have no significant beneficial effects on fishery resources, improved access roads required for construction and maintenance will encourage increased utilization of the resources.

B. Wildlife Resources

1. Under best-case conditions, narrow, shrubby areas adjacent to deer-wintering yards may provide added winter food supplies for deer.

2. In solid forest blocks two-edge interfaces will be provided, and a 150-foot (or 100-foot, adjoining existing right-of-way) wide strip of vegetation, other than mature-forest vegetation, will be provided.

3. Access required for construction and maintenance operations will provide improved access, to varying degrees, for increased utilization of wildlife species.

4. Right-of-way located in mature forest will produce a greater quantity of ground cover and browse than the adjoining mature forest.

5. A greater diversity of wildlife species frequently occurs in and near right-of-way through forest cover than in unbroken forest cover itself.

6. Maintenance of the line will require some form of selective control of vegetation likely to interfere with the line; this can be beneficial to wildlife.

7. The eastern coyote, red fox and grey fox may benefit from the creation of additional edge and the concurrent increase in small-mammal populations.

8. Herbaceous and woody ground cover produced in the spring provide a source of wildlife food not available on forested lands.

C. Rare, Threatened and Endangered Plants

There will be no beneficial impacts.

ADVERSE IMPACTS THAT CANNOT BE AVOIDED

Perhaps the most important impact that cannot be avoided is the impairment of esthetic quality through construction of a transmission line in a semi-wilderness area.

The following additional impacts appear to be impossible to avoid entirely, although some of them can be minimized.

A. Fishery Impacts

1. Sedimentation and siltation.

2. Increased stream temperatures.

3. Increased surface runoff.

B. Wildlife Impacts

1. Disturbance factor for the general wildlife. (Species of special concern, or unique habitat supporting uncommon species, can be protected by posting against public access if the situation warrants.)

2. Loss of habitat for some wildlife species.

3. Collision hazards to waterfowl and other birds.

4. Invasion by undesirable plant and animal species.

5. Increased surface runoff.

6. Increased nutrient transfer from terrestrial to aquatic habitat.

7. Altered drainage patterns and increased soil compaction.

8. Decreased duff layer of soil.

9. Increased fire hazards.

10. Altered forest microclimate.

11. Stress on some wildlife by disturbing them more often and/or more intensely.

12. Decreased habitat for some wildlife species.

13. Killing of, or stress on, non-target plant species by herbicide application.

14. Stress on small-mammal populations.

15. Direction of wildlife into highway traffic.

16. Increased damage to timber through windthrow, resulting in loss of den trees.

17. Decreased site fertility.

Several impacts discussed in the foregoing are considered to be of low magnitude and short duration and may cause only minor impacts.

C. Rare, Threatened and Endangered Plant Impacts

Unavoidable loss or destruction can occur.

ADVERSE IMPACTS THAT CAN BE MITIGATED

There will be very few impacts which, once they occur, can be mitigated. Used in this context, "mitigation" means that after a loss occurs, at least partial recovery can be effected by some action taken specifically for that purpose. Natural forces often can result in recovery, but frequently this requires time, and thus is not a mitigative action.

The following impacts can be mitigated:

A. Fishery Resources

1. To correct the condition of reduced survival, cold-water fishes may be stocked.

B. Wildlife Resources

1. A decrease in habitat for some wildlife species can be mitigated by managing other habitat to increase its potential to support the species.

2. An alteration of deer-wintering habitat, especially where a loss of shelter and food occurs, can be mitigated by managing existing deer-wintering areas to increase their capacity for supporting deer.

C. Rare, Threatened and Endangered Plants

Plants in this category can be transplanted if proper alternative habitat is available.

PROJECT MODIFICATIONS

Project modifications discussed below would, if implemented, help to minimize negative impacts on fish and wildlife resources.

A. Specific details of construction and maintenance of the right-of-way presently are unknown. As final plans are drawn, specific problem areas will become known. Many of these problem areas, however, may be minimized in number and scope if environmental committees, funded at project cost, assist the planning agency in the development of final construction and management plans.

These environmental committees, one each for Maine, New Hampshire and Vermont, should consist of, but not be limited to, representatives of the state fish and wildlife, forestry, land-use (or resource development) and water resources agencies.

B. Guidelines for construction and maintenance of the transmission line, in a manner that will cause the smallest adverse environmental impact within the necessary design and feasibility constraints, are discussed in several publications. Adherence to the guidelines proposed by the planning agency, the state fish and wildlife agency(ies) and the Fish and Wildlife Service through the environmental committees mentioned above, will serve to avoid or minimize damage to the natural environment within limitations of the state of the art. Published guidelines that will be available include the following:

Arner, D. H, March 1977; Transmission Line Rights-of-way Management. Topical Brief No. 2: Office of Biological Services, U. S. Fish and Wildlife Service.

Center for Natural Areas, September 1977; Ecological Resources Draft Technical Report.

Maine Department of Inland Fisheries and Wildlife, 1975; Power Line Rights-of-way, and Wildlife Management. A working paper prepared by the Department.

U. S. Department of the Interior, 1976; Dickey-Lincoln School Lakes Transmission Planning Study.

U. S. Department of the Interior, February 1977; Design, Construction and Maintenance Assumptions.

U. S. Department of the Interior, July 1977; Dickey-Lincoln School Lakes Transmission Reconnaissance Study.

Forthcoming publication, technical assistance manual on right-of-way management (in preparation), U. S. Fish and Wildlife Service, Office of Biological Services.

C. Existing roads to be used for access during construction and future maintenance should be brought to the same standards which are applicable to new access roads. Many roads are in disrepair because of recent non-use. Resumption of road use by heavy construction equipment and transporters, without updating road conditions (such as berms, culverts, drainage systems), could result in environmental damage through erosion, sedimentation and flooding.

D. The system of roadways necessary for line construction will provide access to otherwise inaccessible areas. The right-of-way itself will provide further access. This access can be both beneficial and harmful. It will allow greater use of fish and wildlife resources in areas heretofore subjected to little or no human use, thus distributing hunting and

fishing pressures over wider areas. Conversely, greater access can be harmful if it allows off-road vehicles to penetrate previously undisturbed terrain and, for example, disturb deer in their restricted winter habitat.

Provision should be made, therefore, to provide for a system of project-funded posting to prohibit or restrict access to environmentally sensitive areas. Designation of sensitive areas would be made by the environmental committees as local conditions warrant.

E. Raptors, which include hawks, eagles and falcons, and colonial nesting birds such as the great blue heron, are especially sensitive to disturbance of their nest sites during the spring and early summer nesting season. Disturbance of such critical areas should be avoided by scheduling construction and maintenance activity to take place at other seasons of the year. Every effort should be made to prevent loss of such areas by locating the right-of-way, switchyards, microwave stations and other facilities at least one-half mile from those areas.

F. Losses to fishery resources can be mitigated by restocking fish, where necessary, or by continued stocking wherever the potential productivity of a stream or lake is reduced; this would not apply, of course, if excessive warming of the water takes place, or the habitat is altered so as to become unsuitable for aquatic life.

G. Decreases in wildlife habitat and reduced carrying capacity of deer-wintering areas can be mitigated through management of other habitat. The managed areas would continue to support existing wildlife and provide increased carrying capacity for additional wildlife.

H. In light of the potential adverse impacts to rare, threatened or endangered plants which could result from project construction, it is recommended that a more intensive survey of the proposed right-of-way be performed. This survey should concentrate on those areas identified in Table 9 as having a higher potential for containing plant populations of concern. Other areas with a lower potential for containing species of concern should be less intensively surveyed. To be effective these surveys must be undertaken by a competent plant taxonomist familiar with the flora of the region and must extend throughout a complete growing season. Should populations of species of concern be found during these surveys, it is recommended that minor right-of-way realignments be incorporated into the selected route, or right-of-way maintenance procedures be modified to reduce or eliminate adverse impacts.

I. In areas where the entire half-mile wide recommended route must cross a deer-wintering area, the centerline should be relocated outside the softwood shelter portion of the yard. This would retain the shelter area and provide a food source accessible to the wintering deer.

J. A helicopter should be used in construction operations where environmental concerns require that surface vehicles and/or equipment be excluded to protect a resource.

SUMMARY

While the specific route of the right-of-way and detailed construction and maintenance plans are not yet known, enough information is available from which to make a preliminary conclusion about the potential impacts of the transmission line upon fish and wildlife resources. It is obvious that much potential resource damage can be avoided through application of appropriate construction and management techniques. There are very few specific data about potential impacts. Such data will become available during later construction stages.

There are three reasons why the route of the right-of-way, construction methods and maintenance plans should continue to be subject to modifications for environmental purposes. The first is that, once an adverse impact occurs, there is little chance that the damage can be mitigated. The second is that deer yards change from year to year, as do other natural phenomena; therefore, investigations of deer-yards, rare plant locations and other details need to be available close to (within a year of) actual construction.

Third, if environmentally responsible construction and maintenance of the transmission line occurs, minor adverse impacts to the fisheries resources and some benefits to certain terrestrial species, can be predicted. However, construction and maintenance of the transmission line can result in adverse impacts which can be severe for some species if appropriate construction and maintenance techniques are not employed.

RECOMMENDATIONS

As indicated in the Preface, our primary recommendation is that the Dickey-Lincoln School Lakes Project not be constructed because of the damages it will inflict on fish and wildlife resources. If project construction is authorized despite the ecological reasons against it, we offer the secondary recommendations listed below.

We recommend that:

1. Environmental committees be established in Maine, New Hampshire and Vermont, to be funded at project cost, to assist in development of detailed construction and management plans for the transmission lines and their rights-of-way. Committee work would cease upon completion of detailed construction and management plans.

2. Detailed plans for construction and maintenance of the transmission lines include all feasible measures for avoiding losses to, and enhancement of, aquatic and terrestrial resources, using guidelines established by the environmental committees.

3. Existing roads, to be used for access during construction and maintenance, be brought to the same standards which are applicable to new access roads.

4. Restrict off-road vehicles, by posting and enforcement, in environmentally sensitive areas. (Determination of sensitive areas would be made by the environmental committees.)

5. Potential adverse impacts upon raptors and colonial nesting birds be avoided by scheduling construction and maintenance activities within one-half mile of any known raptor nest outside the nesting season; chemicals deleterious to raptors for maintenance not be used; the right-of-way, switchyards, and other facilities be located away from raptor nests to avoid disturbing nesting birds.

6. The centerline be moved in deer-wintering area to avoid the softwood timber shelter portion.

7. Helicopters be employed where possible for construction and maintenance operations to minimize environmental impacts.

8. Mitigate all unavoidable losses.

9. Continue wildlife overview and management out of project costs.

REFERENCES

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2. Center for Natural Areas, September 1, 1977; Ecological Resources Draft Technical Report.

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4. Tillman, R., ed. 1976; Proceedings of the First National Symposium on Environmental Concerns in Rights-of-way Management. Mississippi State University, Mississippi State, Miss.

5. U. S. Department of the Interior, July, 1977; Transmission Reconnaissance Study.

6. U. S. Fish and Wildlife Service, December 1976; Planning Aid Report, Transmission Line Study, Dickey-Lincoln School Hydroelectric Project.

7. U. S. Fish and Wildlife Service, January 4, 1978; Conservation and Development Report, Dickey-Lincoln School Project, Maine.

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Table 1. Fish species occurring within the area crossed by the transmission route (modified from CNA, 1977).

