DOE/EIS-0030-FS-1

Final Supplement
Final Environmental Impact Statement

BONNEVILLE POWER ADMINISTRATION

Proposed Fiscal Year 1980 Program

Facility Location Supplement

Northwest Montana/North Idaho Support and Libby Integration

U.S. Department of Energy

August 1981

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Northwest Montana/North Idaho Support and Libby Integration

Responsible Official:

WILLIAM A. VAUGHAN
Assistant Secretary for
Environmental Protection, Safety,
and Emergency Preparedness

U.S. Department of Energy
Washington, D.C. 20545

August 1981

N.W. MONT./N. IDA. SUPPORT/LIBBY INTEG. EISFS
Wg0740P:07-17-81

C O V E R S H E E T

Responsible Agency: Department of Energy, Bonneville Power Administration.

Cooperating Agency: Department of Agriculture, Forest Service.

Title of Proposed Action: Northwest Montana/North Idaho Support and Libby Integration Environmental Impact Statement Final Supplement

Title of Forest Service Action: Granting of Right-of-Way Permit

States and Counties Involved: Montana - Lincoln; Idaho - Bonner and Boundary.

Abstract: The proposal involves rebuilding to higher capacity 93 miles (149 km) of transmission line primarily on existing right-of-way. Implementation of the proposal will divert about 48 acres (19 ha) of forest land to other land uses compatible with a transmission line right-of-way; remove 2.6 acres (1.1 ha) of farmland from range and crop production; remove all vegetation from about 11 miles (18 km) of new access roads; cause potential wildlife impacts, beneficial and adverse, as a result of the aforementioned vegetation removal; increase collision hazards to waterfowl and bald eagles; create visual impacts in recreational and residential areas; affect aquatic organisms and vegetation where the line crosses a wetland and streams; introduce small amounts of combustion byproducts into the atmosphere as the result of open burning of slash from clearing and construction activities; create audible noise during operation of construction equipment; maintain the quality and reliability of electrical service to the area; conserve energy by reducing transmission system losses.

Date made available to Environmental Protection Agency and to the public:

Draft Supplement: November 6, 1980
Final Supplement: OCT 16 1981

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PLEASE NOTE: If the text in the final supplement was changed significantly from that which was published in the draft version, the new information is underscored and set off with double asterisks. Specific wording changes requested by public and agency commentors are also so indicated.

S T A T U S

This project was first described in a draft facility planning supplement, Study Area 79-3, in BPA's 1979 Program EIS. Four alternative plans of service were evaluated in the document. The supplement was filed with the President's Council on Environmental Quality on September 1, 1977. Public information meetings and an open house were held at Noxon and Libby, Montana, and at Sandpoint and Bonners Ferry, Idaho, in October 1977.

A preferred electrical system plan was selected by BPA in June 1978 and presented in the Final Planning Supplement to the 1980 Program EIS. This plan, Plan B in the supplement, involves upgrading existing facilities from Libby Dam in Montana to the Sandpoint, Idaho area and building a line on new right-of-way from the Sandpoint area to Rathdrum, Idaho.

Important factors that influenced selection of this plan included: using existing right-of-way; developing a multi-purpose facility with the flexibility to serve area requirements reliably and to reinforce the main high voltage transmission grid over the long term; conserving power transmission losses; and minimizing environmental impacts. This plan avoids habitat of the grizzly bear, a threatened wildlife species. It also avoids roadless areas whose status, at the time of the decision, was still being determined under the Forest Service Roadless Area Review and Evaluation (RARE II). The delay in schedule for Colstrip Units 3 and 4 and its required transmission facilities, including the Hot Springs-Bell project, was another consideration.

The Colstrip delay affected the viability of Plan A in the Libby planning supplement, which proposes a line between Libby and Noxon, Montana. Although Plan A would have lower environmental impacts than Plan B, the proposal, its use would depend upon connection with the proposed Hot Springs-Bell 500-kV line. In 1977, it was assumed that Colstrip Unit 4 and its transmission facilities, including the Hot Springs-Bell line, would be completed by August 1981. However, when the Libby plan-of-service decision was made, in June 1978, construction of both Unit 4 and the transmission facilities had been delayed. Present plans-of-service for Hot Springs-Bell (now known as Garrison-Spokane) do not include a routing through Noxon.

To make Plan A viable, therefore, transmission would have to be built from Noxon to Rathdrum as presented in Plan D. Plan B, Plan C (a line between Libby Dam and Sacheen Substation), and Plan D all have similar impact ranges as defined in the planning supplement, the impact predictions in that EIS assuming that a new line would parallel existing right-of-way or open a new corridor. Rebuilding the 115-kV line between Libby and Sandpoint to higher capacity using existing right-of-way, as

now proposed, reduces the impacts of Plan B significantly. Therefore, Plan B was chosen as the preferred plan-of-service. Decision criteria are detailed in the Engineering Report and Environmental Assessment for Libby Integration and N.W. Montana/N. Idaho Support Project, June 1978.

Lack of Congressional authorization for the Libby Reregulating Dam, which will be used to regulate fluctuations in the Kootenai River, will restrict use of the additional generating units in Libby Dam as originally planned. Installation of the new generators is proceeding on schedule, with completion scheduled for **May 1984**. Should Congress authorize it, the Reregulating Dam will be built and operated as planned. Implementation of the transmission project will take place on a schedule that will meet both area needs and the Corps' operational schedule for generation.

Therefore, BPA proposes to implement by **1984** those parts of its proposed plan of service needed to maintain reliable service to the area. This supplement describes the impacts of that part of the proposal, which is to upgrade the existing 115-kV line between Libby Dam and Sandpoint Substation. This draft supplement is tiered to the 1980 Program EIS. The remainder of the plan of service--a new 230-kV line between Sandpoint Substation and Rathdrum; a new substation at Rathdrum; and a new 115-kV line integrating the generation from the Reregulating Dam into the system--will be implemented on a schedule which coincides with completion of the Reregulating Dam if it is authorized.

Before the schedule on this project was changed, an open house was held at the Edgemere Grange Hall on October 15, 1979. The purpose was to inform residents potentially affected by alternative routes south of Sandpoint about the project and to obtain information on their concerns. The open house prompted many people to send letters and petitions expressing their concerns about the Sandpoint-Rathdrum line. Analysis of these letters and petitions will be part of the scoping process for the draft supplement on the deferred portion of this project. Appendix A is a summary of these comments.

Major issues raised by area landowners and by Federal, State, and local agencies **before the draft was published included** effects on the bald eagle; effects on historic and archeologic resources; use of Federal or State land versus use of private land for the right-of-way; use of existing utility or transportation corridors; effects on visual quality of the area; effects on residential property; and electrical and biological effects. An EIS draft supplement examining the deferred

portion of the project will be filed with EPA **on a schedule that coincides with authorization and construction of the Reregulating Dam. The document is not expected to be filed before fall 1983**.

Public comment on the Libby-Sandpoint draft supplement **was solicited during the review period and at formal and informal public meetings held in December 1980 at Sandpoint and Bonners Ferry, Idaho and at Libby and Troy, Montana. Responses to substantive comments from the formal meetings at Libby and Sandpoint and to letters received during the review period are included in this document. All letters are also reproduced in the document. Appendix B is a summary of comments made in the letters and at the formal meetings.

S U M M A R Y

BPA is responding to two needs with its alternatives, including the proposed action: 1) the need for reliability of electrical service to loads in Northwest Montana and North Idaho; and 2) the need for integrating into the Federal Columbia River Power System the generation being added at Libby Dam.

To meet these needs, four alternative plans of service were evaluated in the Draft Facility Planning Supplement to the Fiscal Year 1980 Program EIS. The Final Planning Supplement identified BPA's choice of Plan B as the proposed plan of service. Plan B requires removing the existing 115-kV wood pole transmission line between Libby Dam and Sandpoint Substation and replacing it with a 230-kV double-circuit line on the existing right-of-way. In general, Plan B creates less environmental impact than the viable alternatives (Plans C and D) because it calls for rebuilding primarily on existing, cleared right-of-way rather than requiring new or parallel right-of-way.

This document evaluates other alternatives to implementing the plan of service. They are a "minimum build" option, which involves reconductoring existing lines rather than rebuilding; conservation; and no action. These alternatives, however, do not satisfy the identified needs. Taking no action means that the transmission system will not have the capacity to carry the full output of Libby Dam and serve loads under outage conditions, which violates BPA reliability standards. It also means that Libby Dam could not be peaked during an outage on the 230-kV system. The minimum build alternative does not meet various reliability standards, depending on whether or not Libby Reregulating Dam is built, and it allows Libby Dam to be peaked only if all lines are in service. Conservation cannot reduce load levels by 1984 to a point below which

overloads would occur. Conservation also has not been shown to be an alternative to providing the additional generation at Libby Dam that BPA is required to integrate into the transmission system. Therefore, although the proposal has greater impacts on natural resources than minimum build, conservation, and no action, it has fewer adverse social and economic impacts and is considered the best plan for meeting the needs.

From comments made by agencies and individuals during review of the **draft supplement**, the major areas of controversy appear to be:

1) the need for the project;
2) **use of wood poles versus steel structures;
3) erosion and water quality problems and mitigation measures;
4) wildlife effects and mitigation measures**;
5) visual impacts **and mitigation measures**;
6) **effects on property values;
7) BPA's easement rights;
8) biological effects**.