Species	Habitat		Temperature Preference	
	Streams	Lakes	Cold	Warm
American eel	X	X	X	X
Lake whitefish		X	X	
Round whitefish	X	X	X	
Landlocked salmon	X	X	X	
Rainbow trout	X	X	X	
Brook trout	X	X	X	
Lake trout		X	X	
Blueback trout		X	X	
Rainbow smelt	X	X	X	X
Chain pickerel	X	X		X
Lake chub	X	X	X	
Common shiner	X	X	X	
Northern redbelly dace	X	X	X	
Finescale dace	X	X	X	
Blacknose dace	X	X	X	X
Longnose dace	X		X	
Fallfish	X	X	X	X
Creek chub	X		X	
White sucker	X	X	X	X
Longnose sucker	X	X	X	
Brown bullhead	X	X		X
Burbot	X	X	X	
Threespine stickleback	X	X		X
Ninespine stickleback	X	X		X
Smallmouth bass	X	X		X
Pumpkinseed	X	X		X
Yellow perch	X	X		X
Slimy scuplin	X	X	X	

Table 2. Streams, lakes and ponds along selected route, and fishery values as determined by characteristics described on following pages (modified from CNA, 1977).

Links		Streams			Lakes, Ponds	
Link No.	Length, Miles	No. Crossings	Score	Score Per Mile	No.	Score
1	16.9	10	26	1.54	0	0
1A	0.2	0	0	0	0	0
1B	0.3	0	0	0	0	0
1C	0.9	1	5	5.55	0	0
3	11.1	12	26	2.34	0	0
4	45.7	23	74	1.62	1	3
5	38.6	11	54	1.40	0	0
7	15.5	5	18	1.16	1	5
8	10.3	6	16	1.55	3	12
11A	1.3	2	5	3.85	0	0
11	44.7	24	64	1.43	6	25
14A	3.8	1	2	0.56	0	0
14	6.1	5	12	1.97	0	0
15	15.8	14	27	1.71	0	0
17	7.4	4	7	0.95	2	11
17B	14.6	10	14	0.96	0	0
18A	6.0	4	15	2.50	0	0
20	10.5	9	25	2.38	0	0
22	2.4	1	5	2.08	0	0
23	1.4	0	0	0	0	0
33	2.0	2	2	1.00	0	0
34	0.3	1	3	1.00	0	0
35	6.3	2	5	0.79	0	0
36	18.7	10	19	1.02	2	8
40	3.0	1	5	1.67	1	3
41	0.3	0	0	0	0	0
42	9.1	11	19	2.09	0	0
44	27.2	23	49	1.80	2	6
45	1.5	1	1	0.50	0	0
45A	1.2	1	1	0.83	0	0
45B	1.5	2	6	4.00	0	0
46	6.7	8	11	1.64	0	0
49	12.2	19	37	3.03	0	0
50	6.9	3	11	1.59	0	0
52	2.2	3	3	1.36	0	0
54	7.5	6	11	1.47	0	0
56	5.1	5	9	1.76	0	0
	365.2 miles	240 stream crossings			18 lakes & ponds	

(continued)

Table 2 (continued)

Streams were ranked according to their value to trout fisheries, based on a point system described below. The maximum number of points possible for each stream was divided by 3 to arrive at a 1 to 5 ranking; a "1" ranking would have poor trout habitat while a "5" ranking would have excellent trout habitat.

Characteristic		Points
A.	Stream Cover	
	Low (0-30%) - all streams except large sized	0
	- large-sized streams	1
	Medium (31-60%)	1
	High (61-100%)	2
B.	Flow Regime	
	Steep gradient	0
	Mostly rapids	1
	Mixed rapids and smooth	2
	Smooth	2
C.	Quality of Pools	
	Low	1
	High	2
D.	Size	
	Intermittent	0
	Small	1
	Medium	2
	Large	3
E.	Stream Order[1]	
	1st	0
	2nd	1
	3rd, 4th, or 4+	2
F.	Information on Existing Fishery	
	No information	1
	Trout present	3
	Excellent trout fishery or stocked or managed for native trout	5

[1]Stream order is a measure of the position of a stream in the hierarchy of tributaries. First-order streams have no tributaries, but when two meet they become a second-order stream. Two second-order streams meet to form one of third order, and so on with the proviso that acquisition of extra tributaries of an order lower than that of the receiving stream does not increase the order of that stream. A third-order stream may receive several first- or second-order tributaries without becoming a fourth-order stream (Hynes, 1970).

(continued)

Table 2 (continued)

Lakes on or adjacent to the route were ranked according to the size and status of their fisheries. Points were assigned as outlined below.

Characteristic	Points
A. Size	
Less than 50 acres	1
50 acres or greater	2
B. Fisheries	
No reported fishery	0
One fishery - fair to good quality	2
More than one good fishery; one excellent fishery; or fish stocked	3

Table 3. Wildlife species selected for analysis of habitat types.

1. White-tailed deer
2. Black bear
3. Fisher/marten
4. Red squirrel
5. Spruce grouse
6. Winter wren
7. Three-toed woodpecker
8. Bay-breasted warbler
9. Great horned owl
10. Redback vole
11. Peromyscus
12. Gray jay
13. Bobcat
14. White-throated sparrow
15. Magnolia warbler
16. Snowshoe hare
17. Golden-crowned kinglet
18. Hairy woodpecker
19. Porcupine
20. Black-capped chickadee
21. Red fox
22. Chipping sparrow
23. Ruffed grouse
24. Redeyed virio
25. Redbacked salamander
26. Ovenbird
27. Barred owl
28. Raccoon
29. Garter snake
30. Chestnut-sided warbler
31. Woodcock
32. Sapsucker
33. Song sparrow
34. Robin
35. Cedar waxwing
36. Microtus
37. Veery
38. Eastern meadowlark
39. Woodchuck
40. Savannah sparrow
41. Goldfinch
42. Killdeer
43. Barn swallow
44. Crow
45. Moose
46. Lincoln's sparrow
47. Palm warbler
48. Ringnecked duck
49. Olive-sided fly catcher
50. Red-winged blackbird
51. Beaver
52. Muskrat
53. Marsh hawk
54. Mallard/black duck
55. Great blue heron
56. Tree swallow
57. Yellow warbler
58. Yellowthroat
59. Otter
60. Osprey
61. Goldeneye
62. Kingfisher
63. Swainson's thrush

Table 4.[1] "Recommended-route" acreages, by habitat types, in study area (1/2 mile wide) and in rights-of-way (150 feet and 100 feet wide) without the project and with the project.

Habitat Type	Without the Project		With the Project		Percentage Change In Habitat Type	
	Route 1/2 mi Wide	Right-of-way 150-100' wide	Route 1/2 mi Wide	Right-of-way 150-100' Wide	Route	Right-of-way
SWM	14,433	790	13,643	0	-5.5	-100
PNM	195	8	187	0	-4.1	-100
PNR	425	16	425	16	0	0
CS	178	9	169	0	-5.0	-100
SHM	20,578	1,098	19,480	0	-5.3	-100
HSM	19,651	1,051	18,600	0	-5.3	-100
PBM	575	32	543	0	-5.6	-100
HWM	22,505	1,201	21,304	0	-5.3	-100
RGN	22,029	1,183	26,218	5,372	-19.0	+354
RAF	3,055	137	3,055	137	0	0
F	1,139	62	1,139	62	0	0
AF	4,777	201	4,777	201	0	0
W	2,777	156	2,777	156	0	0
OW	610	28	610	28	0	0
MM	752	33	752	33	0	0
Totals	113,679	6,005	113,679	6,005	---	---

[1]No attempt has been made in table to project habitat changes without the project over 100-year period. In the right-of-way with the project all mature forest types have been lumped as regeneration except for PNR which was kept separate.

Table 5. Analysis of change in acres and habitat unit change over 100-year project life, without the project.

D-LIN (PRW(FUT W/OUT) 0 SEG # 1

HABITAT TYPE	TARGET YEAR	AREA EXIST	AREA CHANGE	AREA NEW	HU VALUE EXIST	HU VALUE CHANGE	HU VALUE NEW	TOTAL HU	NET HU CHANGE
SOFT MAT	EXST	790.0			52.0			41080.0	
	0		0.0	790.0		0.0	52.0	41080.0	0
	10		-2.0	788.0		0.0	52.0	40976.0	-104
	30		-6.0	784.0		0.0	52.0	40768.0	-208
	100		-56.0	734.0		0.0	52.0	38168.0	-2600
PI-HEM MATEXST		8.0			39.0			312.0	
	0		0.0	8.0		0.0	39.0	312.0	0
	100		0.0	8.0		0.0	39.0	312.0	0
PI-HEM REGEXST		16.0			28.0			448.0	
	0		0.0	16.0		0.0	28.0	448.0	0
	100		0.0	16.0		0.0	28.0	448.0	0
CEDAR	EXST	9.0			51.0			459.0	
	0		0.0	9.0		0.0	51.0	459.0	0
	100		0.0	9.0		0.0	51.0	459.0	0
SOF-HD MATEXST		1098.0			50.0			54900.0	
	0		0.0	1098.0		0.0	50.0	54900.0	0
	10		11.0	1109.0		0.0	50.0	55450.0	550
	30		33.0	1131.0		0.0	50.0	56550.0	1100
	100		58.0	1156.0		0.0	50.0	57800.0	1350
HD-SOF MATEXST		1051.0			58.0			60958.0	
	0		0.0	1051.0		0.0	58.0	60958.0	0
	10		11.0	1062.0		0.0	58.0	61596.0	638
	30		32.0	1083.0		0.0	58.0	62814.0	1218
	100		56.0	1107.0		0.0	58.0	64206.0	1392
POP-B MAT EXST		32.0			54.0			1728.0	
	0		0.0	32.0		0.0	54.0	1728.0	0
	100		0.0	32.0		0.0	54.0	1728.0	0

(continued)

Table 5 (continued)

D-LIN (PRN/FUT W/OUT) 0 SEG # 2

HABITAT TYPE	TARGET YEAR	AREA EXIST	AREA CHANGE	AREA NEW	HU VALUE EXIST	HU VALUE CHANGE	HU VALUE NEW	TOTAL HU	NET HU CHANGE
HDWD MAT	EXST	1201.0			59.0			70859.0	
	0		0.0	1201.0		0.0	59.0	70859.0	0
	10		12.0	1213.0		0.0	59.0	71567.0	708
	30		36.0	1237.0		0.0	59.0	72983.0	1416
	100		63.0	1264.0		0.0	59.0	74576.0	1593
REGENERAT	EXST	1183.0			60.0			70980.0	
	0		0.0	1183.0		0.0	60.0	70980.0	0
	10		-1.0	1182.0		0.0	60.0	70920.0	-60
	30		-2.0	1181.0		0.0	60.0	70860.0	-60
	100		-7.0	1176.0		0.0	60.0	70560.0	-300
REG FLD	EXST	137.0			60.0			8220.0	
	0		0.0	137.0		0.0	60.0	8220.0	0
	10		-33.0	104.0		0.0	60.0	6240.0	-1980
	30		-98.0	39.0		0.0	60.0	2340.0	-3900
	100		-130.0	7.0		0.0	60.0	420.0	-1920
FIELDS	EXST	62.0			39.0			2418.0	
	0		0.0	62.0		0.0	39.0	2418.0	0
	100		0.0	62.0		0.0	39.0	2418.0	0
OTHER FLD	EXST	201.0			49.0			9849.0	
	0		0.0	201.0		0.0	49.0	9849.0	0
	10		-5.0	196.0		0.0	49.0	9604.0	-245
	30		-15.0	186.0		0.0	49.0	9114.0	-490
	100		-50.0	151.0		0.0	49.0	7399.0	-1715
OPEN WATER	EXST	28.0			42.0			1176.0	
	0		0.0	28.0		0.0	42.0	1176.0	0
	100		0.0	28.0		0.0	42.0	1176.0	0
WETLAND	EXST	156.0			52.0			8112.0	
	0		0.0	156.0		0.0	52.0	8112.0	0
	100		0.0	156.0		0.0	52.0	8112.0	0

Table 6. Annualized habitat unit change and area for compensation, without the project.

(Note: "area for compensation" is not the result of project implementation; it is the result of anticipated land-use changes without the project, over the project life.)

D-LIN (PRW(FUT W/OUT) 0 100 YEAR ANALYSIS

HABITAT TYPE	SEGMENT	EXISTING AREA	ANNUALIZED HU CHANGE	HU VALUE AREA	MANAGEMENT POTENTIAL	AREA F COMP
SOFT MAT	1	790.0	-1175.2	52.0	100.0	24.5
SOFT MAT	TOTAL	790.0	-1175.2	52.0	100.0	24.5
PI-HEM MAT	1	3.0	0.0	39.0	100.0	0.0
PI-HEM MAT	TOTAL	3.0	0.0	39.0	100.0	0.0
PI-HEM REG	1	16.0	0.0	28.0	100.0	0.0
PI-HEM REG	TOTAL	16.0	0.0	28.0	100.0	0.0
CEDAR	1	9.0	0.0	51.0	100.0	0.0
CEDAR	TOTAL	9.0	0.0	51.0	100.0	0.0
SOF-HD MAT	1	1098.0	1840.0	50.0	100.0	-36.8
SOF-HD MAT	TOTAL	1098.0	1840.0	50.0	100.0	-36.8
HD-SOF MAT	1	1051.0	2067.7	50.0	100.0	-49.2
HD-SOF MAT	TOTAL	1051.0	2067.7	50.0	100.0	-49.2
POP-B MAT	1	32.0	0.0	54.0	100.0	0.0
POP-B MAT	TOTAL	32.0	0.0	54.0	100.0	0.0
HDWD MAT	2	1201.0	2363.0	59.0	100.0	-57.6
HDWD MAT	TOTAL	1201.0	2363.0	59.0	100.0	-57.6
REGENERAT	2	1183.0	-210.0	60.0	100.0	5.3
REGENERAT	TOTAL	1183.0	-210.0	60.0	100.0	5.3
REG FLD	2	137.0	-5673.0	60.0	100.0	141.8
REG FLD	TOTAL	137.0	-5673.0	60.0	100.0	141.8
FIELDS	2	62.0	0.0	39.0	100.0	0.0
FIELDS	TOTAL	62.0	0.0	39.0	100.0	0.0
OTHER FLD	2	201.0	-1225.0	49.0	100.0	24.0
OTHER FLD	TOTAL	201.0	-1225.0	49.0	100.0	24.0
OPEN WATER	2	28.0	0.0	42.0	100.0	0.0
OPEN WATER	TOTAL	28.0	0.0	42.0	100.0	0.0
WETLAND	2	156.0	0.0	52.0	100.0	0.0
WETLAND	TOTAL	156.0	0.0	52.0	100.0	0.0

Table 7. Abundance and occurrence of raptors in the study area (modified from CNA, 1977).

Species	Scarcity (overall)	Seasonal Occurrence			
		Spring	Summer	Fall	Winter
Goshawk	U (uncommon)	P	P	P	H
Sharp-shinned hawk	R (rare)	P	L	P	L
Cooper's hawk	R	P	L	P	L
Red-tailed hawk	FC (fairly common)	P	P	P	L
Red-shouldered hawk	U	P	P	P	-
Broad-winged hawk	C (common)	P	P	P	-
Golden eagle	R	P	L	P	-
Bald eagle	R	P	P	P	L
Osprey	U	P	P	P	-
Marsh hawk	R	P	L	P	-
Peregrine falcon	R	P	L	P	-
Merlin	R	P	P	P	-
Kestrel	FC	P	P	P	-
Screech owl	R	P	P	P	-
Great horned owl	FC	P	P	P	P
Barred owl	FC	P	P	P	P
Long-eared owl	U	P	P	P	P
Saw-whet owl	U	P	P	P	H
Snowy owl	R	-	-	-	L
Hawk owl	R	-	-	-	L
Great gray	R	-	-	-	L

P = present
H = present in higher numbers
L = present in lower numbers

Table 8. Plants that may occur in the vicinity of the study area which have been proposed by the Department of the Interior for inclusion on the list of Threatened or Endangered Species or are presently being reviewed to determine their status (CNA, 1977).

SPECIES	HABITAT	STATUS[1] AND KNOWN OCCURRENCE[2] MAINE	NEW HAMPSHIRE	VERMONT
Scirpus anchistrochaetus	margins of pools			E:NK
Astragalus robbinsii var. jesupi	ledges		E:NK	E:Burlington area
Isotria medeoloides	rich woods	E:Oxford Co.	E:NK	E:Burlington area
Calamagrostis inexpansa var. novae-angliae		E:Aroostook, Franklin, Oxford Cos.	E:NK	E:NK
Cypripedium arietinum	rich swampy woods, usu. on hillside	T:Aroostook Oxford Cos.	R:NK	E:Chittenden Co., Barnet
Potamogeton hillii	ponds			T:NK
Geum peckii	wet ledges		E:Coos Co., Grafton Co.	
Potentilla robbinsiana	alpine		E:NK	
Paronychia argyrocoma var. albimontana	high altitudes	T:Franklin, Oxford Cos.	R:Coos Co.	
Isoetes foveolata	pond shores		T:NK	
Listera auriculata	moist woods	T:Several localities	T:Coos Co., Colebrook	T:NK
Carex elachycarpa	shores of rivers	E:NK		
Carex oronensis	fields, marshes, thickets	T:NK		
Prenanthes boottii	high altitudes	T:Somerset, Piscataquis, Franklin Cos.	T:coos Co.	T:NK
Cardamine longii		T:NK		
Scirpus longii	marshes, meadows	T:NK		
Habenaria flava	springy meadows	T:Somerset, Oxford, Franklin, Piscataquis, Aroostook Cos.	T:Lancaster, Dalton	T:Chittenden Co. Barnet

(continued)

Table 8 (continued)

SPECIES	HABITAT	STATUS[1] AND KNOWN OCCURRENCE[2] MAINE	NEW HAMPSHIRE	VERMONT
H. leucophaea	bogs	T:Aroostook Co. (Crystal Bog)		
Trollius laxus	swampy meadows	E:NK	E:NK	
Panax quinque folium	rich woods	E:Several localities	E:Several localities	E:Several localities

[1]E = Endangered, T = Threatened, R = Rare

[2]NK - Not known to occur in the vicinity of the study area

Table 9. Selected right-of-way links which have habitat in which rare, threatened or endangered plant species may occur (CNA, 1977).

Link Number	Link Length (Total # of Reference Miles	# of Reference Miles With Habitats of Interest
1	16.9	5
3	11.1	1
5	38.6	5
7	15.5	2
8	10.3	1
11	44.7	3
14A	3.6	3
14	5.9	3
18A	5.7	1
20	10.5	3
35	6.3	4
36	18.7	5
40	2.9	1
42	8.9	1
44	27.2	25
46	6.7	7
50	6.8	4
52	1.6	1
54	7.5	3
49	11.3	7
56	5.1	2
21 links		

Table 10. With-the-project conditions and their potential for impacting on fisheries and wildlife (USFWS, adapted from CNA, Table 7-1).

	IMPACT	ON FISHERIES	ON WILDLIFE
1.	Increase surface runoff	H	H
2.	Nutrient transfer from terrestrial to aquatic systems	B	H
3.	Herbicide contamination of ground water and surface water	H	H
4.	Alter drainage patterns and increase soil compaction	H	H
5.	Increase soil temperature	N	B
6.	Increase soil and air temperature fluctuations	H	H
7.	Decrease duff layer of soil	H	H
8.	Increase wind velocity	N	H
9.	Increase snow depth on right-of-way	N	H
10.	Reduce temperature beneath the snow	N	H
11.	Increase physical damage to regeneration of right-of-way	N	H
12.	Increase atmospheric ozone	N	N
13.	Increase dust	H	H
14.	Increase fire hazard	H	H
15.	Reduce survival and numbers of cold-water fishes	H	N
16.	Increase survival and numbers of cold-water fishes (thru add. nutrients)	B	B
17.	Change streambank vegetation from woody to herbaceous or woody scrub	H	B
18.	Destroy rare plants	N	N
19.	Alter forest microclimate	N	H
20.	Stress some wildlife by disturbing them more often and/or more intensively	N	H
21.	Increase habitat for some wildlife species	N	B
22.	Decrease habitat for some wildlife species	H	H
23.	Increase available of prey preferred by predators	N	B
24.	Increase opportunities for harvest of fish and wildlife	B	B
25.	Increase habitat of wildlife requiring snags	N	B
26.	Increase access and use by ATV's (especially snowmobiles)	H	H
27.	Increase stream temperatures and daily temperature fluctuations	H	N
28.	Increase siltation of streams	H	H
29.	Alter value of wintering areas to deer	N	H
30.	Kill or stress non-target plant species by herbicide application	H	H

(continued)

Table 10 (continued)

IMPACT	ON FISHERIES	ON WILDLIFE
31. Stress small mammal populations	N	H
32. Increase collision hazard of transmission lines and towers to waterfowl	N	H
33. Create islands (in wetlands) useful to some wildlife	N	B
34. Direct wildlife movements into highway traffic	N	H
35. Increase damage to timber through windthrow, resulting in loss of den trees	N	HB
36. Reduce site fertility	H	H
37. Invasion of remote areas by adventive or weedy plants	N	HB
38. Enhance mixing of genetically isolated populations	N	B
39. Reduce permanently the esthetic quality of the fishing and hunting experience by changing appearance of semi-wilderness areas	H	H

B - Beneficial
H - Harmful
N - No significant impact

Table 11. Potential significant impacts, with the project.

IMPACT	Magnitude[1]	Duration[2]	BENEFICIAL[3] Can Be Enhanced	ADVERSE[4] Can Be Avoided	ADVERSE[4] Can Be Mitigated
1. Herbicide contamination of surface- and ground-water	H	ST, LT	-	Yes	No
2. Use of right-of-way by snowmobiles and ATV's causing damage to vegetation, compacting of snow, and temperature damages in soil	M	LT	-	Yes	Yes
3. Reduce survival and numbers of cold-water fish from siltation of streams, increases in stream temperatures	L	ST, LT	-	Yes	No
4. Change streambank vegetation from woody to herbaceous or woody scrub	L	LT	-	No	No
5. Destroy rare plants	L	LT	-	Yes	No
6. Stress some wildlife species by disturbing them more often and/or more intensely	M	LT	-	No	No
7. Increase habitat for some wildlife species	H	LT	Yes	-	-
8. Decrease habitat for some wildlife species	H	LT	-	No	Yes
9. Increase amount and availability of prey preferred by predators	M	LT	No	-	-
10. Increase opportunities for harvest of fish and wildlife	H	LT	No	-	-
11. Alter the value of deer-wintering areas to deer	M	LT	Yes	Yes	Yes
12. Increase collision hazard to waterfowl	L	LT	-	No	No
13. Create small islands in wetlands	L	LT	No	-	-
14. Invasion along the right-of-way of weedy plants, cowbirds, and possibly other undesirable species	L	LT	-	No	No
15. Reduce the aesthetic quality of the fishing and hunting experience by intruding upon the semi-wilderness areas	H	LT	-	No	No

[1]H - high; M - medium; L - low

[2]ST - short term; LT - long term

[3]Discussed in 'Beneficial Impacts'

[4]Discussed in 'Adverse Impacts That Can be Mitigated' and 'Adverse Impacts That Cannot be Mitigated'

Table 12. Analysis of change in acres and habitat unit change over 100-year project life, with the project.