The major decision still to be made is whether or not to rebuild the transmission line as proposed. **Major unresolved issues identified in the draft supplement have been resolved as follows:

1) The location of a 4-mile rerouting of the line near Vermiculite Mountain has been agreed upon in principle with the U.S. Forest Service and W. R. Grace Company;
2) Minor relocations or expansions of the right-of-way between the towns of Libby and Troy have been identified;
3) BPA will use double-circuit wood pole structures from the Kootenai Falls crossing of the Kootenai River to about 1 mile (1.6 km) east of Libby. The design will not adversely affect bald eagles and will significantly reduce the potential for impact on visual and cultural resources over that created by steel towers. The wood pole design will also be used for about 9 miles (14 km) between Sandpoint and Selle Substations and for about 4 miles (6 km) at McArthur Wildlife Management Area to reduce visual impacts;
4) Construction shutdowns were developed that would allow service to customers to be maintained and at the same time would avoid disturbance to Canada geese and bighorn sheep during nesting and lambing periods;
5) Special conductor and painted towers are proposed for some areas to reduce visibility of the line;
6) Helicopter construction for part of the line west of Libby will be used to minimize erosion problems created by access roads**.

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NORTHWEST MONTANA/NORTH IDAHO SUPPORT AND LIBBY INTEGRATION STUDY AREA 80-3

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PURPOSE OF AND NEED FOR ACTION

PURPOSE OF AND NEED FOR ACTION

BPA is responding to two underlying needs with its alternatives, including the proposed action: 1) the need for reliability of electrical service to growing loads in Northwest Montana and North Idaho; and 2) the need for integrating into the Federal Columbia River Power System (FCRPS) the generation being added by the U.S. Army Corps of Engineers (USCE) at Libby Dam.

"Purposes" are the goals BPA intends to accomplish with its proposal. The purposes of BPA's proposal are to:

1) minimize environmental impacts;
2) save energy;
3) minimize cost;
4) comply with all existing laws.

The loads in Northwest Montana/North Idaho are now served by the 115-kV line between Libby and Albeni Falls and the 115-kV line between Cabinet Gorge and Sandpoint. The latest forecast of January peak loads for the area and average annual growth rates over the period shown are given in table 1. The forecasts show an annual increase of between 5 and 5.5 percent. The actual BPA loads, as measured in January 1980, were within 6.6 percent of the forecast values, that is, within 8.4 MW of the projected total area load.

The Northwest Montana/North Idaho system will present several problems over the next few years. 1) Existing load levels on the system are now high enough that additional loading during heavy load periods is causing the system to operate at low efficiency; that is, power losses on the transmission line are high for the amount of power being transmitted. Efficiency will continue to decrease as loads increase. 2) By January 1982, increasing loads will cause system voltages to drop too low to maintain adequate service during outages of the Libby end of the system. As loads increase, voltages will drop even lower, with potential loss of some load during outage conditions. 3) By about January 1985, an outage at the Libby end of the system will cause the line to overload at the Albeni Falls end, even with PP&L's oil-fired combustion turbine at Libby operated to help supply Libby loads. Without the turbine, these overloads would occur 2 to 3 years earlier. As loads grow, the overloads will become more severe.

BPA's system is planned, designed, constructed, and operated to standards which insure continuation of service during system disturbances that are most likely to occur (e.g., if a generator or transmission line is unexpectedly removed from service). These standards are defined in BPA Reliability Criteria and Standards. Also, as part of the marketing

responsibilities outlined in its legislative mandate, BPA is required to integrate power from Northwest Federal hydroelectric projects into its transmission system.

At present, there are four generators, with a peak output capability of 483 MW, at Libby Dam. Two 230-kV lines, one from Conkelley and one from Noxon, and the 115-kV line from Albeni Falls provide the connections to Libby Dam for integration of the generation into the BPA transmission system.

**The USCE is installing four additional generators at Libby Dam, which would add another 483 MW of capacity for a total of 966 MW. The scheduled completion date is May 1984. The Libby Dam units would be used to supply baseload and some peaking power to the FCRPS. Based on present restrictions in river fluctutations, the additional units can be used when comparatively high water releases occur at Libby Dam. According to the USCE, the units can be used to: (1) produce secondary energy and power; (2) serve as reserve units during repair and recurring maintenance of units one through four, thereby avoiding down time; and (3) increase system flexibility. The proposed transmission project is needed to integrate these units for their optimum use under existing conditions.

The area service requirements as well as the integration requirement (the two underlying needs to which BPA is responding) would be met by the proposal.

In addition, the Corps of Engineers has proposed the Libby Reregulating Dam to allow for the maximum peaking capability of all generators at Libby Dam without creating excessive fluctuations in river water level. The Reregulating Dam would contain four generators with a total capacity of 90.7 MW. However, construction of the Reregulating Dam and generators is subject to project authorization from Congress. Northern Lights, Inc. has also proposed to construct a 144 MW hydroelectric facility on the Kootenai River at Kootenai Falls between Libby and Troy, Montana. This project is the subject of a final environmental impact statement by the Federal Energy Regulatory Commission and is currently undergoing evaluation by the State of Montana Department of Natural Resources and Conservation. Because neither of these facilities is authorized, BPA is considering only the upgrade of the Sandpoint-Libby line. If the Reregulating Dam is authorized, BPA would consider the line location for the remainder of the plan-of-service (as described in the 1980 Program EIS) between Sandpoint and Rathdrum in a supplemental EIS. Integration of additional generation at the Reregulating Dam and the Kootenai Falls Project would be evaluated with the Sandpoint to Rathdrum plan-of-service.