D-LIN (FRW/ROUTE) 1 SEG # 1

HABITAT TYPE	TARGET YEAR	AREA EXIST	AREA CHANGE	AREA NEW	HU VALUE EXIST	HU VALUE CHANGE	HU VALUE NEW	TOTAL HU	NET HU CHANGE
SOFT MAT	EXST	790.0			52.0			41080.0	
	0		0.0	790.0		0.0	52.0	41080.0	0
	10		-790.0	0.0		0.0	52.0	0.0	-41080
	100		-790.0	0.0		0.0	52.0	0.0	0
PI-HEM MATEXST		8.0			39.0			312.0	
	0		0.0	8.0		0.0	39.0	312.0	0
	10		-8.0	0.0		0.0	39.0	0.0	-312
	100		-8.0	0.0		0.0	39.0	0.0	0
PI-HEM REGEXST		16.0			28.0			448.0	
	0		0.0	16.0		0.0	28.0	448.0	0
	10		8.0	24.0		0.0	28.0	672.0	224
	100		8.0	24.0		0.0	28.0	672.0	0
CEDAR	EXST	9.0			51.0			459.0	
	0		0.0	9.0		0.0	51.0	459.0	0
	10		-9.0	0.0		0.0	51.0	0.0	-459
	100		-9.0	0.0		0.0	51.0	0.0	0
SOF-HD MATEXST		1098.0			50.0			54900.0	
	0		0.0	1098.0		0.0	50.0	54900.0	0
	10		-1098.0	0.0		0.0	50.0	0.0	-54900
	100		-1098.0	0.0		0.0	50.0	0.0	0
HD-SOF MATEXST		1051.0			58.0			60958.0	
	0		0.0	1051.0		0.0	58.0	60958.0	0
	10		-1051.0	0.0		0.0	58.0	0.0	-60958
	100		-1051.0	0.0		0.0	58.0	0.0	0
POP-B MAT EXST		32.0			54.0			1728.0	
	0		0.0	32.0		0.0	54.0	1728.0	0
	10		-32.0	0.0		0.0	54.0	0.0	-1728
	100		-32.0	0.0		0.0	54.0	0.0	0

(continued)

Table 12 (continued)

D-LIN (PRWCROUTE) 1 SEG # 2

HABITAT TYPE	TARGET YEAR	AREA EXIST	AREA CHANGE	AREA NEW	HU VALUE EXIST	HU VALUE CHANGE	HU VALUE NEW	TOTAL HU	NET HU CHANGE
HDWD MAT	EXST	1201.0			59.0			70859.0	
	0		0.0	1201.0		0.0	59.0	70859.0	0
	10		-1201.0	0.0		0.0	59.0	0.0	-70859
	100		-1201.0	0.0		0.0	59.0	0.0	0
REGENERAT	EXST	1188.0			60.0			70980.0	
	0		0.0	1188.0		0.0	60.0	70980.0	0
	10		4181.0	5364.0		0.0	60.0	321840.0	250860
	100		4181.0	5364.0		0.0	60.0	321840.0	0
REG FLD	EXST	137.0			60.0			8220.0	
	0		0.0	137.0		0.0	60.0	8220.0	0
	10		5.0	142.0		0.0	60.0	8520.0	300
	30		15.0	152.0		0.0	60.0	9120.0	600
	100		50.0	187.0		0.0	60.0	11220.0	2100
FIELDS	EXST	62.0			39.0			2418.0	
	0		0.0	62.0		0.0	39.0	2418.0	0
	100		0.0	62.0		0.0	39.0	2418.0	0
OTHER FLD	EXST	201.0			49.0			9849.0	
	0		0.0	201.0		0.0	49.0	9849.0	0
	10		-5.0	196.0		0.0	49.0	9604.0	-245
	30		-15.0	186.0		0.0	49.0	9114.0	-490
	100		-50.0	151.0		0.0	49.0	7399.0	-1715
OPEN WATER	EXST	28.0			42.0			1176.0	
	0		0.0	28.0		0.0	42.0	1176.0	0
	100		0.0	28.0		0.0	42.0	1176.0	0
WETLAND	EXST	156.0			52.0			8112.0	
	0		0.0	156.0		0.0	52.0	8112.0	0
	100		0.0	156.0		0.0	52.0	8112.0	0

Table 13. Annualized habitat unit change and area for compensation, with the project.

D-LIN (PRW(ROUTE 1 100 YEAR ANALYSIS

HABITAT TYPE	SEGMENT	EXISTING AREA	ANNUALIZED HU CHANGE	HU VALUE AREA	MANAGEMENT POTENTIAL	AREA F COMP
SOFT MAT	1	790.0	-37850.8	52.0	100.0	788.6
SOFT MAT	TOTAL	790.0	-37850.8	52.0	100.0	788.6
PI-HEM MAT	1	8.0	-296.4	39.0	100.0	4.9
PI-HEM MAT	TOTAL	8.0	-296.4	39.0	100.0	4.9
PI-HEM REG	1	16.0	212.8	28.0	100.0	-3.6
PI-HEM REG	TOTAL	16.0	212.8	28.0	100.0	-3.6
CEDAR	1	9.0	-436.1	51.0	100.0	8.9
CEDAR	TOTAL	9.0	-436.1	51.0	100.0	8.9
SOF-HD MAT	1	1088.0	-53995.0	50.0	100.0	1079.9
SOF-HD MAT	TOTAL	1088.0	-53995.0	50.0	100.0	1079.9
HD-SOF MAT	1	1051.0	-59977.8	58.0	100.0	1428.0
HD-SOF MAT	TOTAL	1051.0	-59977.8	58.0	100.0	1428.0
POP-B MAT	1	32.0	-1641.6	54.0	100.0	35.7
POP-B MAT	TOTAL	32.0	-1641.6	54.0	100.0	35.7
HDWD MAT	2	1201.0	-69679.0	59.0	100.0	1699.5
HDWD MAT	TOTAL	1201.0	-69679.0	59.0	100.0	1699.5
REGENERAT	2	1183.0	238527.0	60.0	100.0	-5963.2
REGENERAT	TOTAL	1183.0	238527.0	60.0	100.0	-5963.2
REG FLD	2	137.0	7173.0	60.0	100.0	-179.3
REG FLD	TOTAL	137.0	7173.0	60.0	100.0	-179.3
FIELDS	2	62.0	0.0	39.0	100.0	0.0
FIELDS	TOTAL	62.0	0.0	39.0	100.0	0.0
OTHER FLD	2	201.0	0.0	49.0	100.0	0.0
OTHER FLD	TOTAL	201.0	0.0	49.0	100.0	0.0
OPEN WATER	2	28.0	0.0	42.0	100.0	0.0
OPEN WATER	TOTAL	28.0	0.0	42.0	100.0	0.0
WETLAND	2	156.0	0.0	52.0	100.0	0.0
WETLAND	TOTAL	156.0	0.0	52.0	100.0	0.0

Figure 1. Habitat types selected for analysis by Habitat Evaluation Team.

Habitat Types*

1.	SWM	Spruce-fir, mature (75%+)
2.	PNM	Pine-hemlock, mature (90%)
3.	PNR	Pine-hemlock, regeneration
4.	CS	Cedar (80%)
5.	SHM	Softwood (50-75%)-hardwood (25-49%), mature
6.	HSM	Hardwood (50-75%)-softwood (25-49%), mature
7.	PBM	Poplar-birch, mature (90%)
8.	HWM	Northern hardwoods (beech, yellow birch, maple), mature (75%)
9.	RGN	Mixed regeneration (spruce-fir, softwood-hardwood, hardwood-softwood, poplar-birch, northern hardwoods)
10.	RAF	Regenerating abandoned cultivated field
11.	F	Cultivated field (row crops)
12.	AF	Other field (pasture, hayfield and fallow field)
13.	W	Wetlands Bog (50% open, with sphagnum; with or without open water) Marsh (50% emergent vegetation, e.g., sedges, rushes, cattails) Swamp (50% wooded, and wet) Alder-willow (75%)
14.	OW	Open water (standing)
15.	MM	Man-made (gravel pits, highways, railroads, etc.)

*Mature: height greater than 30 feet, crown closure greather than 30%. Regeneration: height less than 30 feet, crown closure greater than 30%, or height greater than 50 feet and crown closure less than 30%.

APPENDIX C - JACKMAN/MOOSE RIVER CONSULTATION

I. JACKMAN PUBLIC MEETING

As part of the public review process for the DEIS, a meeting was held in Jackman, Maine, on May 3, 1978. At that meeting, several statements were received from regional and local planning officials and local residents, charging DOE and its contractor, E. C. Jordan Company (ECJ), with failing to obtain adequate information to assess fully the socio-economic impacts of transmission line construction on the towns of Jackman and Moose River. Several written comments of a similar nature were received. As a result, representatives from DOE and ECJ visited Jackman on June 28, 1978 to obtain more detailed information.

Town officials, commercial establishment owners, and residents were interviewed individually during the day. An evening meeting was held with Planning Board members and officials of Jackman and Moose River to discuss interview results, and to fill in any remaining data voids.

The following information was discussed during the June 28 meeting:

Winter recreation activity has increased substantially over the past 3 years as a result of the snowmobile trail system, created by the town of Jackman.

Tourism is a major economic activity in Moose River and Jackman. (This was discussed in Appendix H, Socioeconomic Impact Study, but had not been included in Table 2.09-2 in the DEIS.)

The DEIS shows the correct unemployment rate for Somerset County of 12 percent. However, it was emphasized by Jackman officials that the unemployment rate for Jackman and Moose River is much less.

There is a severe shortage of permanent housing in the community. This shortage includes apartments and houses available for rent, as well as homes for sale.

Motels, hotels, and lakefront camps total about 120 units. Of these, 80 units are open year round. Most motel owners reported a summer peak during the tourist season, a short busy period during hunting season, and a winter weekend peak due to snowmobilers. Many units are booked in advance for the summer season. Average stay at lakefront camps is a week. Most Canadian woodsmen working in the area stay at a boarding house or in trailers.

An old cemetery north of Moose River near the Highway 201 crossing, should be checked for historic significance. (It was subsequently determined to be 3/4 mile south of the proposed alignment.)

The school currently has an enrollment of 311 students and has shown significant growth in the past few years. School officials estimate the present facilities can handle about 35-40 additional students.

The sawmill operation at Holeb may be moved to Moose River and expanded. This would place additional pressure on housing and municipal services and facilities.