Table 1. January peak loads for North Idaho and Northwest Montana from official BPA and PNW FY 1981 Peak Load Forecast for period August 1979 through January 1990. Loads are served by BPA except for the PP&L loads at Priest River, Sandpoint, and Libby which are served by PP&L over the BPA and TWWP systems.***

Substation	Utility	Estimated January Peak Load (MW) 1980	1984	1985	1986	1987	1990	Average Annual Growth Rate (%) 1980-1990
Priest River	Northern Lights, Inc.	8.2	10.3	11.0	11.7	12.5	15.1	6.3
	Pacific Power & Light Co.	4.9	6.9	7.9	8.9	9.9	14.9	11.8
Laclede	Northern Lights, Inc.	3.2	3.6	3.7	3.8	4.0	4.4	3.2
Sandpoint	Northern Lights, Inc.	10.5	8.3	8.8	9.4	10.0	12.0	6.3**
	Pacific Power & Light Co.	34.0	44.4	46.4	49.7	53.7	64.7	6.5**
Selle	Northern Lights, Inc.	0.0	7.0	7.5	8.0	8.5	10.3	6.6**
Samuels	Northern Lights, Inc.	4.7	5.1	5.4	5.7	6.0	7.2	4.4
Bonners Ferry	Northern Lights, Inc.	7.8	10.0	10.7	11.4	12.1	14.6	6.5
	City of Bonners Ferry	9.6	11.3	11.7	12.2	12.7	14.3	4.1
Moyie	City of Bonners Ferry	3.9	4.5	4.7	4.8	5.0	5.6	3.7
Yaak	Northern Lights, Inc.	0.8	1.1	1.1	1.2	1.2	1.4	5.8
*Troy	Northern Lights, Inc.	2.9	16.0	16.2	16.4	16.6	17.3	1.3**
Libby (PP&L)	Pacific Power & Light Co.	36.9	43.4	45.4	47.7	49.7	55.7	4.2
	TOTAL	127.4	171.9	180.5	190.9	201.9	237.5	5.5**

*Northern Lights, Inc. load at Troy includes 12.9 MW to serve ASARCO mining load (after 1980).
**For period 1984-1990.
***Among other factors, planning forecasts take into account general economic conditions in the area, migration patterns, natural population increases, and known planned developments. No new, large consumers of power are predicted to be established in this area; the growth is expected to be primarily from residential, commercial, and other relatively small scale developments.

ALTERNATIVES, INCLUDING THE PROPOSED ACTION

ALTERNATIVES INCLUDING THE PROPOSED ACTION

DESCRIPTION OF THE PROPOSAL

The proposed plan requires removing the existing 115-kV wood pole line between Libby Dam and Sandpoint Substation and replacing it with a 230-kV double-circuit steel line (figs. 1 and 2). Initially, the circuit on one side of the towers would operate at 115-kV to serve the existing substations; the other side of the towers would carry the 230-kV line. An alternative double-circuit design using wood pole structures (fig. 2) **is proposed** for some parts of the line to reduce visual impacts (see MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION).

The line would be 93 miles (149 km) long, and for the most part, would use existing right-of-way. The line would be rerouted for about 4 miles (6 km) near Vermiculite Mountain to **avoid unstable soils**. The exact location will be determined in cooperation with the U.S. Forest Service (USFS), which manages most of the land crossed by the reroute, and with other affected landowners. Additionally, small amounts of new right-of-way would be needed to bring one of the circuits into a substation or tap point. Altogether, about 2 miles (3 km) of new 90-to-100 foot (27-30 m) right-of-way would be needed at Libby (PP&L) and Bonners Ferry substations and at Moyie Tap.

Between Libby (PP&L) Substation and Troy, the existing line belongs to Pacific Power and Light Company (PP&L). BPA **is negotiating to** acquire this line from the utility. Because part of PP&L's line is on a pole line easement (see figure 2 for structure design), BPA must acquire more right-of-way along this section of line to accommodate the double-circuit towers. The amount of additional right-of-way needed is presently estimated to be:

9.6 miles of 20-foot additional right-of-way (23.3 acres)
4.9 miles of 40-foot additional right-of-way (23.8 acres)
0.5 mile of 100-foot new right-of-way (6.0 acres)

About 4 miles (6 km) of this right-of-way could be obtained by retiring a Montana Light and Power (ML&P) 34.5-kV line that partially parallels the PP&L line. BPA is negotiating to acquire this right-of-way. If the ML&P line is removed, BPA will add a transformer to existing facilities at Troy that will allow ML&P to serve its Troy customers.

The PP&L and ML&P right-of-way must be cleared to BPA operation and maintenance standards. Any vegetation now within the existing right-of-way or the additional right-of-way will be cleared if it could interfere with the operation or maintenance of the new line.