Jackman and Moose River need new sewerage and water systems. The communities currently obtain water from Wood Pond and discharge sewage back into the same pond. A sprayed lagoon sewerage system, which would accommodate 400 users, is being contemplated. Studies to determine the exact systems needed have been underway for some time, but are not complete. The new system would include replacement of existing sewer lines, and installing additional lines to hook up all lakefront camps and motels. The existing water system is antiquated and needs replacement, however, the towns feel that they cannot afford a new water system at this time. A complicating factor is that much needed highway reconstruction has been delayed, pending placement of the new sewer and water lines.

Heald Pond has experienced severe sedimentation from recent logging activities, indicating a need for extreme care in transmission line location and construction in this area. One Heald Pond residence is occupied year-round. The owner's only link to the outside during the winter is by CB radio. This radio station is also used as a relay for snowmobilers using the Boundary Bald Mountain trails.

II. REVIEW OF IMPACT ASSESSMENT

As a result of comments received during the public review period for the DEIS and the visit to Jackman (as described above), the following review of potential impacts associated with the proposed Dickey-Lincoln Transmission Line is provided.

Employment

Estimates of employment requirements likely to be filled by local labor refer to the State as a whole, not specifically to individual communities. How much the local area market provides will depend on the amount of available labor and the wage rate. At present, the unemployment rate in the Jackman/Moose River area appears to be significantly below the rate for Somerset County as a whole. In Phase I, preconstruction work, there may be competition with private industry for Class I woodcutters and potentially a labor shift to the project. At present, a great deal of woodcutting in the Jackman area is being done by Canadian woodsmen. Throughout the State as a whole, there is believed to be a sufficient number of unemployed or underemployed woodsmen who will be available at the anticipated wages.

Because of the transitory and temporary nature of much of the required labor, transmission line work does not generally encourage job shifting of presently employed workers.

Very few secondary employment opportunities are generated by transmission line work. If work crews are scheduled so that a maximum of one full crew is in the Jackman area at one time, there may be some opportunity for overtime work but little or no need for additional employees.

Anticipated impacts for employment are not expected to be different from those discussed in the DEIS. If work crews are scheduled as recommended in the report, the impact for secondary employment is expected to be minimal.

Income

The principal income impact anticipated for the local area is the increase due to secondary income benefits. Such income will relate most specifically to food, lodging and entertainment. If a decision is made to utilize labor camps along the right-of-way, there will be minimal secondary income for lodging and food and significantly less for entertainment, as crews would not be in town on a daily basis.

Housing

The temporary housing situation in Jackman cannot accommodate an influx of up to 120 workers without severe repercussions, at least for the short-term, due to the strong tourist industry. In order to avoid the impacts anticipated with 120 workers, DOE will schedule construction to reduce the number of workers in the Jackman area at any one time. Even so, construction workers may experience housing problems during the summer months because of competition with the tourist market. Careful and full cooperation will be maintained by DOE with the contractor and community officials to time work schedules to reduce impacts on housing. Consideration will be given to the use of a labor camp during the largest (employment) stage of work if it occurs during the summer tourist season.

Temporary Population Increase

As stated in the DEIS, transmission line construction workers generally do not bring their families with them because of the temporary and transitory nature of the work. The lack of available family housing in the Jackman area will discourage workers or administrative personnel who might contemplate bringing in their families. The possible relocation of the Holeb sawmill complex to Jackman will further burden an already tight housing market.

Public and Private Services

Capacity for handling additional school population is limited. The impact on the school system is considered to be minor because there is little evidence that workers bring families with them in the best of situations. The isolation and housing situation will discourage many workers who may consider doing so. Present development plans indicate that the update of the wastewater treatment system will occur prior to

commencement of proposed construction work for the transmission line. The new system will have sufficient capacity to accommodate anticipated work crews.

The minimal availability of law enforcement officials is of concern to the communities. The DEIS indicated a potential need for additional law enforcement if two crews are in the area at one time.

Careful scheduling by DOE can minimize potential social pressures associated with an influx of temporary work crews. It is believed that the Jackman/Moose River area may require a full-time law enforcement official during the height of construction.

Community Concerns

The Socioeconomic Impact Study had identified Jackman/Moose River as an area which expressed concerns with the proposed transmission line. A result of that concern was reflected in the recommended route through that area. Local concern is concentrated in two areas: the conflict of the proposed line with the wilderness character, and the temporary impacts of construction crews on the social and economic structure of the community. In acknowledgement of these local concerns, DOE will seek close cooperation with community officials during all stages of planning and construction.

Wilderness Value

The impact to the wilderness character in the Jackman/Moose River area has been acknowledged in the DEIS. There is no empirical evidence to suggest a loss of tourism to the area because of the presence of transmission lines.

APPENDIX D - SWIFT DIAMOND ALTERNATIVE

I. INTRODUCTION

At the May 8, 1978, meeting in Groveton, New Hampshire several residents of the Upper Coos County Community suggested an alternative route which would avoid the rural-residential area between Dixville Notch and Colebrook, New Hampshire. They specifically proposed a route east of Dixville Peak in the Swift Diamond area. DOE agreed to look at the proposal and, if it appeared to have merit, to give it a complete evaluation. On June 27, 1978, DOE's Assistant Project Manager for Location and Engineering, visited the area and reviewed the proposal by helicopter with a local resident designated to represent the group. He found the new route to be feasible from a technical location standpoint, and it was decided to proceed with an environmental assessment.

The same contractors which had performed the original route studies were asked to compare this new route, using the same basic methodologies. The following discussion summarizes the comparative evaluation for each study topic.

II. DESCRIPTION OF ALTERNATIVE

The new route leaves link 17A at mile 1.7 about four miles east of Lake Francis and continues south into the Roaring Brook headwaters between Blue Ridge and Crystal Mountain. It follows the Roaring Brook drainage to it's confluence with the Swift Diamond River, then down the Swift Diamond drainage to the mouth of Dixie Brook. From here, it continues south, climbing through a saddle and dropping into the Corser Brook drainage. It follows Corser Brook to its mouth, crosses Highway 26 and Clear Stream and joins link 31 at mile 2.1. The above described route has been designated as link 17C (see Figure 1).

In order to compare the two alternatives it was necessary to evaluate the following links:

Western Alternative (Original Proposal) - Links 17B, 18A, 20, 23, and 22.

Eastern Alternative - Links 17A (First 1.7 mi of 17A), 17C, 31B, (last 18.3 mi of 31), and 32.

In most cases the existing environment for links other than 17C is not redescribed here as it is documented in the various DEIS appendices.

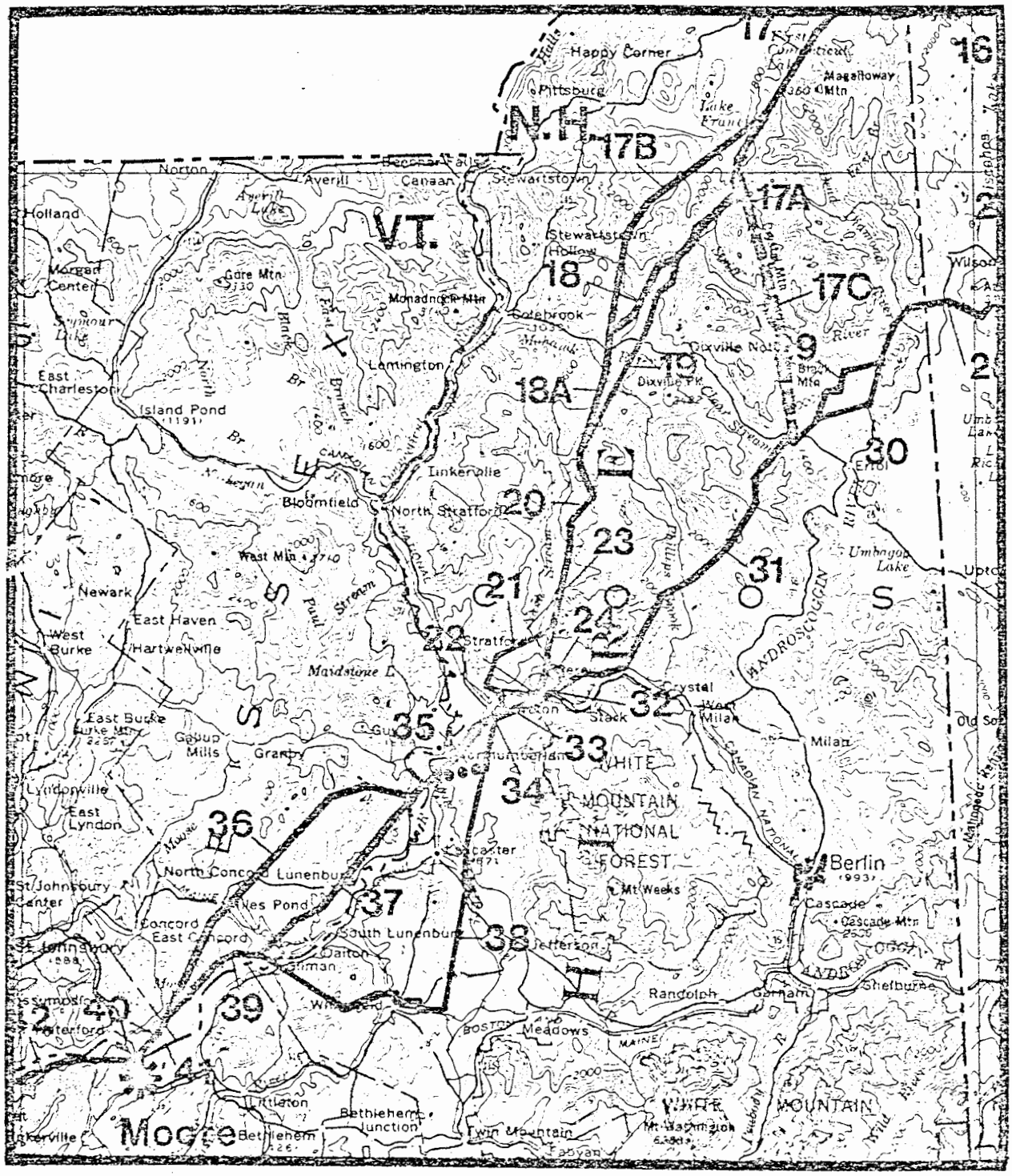
III. RESOURCE ASSESSMENTS

1. ECOLOGICAL RESOURCES

EXISTING ENVIRONMENT

Vegetation - The area consists mainly of varying mixtures of mature hardwood and softwood. No rare, threatened, or endangered plants are

Figure 1
Swift Diamond Alternative and
Cape Horn Revision



known on this link, and chances of their occurrence are probably low to moderate, knowing to the fact that much of this area has been heavily logged. No areas with significant botanical features or habitats are known. Potential for rare plants is probably greatest in the first seven miles. Alteration of the adjacent plant communities might be greatest in miles 0-1,3-6, and 13-14.

Wildlife - No deer wintering areas are known on this link (K. Strong, personal communication). Moose and bear are farily plentiful, and bobcat and nesting raptors may also be present in relatively good numbers. Remoteness is relatively high for most of the link.

Aquatic Resources - This link would involve 16 stream crossings. All but three of these are crossings of first-order streams, which normally have relatively low value to fisheries. The prime feature of concern is Swift Diamond River/Roaring Brook which the powerline would parallel for several miles, and cross just below the Swift Diamond Farm site. The brook and river support excellent populations of native brook trout, and are among the only streams in New Hampshire managed for native populations of this species. Corser Brook and Clear Stream near the end of this link also support good trout populations. All these streams are heavily utilized by anglers because of access provided by logging roads. No wetlands are crossed by the link.