Between Libby Dam and Libby (PP&L) Substation, about 7 miles (11 km) of new access roads will be needed; much of this amount will be for the reroute at Vermiculite Mountain, primarily due to the steep terrain. For the rest of the line, about 4 miles (6 km) of new access off the right-of-way will be required, nearly all between Libby (PP&L) and Bonners Ferry substations. Where necessary, road widths along the line will be increased from 10- and 12-foot (3-3.5 m) widths to a minimum of 14 feet (4 m) to accommodate equipment necessary for double-circuit steel construction.

The estimated cost of the transmission line is $25,900,000 at current dollar values.

**BPA is considering building a related 230/115-kV substation which would be connected to the proposed transmission line. The justification for the substation is primarily to reduce electrical system losses; however, the substation may also be needed for reliability, depending on the future status of the Libby Reregulating Dam.

The 3.4-acre (1.4 ha) substation could be located at one of several sites along the rebuilt line between Sandpoint and Bonners Ferry. If the Reregulating Dam is built, the preferred location, for electrical reasons, would be near Sandpoint; if the Reregulating Dam is not built, the preferred location would be at Bonners Ferry.

Because of the uncertainty regarding the status of the dam, a decision on a location for this substation would be premature at this time. If appropriate, an environmental assessment, tiered to this EIS Supplement, will be prepared that evaluates the impacts of alternative sites (Regulations for Implementation of the Procedural Provisions of the National Environmental Policy Act issued by the Council of Environmental Quality, November 29, 1978, Section 1508.28)**.

OTHER ALTERNATIVES CONSIDERED

NO ACTION

A BPA decision not to take action would result in several types of consequences to the electrical system, which in turn could have certain effects on the human environment. The following discussion details the probable electrical consequences of no action, which are primarily overloads, high system losses, and low voltages; and how those three major consequences of no action could affect people of the area.

Three transmission lines now terminate at Libby (Dam) Substation: one Libby-Sacheen 115-kV line and two 230-kV lines. One 230-kV line goes to Noxon and the other to Conkelley. Without any new transmission, the

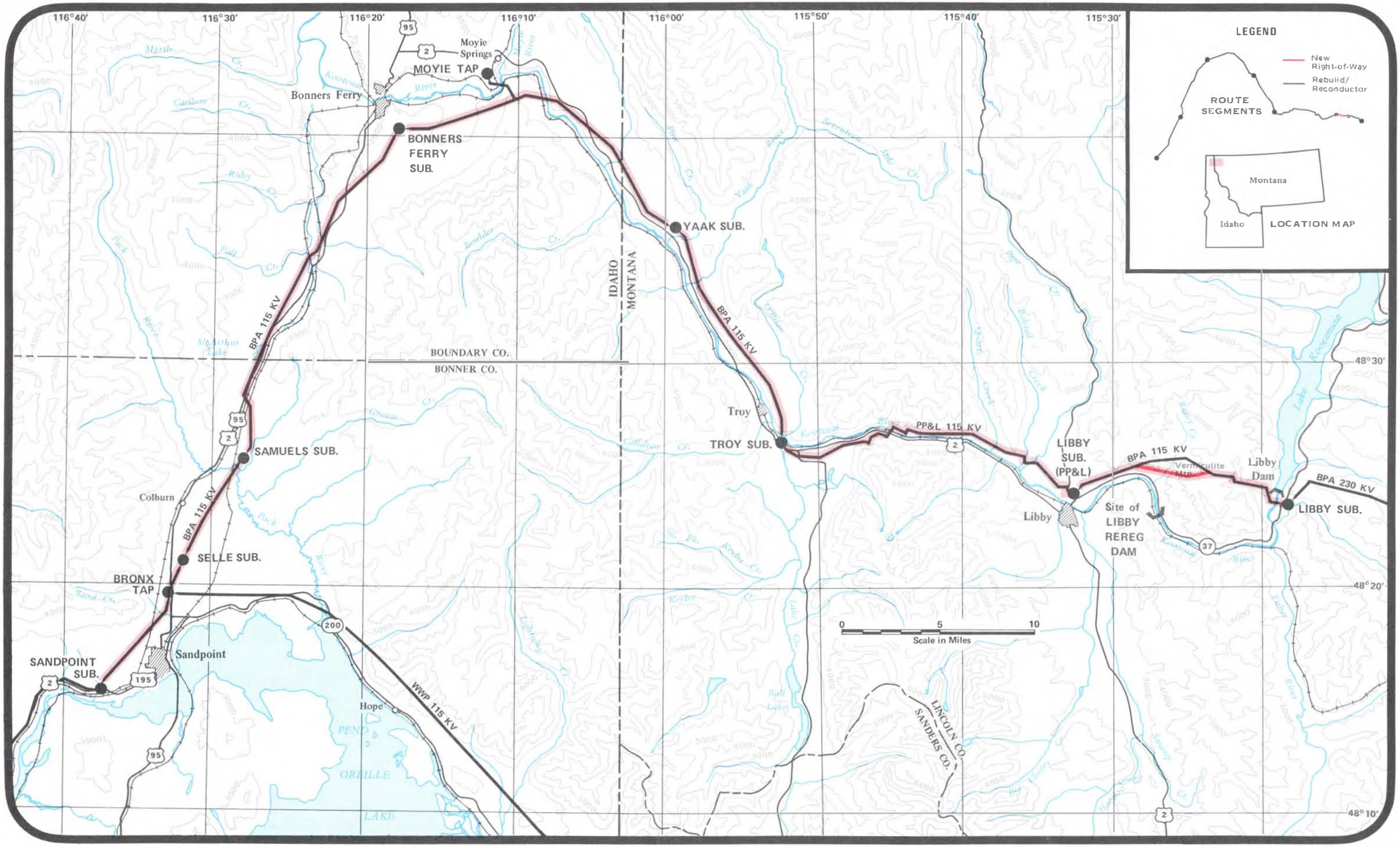
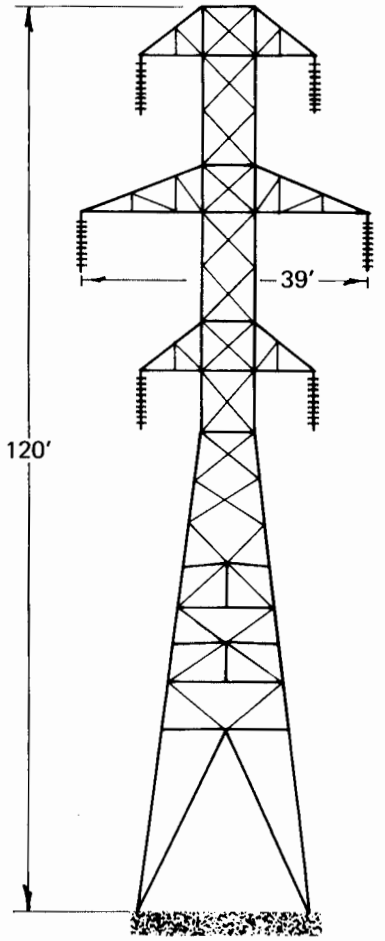
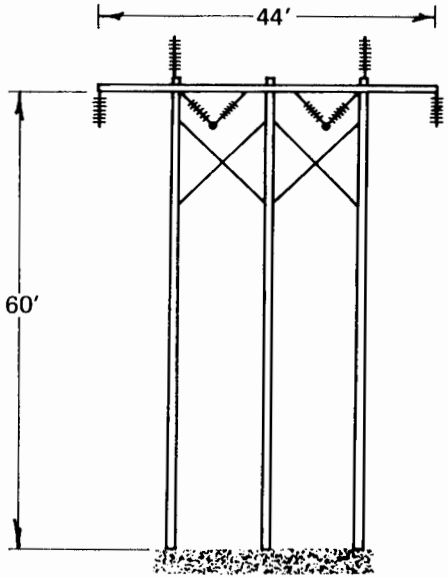


FIGURE 1
STUDY AREA
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
80-3



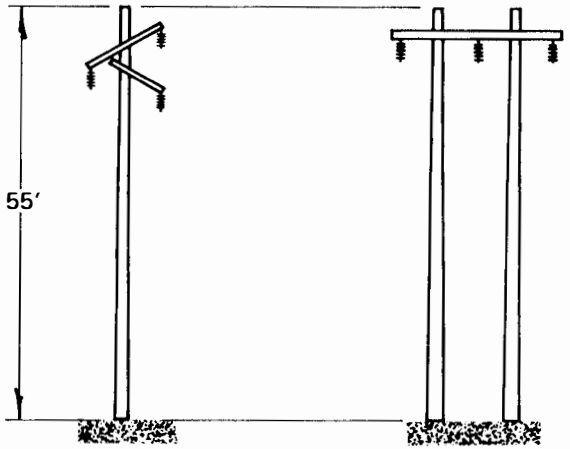
230-kV Double-Circuit Steel

R/W 100′



230-kV Double-Circuit Wood Pole

R/W 100′



115-kV Single Wood Pole
Wishbone
R/W Variable

115-kV Wood Pole
H-Frame
R/W Variable

NORTH

FIGURE 2
TOWER DESIGNS
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG PROJ.
80-3

115-kV transmission line must be sectionalized when Libby Dam is peaking to prevent overload due to more power being transmitted from Libby Dam to Albeni Falls. Sectionalizing a line means that an area receives power from only one direction, a situation which does not meet BPA's standard of reliability. When an area receives power from only one direction, the risk becomes greater that unplanned outages will result in dropping some loads. With proper emergency procedures, the length of outage is usually held to a few hours; the severity of a transmission outage depends on the length of outage, the type of loads being served, and the time of year the outage occurs.

Although sectionalizing can for many years prevent overloads due to power flowing through the 115-kV system, it cannot prevent overloads due to outages on the 115-kV system without dropping loads. Outages on the 115-kV system that will require load dropping can be expected to occur by about 1985 unless this system is reinforced.