IMPACT ASSESSMENT

There is a substantial possibility that the native brook trout population in this stretch of the Swift Diamond River/Roaring Brook would be severely impacted by the proposed line. This is because the line will parallel the stream along relatively steep-sloped areas. Unless the buffer zone of vegetation between the stream and right-of-way is rather large, significant long-term increases in water temperature could reduce the stream's carrying capacity for trout. Silt and herbicides could also present a hazard to the stream. Impact on wildlife habitat is considered to be positive and low to moderate in degree.

ROUTE PREFERENCE

From an ecological point of view it was determined that the eastern route would have greater impact than DOE's proposed alternative. Link 17C poses less threat to deer yards than the other alternative. However, ecological damage from the route overall, of which it is a part, (especially on stream fisheries), would be greater than for the route farther west.

2. SOCIOECONOMIC

EXISTING ENVIRONMENT

Link 17C is included in Subregion I-D, northern Coos County and runs from the middle area of Clarksville, west of Mt. Pisgah, crosses into the town of Dixville, just east of Blue Ridge, and continues south-southeast paralleling the Dixville-Dix's Grant Boundary line. This entire area is part of the wilderness area of northern New Hampshire and

the lands of both Dixville and Dix's Grant are owned almost entirely by Brown Paper Company.

Population - The population of the area is extremely sparse. In 1975, the population of Dixville was 33; in Wentworths Location, 41; and in Dix's Grant there was no permanent population recorded.

Economic Activity - Economic activity of the area is concentrated in timber harvesting and limited recreation use. Dixville is the site of the famous New England resort, the Balsams.

Other Factors - Other socioeconomic factors such as income levels, commercial activity, tax base, regional character, planning characteristics, and temporary housing are similar to those described in the Existing Environment - Subregion I-D of the Socioeconomic Impact Assessment.

IMPACT ASSESSMENT

Most socioeconomic impacts associated with link 17C are similar to those anticipated on other links running through wilderness areas of northern New Hampshire. The most severe impact will be to the wilderness quality of the area.

Because of the unincorporated status of the community, the low population base and the dominant land ownership by one timber company, there is much less community character to be affected than along the western alternative.

Socioeconomic impacts for the remainder of the eastern alternative (links 31B and 32) would be similar to those for links 20, 29, and 22 of the western alternative.

Available housing for construction workers will be similar for both alternatives, although commuting may be somewhat more difficult for the eastern alternative because of its location in more remote areas.

ROUTE PREFERENCE

From a socioeconomic perspective, the comparisons of the two alternatives present some conflict. The most significant impact of the eastern alternative is to the wilderness quality of the area. At the same time, impact on nearby residents and verbalized community concerns (as evidenced by the formation of a local committee opposing the western route) point out the social impacts on residents along this portion of the proposed route.

Based on socioeconomic considerations, the eastern alternative is preferred, although the preference is not clear-cut.

3. LAND USE

EXISTING ENVIRONMENT

The primary land use along link 17C is Forestry. Outdoor recreational activities such as snowmobiling, cross country skiing, hunting and fishing occur in this fairly remote area of New Hampshire. One mobile home and at least two seasonal camps are located within the route area.

IMPACT ASSESSMENT

The land use impacts of the eastern and western alternatives were compared by totaling the number of miles on which some type of land use impact would occur - even with proper mitigation measures. The total scores would be 91 for the western alternative and 115 for the eastern alternative. This difference can be attributed mainly to the greater extent of forestry land use on the eastern alternative, as well as greater length.

ROUTE PREFERENCE

Based on this system of ranking, the western alternative is best from a land use viewpoint.

4. GEOTECHNICAL RESOURCES

EXISTING ENVIRONMENT

Topographic relief along link 17C is generally between 1,200 to 1,500 feet. Slopes within the right-of-way are low to moderate except in the vicinity of Blue Ridge and Crystal Mountain, where they are moderate to steep. More than 96 percent of the surficial material is glacial till. Bedrock along this link is generally a sedimentary sequence with varying grades of metamorphism.

IMPACT ASSESSMENT

Geotechnical impacts were compared for the eastern and western alternatives using the methodology described in Chapter IV of Appendix F, Geotechnical Impact Study. A moderately high impact value of 26 was assigned to link 17C. Sedimentation potential for Roaring Brook and the Swift Diamond River account for the high level of impact.

The western alternative has a weighted total of 163 units/mile/link, as compared to 63 units/mile/link for the eastern alternative. The high impact value for the western alternative is due primarily to very high values for links 20 and 23. A very high sedimentation potential was assigned to the Nash Stream area of these links and a very slight potential for mineral resources (uranium) may exist along these routes.

The highest sedimentation values along the eastern alternative occur along Mills Field Pond Brook on link 31, and Roaring Brook and the Swift Diamond River on link 17C. There is a very slight potential for mineral resources (copper) along link 17C.

ROUTE PREFERENCE

With regard to potential geotechnical impact, the eastern alternative is preferred.

5. VISUAL RESOURCES

EXISTING ENVIRONMENT

Visual Site Attractiveness - The area traversed by the eastern route is composed mostly of mature woodlands, with uniformly moderate site attractiveness. Site attractiveness is very high between miles 10-16 along link 17C where the route crosses the Swift Diamond River and Clear Stream, respectively, and also high along mile 16 as the route crosses agricultural fields in the Clear Stream valley.

The western alignment, on the other hand, is characterized by a patchwork of land cover types including agricultural fields and mature regenerating woodlands, representing site attractiveness values from high to low. Thus, given a significant agrarian landscape along the western alignment, site attractiveness along this alternative should be considered higher.

Visual Landscape Quality - Both alternatives are situated in mountains with high topographic interest. The principal difference in landscape quality between the two alternatives is that the western route has a higher degree of variety and contrast and townscape elements. As a result of these conditions, much of the western alternative is rated exceptional for landscape quality, whereas the eastern alignment is rated slightly lower, being primarily very high.

Absorption values, however, are decidely different due to the agrarian characteristics of the northern part of the western alternative, in contrast with the almost exclusively wooded condition along the eastern proposal. Further, part of the western alignment traverses hills and rolling terrain whereas the northern section of the eastern alternative is situated in the narrow valleys of Roaring Brook and the Swift Diamond River, at times dipping into and dominating the valley floor. Therefore the line would be more visually absorbed along the eastern alternative.

Visually Sensitive Land Use Viewers - The types and numbers of viewers along and near each of the route alternatives are similar. However, for links 20 and 23 of the western alignment, the viewer audience is relatively smaller. Comparing the northern parts of the two routes, the eastern alternative (17C) will affect recreation viewers almost exclusively, and the western (proposed) alternative will affect residential and transportation viewers. Recreation viewers will be affected in the vicinity of Kidderville and Upper Kidderville. To the south, the western alignment (links 20 and 23) will have little effect on viewers, whereas the eastern

alignment will be in view of a number of land use types, especially some heavily travelled roadways and populated sections of the Clear Stream and Ammonoosuc River Valleys.

IMPACT ASSESSMENT

Results of the visual impact assessment are tabulated in Figure 2.

Visual Site Attractiveness - Impacts on visual site attractiveness differ between the two peoposals by only about 6 percent. Thus, although the total impact is slightly higher in the east, the two alighments may be considered to be more or less equal. Most importantly, there would be a significantly greater number of high impacts along by the western alternative, owing to the infringement upon the farmlands in the Kidderville area along links 17B and 18A.

Visual Landscape Quality - Landscape quality impacts differ only about 2 percent. There are more severe impacts along the western alignment but these are offset by the larger number of high impacts along the eastern alternative.

Visual Sensitive Land Use Viewers - Viewer impacts are significantly greater (20 percent) along the eastern alternative, as reflected in the average impact values of 1.54 and 1.38 for the eastern and western alternatives, respectively. This is primarily the result of higher impacts along links 31B and 32, as documented in the DEIS. Moreover, two miles of the eastern alternative are rated severe for impact as opposed to none of the western. On the other hand, 8.1 miles of the western alternative versus 6.4 miles of the eastern alternative are rated high for impact.

ROUTE PREFERENCE

From the perspective of visual resources, the present (western) alignment through the Dixville area of New Hampshire is preferred. Differences in impacts between the eastern and western alternatives on either visual landscape quality of visual site attractiveness are not considered significant. The greater viewer impacts along the eastern alternative, especially on link 31B, is considered to be significant. As a result, the western or proposed route is favored from the standpoint of visual resources.

6. RECREATIONAL RESOURCES

EXISTING ENVIRONMENT

Western Alternative: The recreational features crossed by link 17B include: a proposed hiking trail, snowmobile trails, and fall foliage route running through the Stewartston/Colebrook area. Features included within the viewshed are: The Lake Francis Wildlife Management Area; leased camplots; a proposed hiking trail; Mudget and Lovering Mountains and Harvey Swell, designated natural areas; the western part of Coleman State Park; Route 26, a fall foliage route and state designated scenic

FIGURE 2 - Comparison of Visual Impacts of Transmission Lines Routes - Lake Francis Area to Groveton

			IMPACT-MILES*								
			TOTAL			HIGH			SEVERE		
	LINK	LENGTH	LQ**	SA	V	LQ	SA	V	LQ	SA	V
WESTERN	17B	14.6	44.7	28.9	19.2	12.8	2.95	3.0	.9	-	-
	18A	6.0	20.2	9.7	10.0	4.9	1.1	2.0	1.1	-	-
	20	10.5	31.5	20.0	11.5	10.5	-	-	-	.1	-
	22	2.4	4.2	4.8	6.2	2.4	.25	1.4	-	-	-
	23	1.4	4.2	2.9	.4	1.4	.1	-	-	-	-
	TOTAL	34.9	107.8	66.3	48.3	32.0	4.4	6.4	2.0	.1	-
	IMPACT/MILE		3.09	1.9	1.38						
EASTERN	17A	1.7	4.9	3.5	1.7	1.7	-	-	-	-	-
	17C	15.7	47.0	32.4	17.0	13.6	-	3.0	.6	.2	-
	31B	18.3	52.9	32.4	33.9	18.3	.1	3.3	-	-	2.0
	32	1.8	5.4	2.1	5.4	1.8	-	1.8	-	.1	-
	TOTAL	37.6	110.3	70.4	58.0	35.4	.1	8.1	.6	.3	2.0
	IMPACT/MILE		2.93	1.87	1.54						

* Total impact is measured as the sum of the number of miles rated severe, high, moderate, or low times their respective numerical values (5, 3, 2, & 1). For further explanation, see Appendix I, Visual-Recreation Resources Impact Study.

** LQ = Visual Landscape Quality
SA = Visual Site Attractiveness
V = Viewers

road and sightseeing route; and the Panorama Golf Course at the Balsams, a recreational resort.

In the first mile of link 18A, near Kidderville, the route crosses the Mohawk River, a state designated Wild and Scenic River candidate, noted for brook and rainbow trout fishing and canoeing; and Route 26, a sightseeing route, fall foliage route, and state designated scenic road. The right-of-way also passes by a fall foilage route near Cilley Hill. Other features in the viewshed include: The Mohawk Valley Camping Area, a picnic area and an historic site near Route 26; and leased camplots near Bog and Uran Brooks.