For the nonconstruction alternative, power transmission system losses for January 1985 during peakload and generation periods are about 38 MW higher than for the proposed plan. This amount represents an annual loss of at least $2,380,000 (based on the cost of replacing those losses) for the first few years; value of losses would increase in succeeding years. The annual energy loss would be at least 13,300,000 kwh. This is enough energy to supply annually about 860 households in the West Group area as a whole*, or about 960 households in western Montana where there are fewer electrically heated homes. The losses would need to be made up by developing additional generation. **(These figures are based on the assumption that the Reregulating Dam is operating as planned; without it, losses would be 9 MW.)**

Energy losses and dropping loads are the two most important consequences of no action. Other consequences, although not as critical as these two, are nevertheless violations of BPA planning criteria and are detailed below.

The 230-kV Libby-Noxon and Libby-Conkelley lines each have a 480 MW winter rating and 255 MW summer rating. The flow of electrical current in a transmission line generates heat and raises the temperature of the conductor. This causes losses to increase and also causes the conductor to sag closer to the ground. The line is considered overloaded when the clearance to ground becomes less than that specified in the National Electric Safety Code. Because the air around the lines provides more cooling in the winter than in the summer, the lines can transmit more

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*Based on average annual kilowatt hour uses in the BPA service area in 1977. The average includes single- and multiple-family dwellings with and without electric heat.

power in winter without overheating. With both 230-kV lines in service and 115-kV system sectionalized, the generation at Libby **Dam** could be peaked (966 MW) in the winter months but would be limited to four units (483 MW) in the summer. With one 230-kV line out of service, the peaking capability **at Libby Dam** would be reduced to four units (483 MW) **during the winter and to two units (242 MW) during the summer**. Operating Libby generation in this manner would restrict its use as a peaking resource. Based on the BPA publication Power Outlook Through 1990-91, dated May 1980, this restriction on peaking generation is serious in the 1980-81 period and would become worse each year.

Since the 1980 publication, the thermal plants presently under construction (WPPSS #1, #2, #3, and Colstrip #4) have been delayed from 6 to 12 months. Also, a moratorium or slowdown in construction has been called for the WPPSS #4 and WPPSS #5. The Libby Dam Additional Units can be used within the existing conditions to offset some of the peaking ability that would have been expected from those plants. Even without the delays, the Libby Dam Additional Units could offset peaking generation at some of the combustion turbines listed in the 1980 forecast. Restricting the peaking capability of Libby Dam would make it harder to schedule peaking power and to serve peak loads. Flexibility in terms of emergency reserves would also be diminished.

The most extreme fault situation encountered on a single-circuit AC transmission line is a three-phase fault, when all three conductors of the transmission line are short-circuited. The majority of faults are single-phase faults where only one conductor short-circuits. Though they will not prevent faults, the Libby line additions will reduce the severity of their consequences.

If no action is taken, in order to keep the remaining lines and generators in the area in service for three-phase faults near Libby on one of the 230-kV lines, at least six of the eight generators would have to be dropped. Four generators would have to be dropped for a one-line-to-ground fault near Libby on the Libby-Conkelley 230-kV line.

The consequences of relying on generator dropping schemes to maintain stability will become more serious as peaking resources become unable to keep up with peak demand and therefore the need to keep these generators connected to the main grid transmission system becomes essential.

Without knowing the type of load for each electricity user, we can only speculate on the impact of these consequences on the people and environment of the project area. However, the history of outages on the

Libby system seems to conform to the BPA system average of 5 to 6 outages a year for every 100 miles (160 km) of line. Such outages typically last from 5 minutes to 8 hours but may be much longer, although the average is usually about an hour. If the system is not reinforced, after 1985 some customers would not be supplied during transmission line outages, particularly as economic development continues and electrical demand rises.

Those businesses or industries with critical reliance on continuous electrical service might decide to relocate in an area where reliable service is available. This would mean that some people would move out to follow that business employment. However, other businesses without critical reliance on continuous electrical service would probably take its place, and the electricity demand would continue to push up against the maximum allowed by the existing system capacity. Voluntary rationing systems, switching to alternate energy sources where available and applicable, and simply living at lower per-capita energy consumption levels are all ways in which the population could continue to increase, despite the lack of larger electricity supplies.

The lower reliability of electric service could present hardships or even physical hazards to many people in situations dependent upon electricity. However, secondary impacts on the environment brought about by population concentration would probably be less than if abundant supplies of electricity were available. The additional secondary impacts that could have been imposed on this area, had adequate electricity supplies been available, would be shifted to other areas that would consequently become more populated.

The consequences of low voltages can be merely annoying, such as dimming lights; or they can be more significant, such as when they occur often enough to damage or shorten the life of motorized equipment in homes, industries, and farming operations. Some motorized equipment may have to be restarted. BPA would be forced to drop loads before any of these effects of low voltages occurred, however, to relieve overloads on the electrical equipment. If BPA were not to design the transmission system to maintain its reliability standards, then a plan would have to be developed for relieving the overload situations.