Along link 20, recreational features are: Nash Stream, a canoe route and state designated Wild and Scenic River candidate, and a hiking trail leading to Percy Peaks from Shide Brook. In the viewshed, the features include: Nash Bog Pond, a brook trout fishing pond, and its boat launch; a hiking trail between Sugarload and Hash Streams; and Percy Peaks, a high elevation of local significance.

There are no recreational features crossed by link 23. However, within the viewshed are Percy Peaks and Nash Stream.

The final 2.4 miles, link 22, affects the Upper Ammonoosuc River, which is a canoe route, fishing stream and a state designated Wild and Scenic River candidate. The fall foliage route on the north side of the river, Route 110, a sightseeing and bicycle route, and the Proclamation Area of the White Mountains National Forest also are located within the route. The route can also be viewed from Nash Stream (described above).

Eastern Alternative: There are no recreational resources crossed by link 17A. Included in the viewshed, however, is a leased camplot near Beaver Pond.

The recreational resources of link 17C include: a mile of the Swift Diamond River, a national and state designated Wild and Scenic River candidate known for canoeing and trout fishing; Corser Brook, a trout fishing stream, canoe route and state designated Wild and Scenic River candidate and the Upper Ammonoosuc River; also a state designated Wild and Scenic River candidate, trout fishing stream and canoe route. Also crossed by the route are: Route 26 (described above); a fall foliage route north of the Upper Ammonoosuc River; a hiking trail leading to Signal Mountain; and snowmobile trails along Millsfield Pond Brook and Newell Brook, and near Long Pond. Features within the viewshed are: Akers Pond, a picnic and boating pond noted for trout fishing; Phillips Pond, Bragg Pond, Long Pond and Dummer Ponds, noted for brook trout fishing; one fire lookout tower on Signal Mountain, and another on a peak west of Phillips Brook; two mineral collection sites north of Victor Head and Bald Mountain; Christine Lakes, a state designated scenic area containing brown trout fishing, swimming and boating; and the White Mountains National Forest.

The terminal link of the eastern route, link 32, crosses the Upper Ammonoosuc River (described above), the fall foliage route north of the

river and Route 110, a bicycle route, sightseeing route and state proposed bicycle route. The route also enters the Proclamation Area of the White Mountains National Forest. Included in the link's viewshed is a hiking trail near Devil's Slide, and the White Mountains National Forest.

IMPACT ASSESSMENT

Results of the recreation impact comparison are tabulated in Figure 3 and discussed as follows:

Pre-Emptive Impacts - The total pre-emptive impact score for the western alignment is 49.2. In contrast, the eastern route total is 83.9. Both routes have approximately the same number of high impacts (12 for the western, 13 for the eastern), and neither has resources which would be severely pre-empted by the transmission line.

Along the western route, high pre-emptive impacts were assigned to: mile 1 of link 18A where the route traverses the Mohawk River Valley and Route 26; miles 8 and 9 of link 20 as the route follows Nash Stream; and miles 1 and 3 in link 22 where the line crosses the Upper Ammonoosuc River Valley and Route 110, and passes into the Proclamation Area of the White Mountains National Forest.

High impacts along the eastern route were assigned along links 17C, and 31B and 32. Between miles 9-11 of link 17C, the route runs parallel to and crosses the Swift Diamond River. At the beginning of the link, the route crosses Route 26 and Clear Stream (3 times). In the last 3.3 miles of link 31B, the proposed line crosses the Upper Ammonoosuc River Valley and Route 110.

The manner in which recreational features are crossed is significant in the comparison of the alternative routes. For example, both route alternatives cross the Ammonoosuc River and Route 110, but the crossings by the western alignment are more nearly perpendicular. The eastern alignment (link 31B) parallels the river and fall foliage route for approximately 1.5 miles. In a like manner, the Mohawk River and Route 26 are crossed almost perpendicularly by the western alignment. Clear Stream and Route 26 are paralleled and crossed three time by the eastern alignment.

Recreation Viewer Impacts - A comparison of the recreation viewer impacts for the alignments indicates that recreation viewers along the proposed western route would be less affected. The total viewer impact score for the western route is 45.7 as compared to a total of 71.8 for the eastern alternative. The difference between these scores lies in part in the relative frequencies of the high and severe viewer impacts for the routes. For the western route, 4.4 miles were assigned high impacts and no severe impacts were assigned. On the other hand, for the eastern route 6.1 miles were assigned high impact and 4.75 miles were assigned severe impact.

Along the western route, high viewer impact scores were assigned in the areas where the proposed facilities would be visible from the Harvey

Figure 3 - Comparison of Recreational Resource Impacts of Transmission Line Routes - Lake Francis Area to Groveton

			RECREATIONAL IMPACT					
			TOTAL		HIGH		SEVERE	
	LINK	LENGTH	PRE-EMPTIVE	RECREATIONAL VIEWERS	PRE-EMPTIVE (Occurrence)	RECREATIONAL VIEWERS (Miles)	PRE-EMPTIVE (Occurrence)	RECREATIONAL VIEWERS (Miles)
WESTERN	17B	14.6	9	13.6	1	-	-	-
	18A	6.0	16	6.0	4	1.0	-	-
	20	10.5	10	18.5	2	1.0	-	-
	22	2.4	14.2	6.2	5	2.4	-	-
	23	1.4	0	1.4	-	-	-	-
	TOTAL	34.9	49.2	45.7	12	4.4	-	-
	IMPACT/MILE		1.4	1.3				
EASTERN	17A	1.75	0	2.75	-	-	-	-
	17C	15.75	37.5	24.75	5	2.0	-	1.75
	31B	18.3	29.0	36.9	3	3.3	-	2.0
	32	1.8	17.4	7.4	5	.8	-	1.0
	TOTAL	37.6	83.9	71.8	13	6.1	-	4.75
	IMPACT/MILE		2.2	1.91				

Swell and Lovering Mountain Natural areas; from a fall foliage route; and from Route 26 and the Mohawk River. Along link 20, high impacts would result from viewing the lines from Nash Stream and Percy Peaks. Along link 22, high recreational viewer impact would be experienced at locations on the Upper Ammonoosuc River, Routes 110 and 110A, and the Proclamation Area of the White Mountains National Forest.

In contrast with the western alternative where no severe impacts were assigned, 4.75 miles of the eastern alternative was identified as having severe impact. Recreation viewers would observe the transmission facilities from the Swift Diamond River, the Ammonoosuc River, Christine Lake and Route 110. High impacts were assigned where the facilities would be viewed from the Swift Diamond River (link 17C, miles 9 and 11); from Clear Stream and Route 26 and Phillips Brook, (link 31B); and, from the White Mountains National Forest, and its Proclamation Area above the Ammonoosuc (Upper) River (link 32).

ROUTE PREFERENCE

The impact assessment findings indicate that recreational users and viewers along the eastern route would be more directly affected by the transmission facilities than would those along the western route. Not only are per-mile impacts higher along the eastern route, but this route itself is longer by 2.7 miles. However, there are also qualitative differences in the general recreational setting of the two alternatives which argue for preference of the western alternative. The western route is to a greater extent cleared, cultivated, developed and inhabitated and has a more active recreation base. For the eastern route, natural stream valleys, mountainous terrain and undeveloped land characterize a more passive recreational base. The overall identity of Northern Coos County is perceived as being relatively undeveloped and remote. This character could be retained by avoiding the eastern route alternative.

7. HISTORIC - ARCHEOLOGIC

No historic or archeologic sites have been identified along either alternative, as reported in Appendix J to the Transmission DEIS (except for link 17C.) Link 17C was investigated to evaluate the possible historic significance of Swift Diamond Farm. It was found that Swift Diamond Farm was one of several established and maintained by Brown Paper Company, primarily to furnish hay for horses used in logging operations. It was not a major supply depot.

Due to the absence of significant historic or archeologic resources on either alternative, no route preference can be made based on this resource category.

IV - SUMMARY AND CONCLUSIONS

The following table summarizes the route preferences according to the topical areas studied.

STUDY TOPIC	PREFERRED ROUTE
Ecological Resources Impacts	Western
Land Use Impacts	Western
Geotechnical Impacts	Eastern
Socioeconomic Impacts	Eastern
Visual Resources Impacts	Western
Recreational Resources Impacts	Western
Historic and Archeological Resources Impacts	No Preference

In reaching a decision, DOE is obligated not only to consider the preferences based on each individual topical study, but to examine, in depth, the reasons behind each preference and the relative importance of each type of impact predicted on the overall environment of northern New Hampshire. This requires a certain degree of subjective judgement.

In addition to the environmental considerations discussed above, DOE must consider economic and other engineering factors. In this case these other factors favor the western alternative.

DOE has decided to retain the original western alternative as the proposed route for the Dickey-Lincoln School transmission line in northern New Hampshire. This decision does not reflect a lack of sensitivity to the concerns of the Upper Coos County residents, but is based on a careful evaluation of all factors involved.

It is felt that the major impact on the community would be the presence of the tall, double circuit steel towers in the landscape. The upper portions of these structures would be in view of several homes and roads. The terrain and natural vegetation will in most cases, effectively screen the right-of-way clearing from prominent view. DOE will consider the other option -- two single circuit wood pole lines, side by side, through that area. The trade-offs are as follows:

	(1) Double Circuit	(2) Single Circuit
Structure Material	Steel	Wood Pole "H" Frame
Structure Height (Avg.)	160 ft.	75 ft.
Span Length (Avg.)	1150 ft.	600 ft.
Right-of-Way width	150 ft.	250 ft.

Utilization of the wood pole design would allow much shorter structures, but they would be spaced closer together and would require a wider right-of-way.

If the project is approved and funded for construction, a centerline will be located, and tentative structure locations will be identified for both options. Local residents and landowners will be consulted during the location process and in making the structure design choice.

APPENDIX E - DEER YARD SURVEY

The impact of the proposed transmission line to deer wintering areas was studied as part of the Ecological Resources Impact Study. Deer yards along all alternative routes were mapped, based on inventories obtained from various State agencies. Consequently, the maps are a composite from several sources showing all deer yards identified during the past few years. The schedule for the ecological study precluded a new deer yard survey, which must be accomplished during late winter when snow is deep and the animals are congregated in their wintering areas.

DOE determined to proceed with an update of deer yard information along the proposed route, recognizing that the survey could not be completed in time for inclusion in the DEIS. The State Fish and Game Departments in Maine, New Hampshire, and Vermont were requested to perform the work on a reimbursable basis, using experienced wildlife biologists. All three State agencies were cooperative; however, the New Hampshire Section was not completed due to other staff commitments. This was unfortunate but not critical, since deer yard information will be updated before locating the final centerline.

The deer yard surveys in Maine and Vermont were accomplished by Alan Hutchinson (Maine) and Lawrence Garland (Vermont). Both used fixed-wing aircraft at low levels and looked for deer or signs of deer activity (tracks and trail systems). Results were mapped on USGS 15-minute series topographic maps. The process used was not identical. In addition to mapping known deer wintering areas, Mr. Garland identified suspected areas, which he will investigate and delineate more accurately by ground methods before final centerline location.

A study of the new maps shows a degree of consistency with earlier deer yard surveys regarding known wintering areas. However, some new areas were identified and some previously mapped yards showed no signs of recent activity. Furthermore, many wintering area boundaries were interpreted differently.

DOE used these data maps to prepare the following Table showing revised deer wintering area statistics for the proposed route. In Vermont, both "known" and "suspected" deer yards are included in the revised figures.

	DEER WINTERING AREAS	
SEGMENTS	NUMBER CROSSED	ACRES OF ROW
Dickey-Lincoln School -- Fish River	7	27.3
Dickey-Moose River	17	55.5
Moose River-Moore	5	45.1
Moore-Granite	9	61.1
Granite-Essex	14	160.5
TOTAL	52	359.5

APPENDIX F - CAPE HORN REVISION

Subsequent to publication of the DEIS, DOE determined to make a small but significant revision in the proposed route south of Groveton, New Hampshire, in the vicinity of Cape Horn Mountain. This new proposal begins at the end of Link 34 and follows Link 38 for 2.8 miles, paralleling an existing transmission line located east of Cape Horn. At the southern tip of Cape Horn the route would leave Link 38 and run west, joining Link 35 at mile 4.7. The portion of this revised route, not coinciding with an existing route alternative is identified on Figure 1, in Appendix D.

The revised route is 0.9 mile longer than DOE's original proposal. It traverses moderately sloping, forested land. Although impacts were not quantified by the same methodologies as the alternatives studied earlier, this revision has been reviewed by the DOE study team. Impacts will be similar to those of the original proposal, with the exception of visual impacts, which will be considerably reduced. In this instance it is felt that the visual factor justifies the revision.

APPENDIX G - POTENTIAL IMPACTS ON MINERAL RESOURCES

I. INTRODUCTION

The statement in the DEIS (p. 3-9) on mineral resources encompasses the most significant impacts of the proposed transmission line on possible mineral development:

"No direct impacts upon areas presently utilized for extraction of minerals or aggregate would occur as a result of the action. Areas in which such deposits exist but as yet are not mined would not be adversely affected. In most circumstances, the facility may remain in place while mining activities occur around it. In other cases, the capital investment required to mine such resources under most circumstances so overwhelms the cost of moving a transmission line, that the value of the underlying resource is not considered to be altered."

Any further work regarding mining, mineral potential and the transmission line should address itself to, but not be limited to, the following:

1. To define, in the area of the proposed transmission line, any known ore deposit or deposit which may in the future become economic.

2. To determine the location of units favorable for the discovery of economic ore deposits. Defining the more favorable units could result in a slight alteration of the route of the transmission line, and hence, the lowering of the possibility of an economic discovery along the line.

3. To determine the effect that the transmission line would have on the discovery or development of an economic ore deposit. Certain geophysical exploration techniques are negatively affected by power transmission lines, e.g., electromagnetic survey (E-M), resistivity surveys, magnetic surveys, etc. On the other hand, the building of the power line and access roads might expose more bedrock outcrops, thus allowing better evaluation of the area. Also the availability of power from the line, if it could be utilized, might encourage the development of marginally economic deposits due to the lower costs in the construction of power lines or generating facilities.

II. COMMENT/RESPONSE

Responses to comments 80-1a through 80-1d, made to the Edward C. Jordan Co., Inc. regarding mineral potential along the proposed transmission line are as follows:

COMMENT: 80-1A

BY: U.S. Department of Interior

According to the Bureau of Mines Minerals Availability System, the western branch of the transmission corridor crosses the Kibby prospect at longitude 45°20'46"N. and latitude 70°32'44"W. This gold and silver prospect was field checked in 1958.

RESPONSE:

The Kibby prospect is located on the north side of Kibby Range in Kibby Township, Maine (45°20'46"N and 70°32'44"W). The prospect is more than two miles southeast of the proposed transmission line. In a search of literature only two references about the prospect could be found. Rand (1968) listed the prospect in a table of prospects. His miscellaneous notes on the prospect stated:

"Gold, silver in bedrock exposures. Talc, scheelite in general area."

Wing (1959) discussed the gold in the Kibby and western Maine area:

"Placer gold is known to occur in Gold Brook in the northern part of the map and also in Kibby and Spencer Streams a few miles to the northeast. It has also been reported from some of the other streams within the area. Panning was tried in some of the more promising localities with poor results. Nearly all of the streams show considerable magnetite of "black sand" in the concentrates. A pan from Tim Brook near Eustis showed one small grain of gold. It is believed that any placer deposits are too small and lean for successful exploration."

From the information found on the Kibby prospect no evaluation of its potential can be made. A more complete search of the literature and an on-site evaluation would be needed.

COMMENT: 80-1b

BY: U.S. Department of Interior

Our greatest concern is with possible conflicts with potential mineral deposits in the area of northern Franklin and Oxford Counties where the transmission corridor would cross a belt of sulfide mineralization. This belt extends from the New Hampshire border and Parmachenee Lake in Oxford County northeasterly to Van Buren in northeastern Aroostook County.

RESPONSE:

One of the areas of greatest concern for potential mineral development along the proposed transmission line is in the area of northern Oxford County, northern Franklin County and northern New Hampshire. From approximately the southern part of segments 12 and 13 west to approximately the Connecticut River (segments 37 and 38), the line crosses units favorable for base metal mineralization. Mineralization has been found associated with the sediments and meta-volcanics of the Dixville Fm. (New Hampshire and Maine), Frontenac Fm. (Quebec), and the Ammonoosuc Volcanics (New Hampshire).

In this belt numerous occurrences of mineralization have been found. None of the following occurrences are found on the proposed transmission

lines, but represent the types of deposits which may be contained in some of the lithologic units in the area. In the Thrasher Peaks area of Parachenee Township, Maine pyrite-chalcopyrite-sphalerite mineralization have been found (Fournier, 1970). This mineralization has been examined by at least three different companies. Also in Parmachenee Township, a few million ton massive sulphide containing zinc-copper-lead has been located by J. S. Cummings, Inc. for a joint venture consisting of the Superior Oil Co. and the Louisiana Land and Development Co. This discovery is reported to be non-economic at the present time (Cummings, 1978).

In Quebec, approximately seven miles north of the Maine-Quebec border near Clinton Lake, five small pods of massive sulphide have been found (Marleu, 1968). These sulphide pods contain significant amounts of zinc, copper, lead, gold, and silver. One of the pods has been mined.

In the border area of northern New Hampshire and Quebec native gold has been found in placer occurrences. A placer gold mine near the town of La Partie, Quebec produced in the last century.

Throughout the volcanic belt in New Hampshire numerous shows and prospects occur. One mine was operated near Milan, New Hampshire (Chapman, 1949).

Two other minerals of possible economic importance have been found in this area: asbestos and chromite. Asbestos has been reported associated with some of the ultramafic bodies in the western Maine area (Wing, 1949). Harwood (1973) notes disseminated grains of chromite in an amphibolite of the Dixville Fm. near Arnold Pond in the Arnold Pond quadrangle.

To better evaluate the potential for mineral development along the transmission line, a complete study regarding published and unpublished material would be needed.

COMMENT: 80-lc

BY: U.S. Department of Interior

Some of the most useful techniques for finding hidden massive sulfide bodies involve electromagnetic (EM) geophysical methods. Prospecting by reconnaissance, airborne, or ground EM methods are at best hindered and commonly are useless in areas of power transmission lines. Thus, the construction of the Dickey-Lincoln Lakes transmission system could conceivable eliminate the chance for discovery of buried massive sulfide deposits. This issue should be addressed more fully by the final EIS.

RESPONSE:

Geophysical surveys, such as electromagnetic (E-M) induced polarization (IP), resistivity, and magnetics are common tools of the exploration geologist. The construction of the proposed Dickey-Lincoln power transmission line would hinder the use of these tools in the area of the line.

A common exploration approach would be an airborne E-M survey with follow-up ground E-M or EP and magnetics over the anomolies located by the airborne survey. These surveys are generally done in conjunction with geochemical and geological surveys which would not be affected by the transmission line.

Discussions with Bill Finney (Geotrix Ltd., personal communication) and Paul Wessler (Scentrex Ltd., personal communication) indicated that airborne E-M would be affected up to 600-1000 feet on either side of the transmission line. The effect of the transmission line on ground E-M surveys may be less, 300-600 feet. Mr. Wessler noted that certain specialized E-M units may be used upon power lines but that their depth of penetration is not as great as the standard equipment used. Also, the cost and inconvenience of the special equipment may deter follow-up of anomolies and possible ore bodies.

To evaluate the area along the transmission line by electromagnetic methods, an airborne E-M survey with follow-up ground E-M would be needed before the initiation of power along the transmission line.

Since E-M surveys are most effective in the detection of massive sulphide deposits, the cost of the survey can be reduced by only covering areas underlain by lithologic units favorable to the formation of massive sulphides. Analysis of published and unpublished geologic information along with reconnaissance geologic mapping can be used to determine the area of highest potential to be surveyed by airborne E-M.

If the survey were completed early enough and the data released to the public, private industry could test the anomolies before the final construction of the power line.

COMMENT: 80-1d

BY: U.S. Department of Interior

Considerable mineral exploration has taken place in this area in the last few years and a significant zinc-copper discovery was recently made in Aroostook County about 15 miles northwest of Ashland. Because of the potential for additional deposits in this area of Maine, a detailed mineral survey by a competent consulting mining engineer should be made of the areas of this sulfide belt intersected by the proposed transmission line corridors.

RESPONSE:

From available data, [Hall (1970), Horodski (1968) and Boone (1958)], it seems that the belt of volcanics which contains the zinc-copper deposit (T12, R8) northwest of Ashland lies southeast of the proposed transmission line. The closest that the belt comes to the transmission line is approximately fifteen miles. Since the strike of the favorable units and the trend of the transmission line are approximately parallel, it appears that they will not intersect.

The extension of the favorable volcanic rock units southwest of the Allagash Waterway is uncertain. The Ordovician volcanic sequence appears to end near the Allagash Waterway in the vicinity of Chamberlain Lake (Hall, 1970).

III. OTHER CONSIDERATIONS

As noted in the Geotechnical Study by the Edward C. Jordan Co., Inc. a copper-molybdenum deposit in the Catheart Mountain area (segment C, link 10, mile 7 and 8) is at present uneconomic. This type of deposit, porphyry copper, is more apt to be affected by the transmission line than a massive sulphide deposit. Since porphyry copper deposits are large tonage, low grade, and required open-pit type mining techniques, they would likely require moving the transmission line.

At present, the low price of copper and the large capital costs needed to open a porphyry copper-type deposit deter many of the major mining companies from seeking this type of ore. However, as the price of copper rises and the demand for copper and molybdenum increases, exploration for this type of deposit will again become active.

IV. RECOMMENDATIONS

If the decision is made to go ahead with the construction of the Dickey-Lincoln School Hydroelectric Project and related transmission facilities, further work regarding the impacts and final location of the transmission line with regard to potential mineral resources might be warranted.

The recommended sequence of steps for the next level of evaluation for potential mineral resources along the proposed transmission lines for the known mineralized belts is as follows:

1. Complete evaluation of published and unpublished geologic material for the entire length of the transmission line to determine the segments which show possible favorable economic potential. Since the volume of unpublished material (State and USGS open file reports, theses, and work by private mining companies) is considerable, detailed evaluation of these data is needed.

2. On-ground reconnaisance geologic mapping to better delineate the segments which show favorable lithologic units.

3. Airborne electromagnetic and magnetic surveys over the areas of possible economic development. This technique will not work for the area approximately one-quarter mile to either side of the line once transmission of power is initiated.

4. Ground follow-up of the airborne E-M anomolies with geologic mapping and ground E-M.

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