The no action alternative would have no direct effects on the natural environment except those that result from the presence of the existing line and right-of-way and from the current maintenance program (primarily the vegetative management program). The Water Resources section under ENVIRONMENTAL CONSEQUENCES briefly describes the effects of herbicides upon water quality; BPA's Annual Program Environmental Impact Statements describe in detail the agency's vegetative management program proposed for each fiscal year.

The impacts of new construction, the most significant of which would be effects on wildlife, visual quality, and cultural resources (see ENVIRONMENTAL CONSEQUENCES) would not occur.

MINIMUM BUILD

The minimum build alternative would require at least the first and possibly the second of the following actions: 1) reconductor (replace the old transmission wires with higher capacity wires) the Albeni Falls-Libby 115-kV line; and 2) reconductor the Libby-Conkelley and Libby-Noxon lines to higher capacity.

The reliability and service consequences are similar in type to those described under NO ACTION but are of lesser magnitude. In general, reconductoring would relieve the problem of dropping loads in the Northwest Montana/North Idaho area for the next 5-10 years, but transmission losses would still be high. Additional transmission facilities would be needed at a later date.

Assuming that the additional units at Libby Dam are installed and operating, system losses during peak load and generation periods will be about 30 MW higher in the minimum build plan than in the proposed plan. This represents an annual loss of at least $1,900,000 for the first few years (value of losses would increase in succeeding years) and an annual energy loss of at least 10,500,000 kWh. This is enough energy to supply about 680 electrically and non-electrically heated dwellings in the West Group area, or 755 homes in western Montana.

If the reregulating generation is not built, reconductoring would not be a feasible solution to the overload problems on the 115-kV system. If the line segment between the BPA and PP&L Libby substations is out of service and the reregulating generation is not available, severe low voltage problems will occur at Libby by the mid 1980's, despite reconductoring, and line overloads at the Albeni Falls end of the 115-kV system will occur by the late 1980's.

During the winter, reconductoring the Albeni Falls-Libby 115-kV line would allow the system to carry the peak output of Libby assuming all lines in service. During an outage of either the Libby-Noxon or Libby-Conkelley 230-kV line, Libby generation would have to be reduced to the peak output of 5 units to prevent line overloads. To keep the remaining system in service, 6 of the 8 Libby units would have to be dropped for a 3-phase fault on either 230-kV line. Three units would have to be dropped for a one-line-to-ground fault on the Libby-Conkelley line.

Assuming the Reregulating Dam is built, during the summer, even with all lines in service, Libby **Dam** could not be peaked because of the low current rating (640 amperes) of the Libby-Noxon and Libby-Conkelley lines. In the minimum build plan, the maximum output would be limited to about 550 MW. If the 230-kV lines were reconductored, the plant could be peaked in summer.

The environmental consequences of the minimum build alternative probably would be low, because it does not involve clearing new right-of-way, although new towers may be required in some places. Residents and wildlife could be disturbed for a few weeks. Archeologic resources could be disturbed or destroyed by heavy equipment. Soil compaction and stream sedimentation are possible, but the effects would be short-term and could be mitigated.

CONSERVATION

The proposed transmission line will provide capacity to serve increased peak load demands in the Northwest Montana/North Idaho area and to integrate into the Federal Columbia River Power System (FCRPS) the additional generation being installed at Libby Dam. Conservation measures undertaken in the Northwest Montana/North Idaho area could foreseeably reduce electric peak demand in this geographic area. If such reductions were great enough, BPA would not need to provide additional transmission capacity.

Similarly, if conservation actions undertaken in the Pacific Northwest were of sufficient size, the need for additional peak generators at Libby Dam would diminish, as would BPA's requirement to provide increased integrating transmission capacity. The following discussions examine the potential for energy conservation as an alternative to the proposed action.

The need for additional power resources to meet peak energy demands in the Northwest is a subject of great interest and one which has recently received considerable study. The additional power turbines which the U.S. Army Corps of Engineers is installing at Libby Dam have been questioned as the best available alternative for helping to meet the region's peaking needs. Conservation measures such as load management and peak load pricing have been suggested in a 1979 study by the U.S. General Accounting Office (GAO) as possible alternatives to the Libby project. In February 1980, the U.S. Army Corps of Engineers issued a supplement to their final environmental impact statement on the Libby project; it evaluates conservation as an alternative to installing additional turbine generators. The Corps' conclusion was that conservation and load management will be needed in addition to, not instead of, the new generation at Libby to avoid shortages in the late 1980's and thereafter.

BPA supports and is, to the extent authorized to do so, actively encouraging regional energy conservation efforts. However, BPA, under current legislated authorities, is also required to integrate power from Federal hydroelectric projects in the Northwest. In accordance with this mandate, BPA has developed plans to serve Northwest Montana and North Idaho so that the proposed transmission line will also integrate planned output from Libby Dam. Because the additional units are currently being installed at Libby Dam and completion is scheduled for **1984, BPA's proposal is timed so that sufficient transmission capacity is available to integrate this generation**.

Considering that additional generation is currently being installed at Libby **Dam**, conservation actions which would forestall the need for integrating transmission appear unlikely. However, should the Corps of Engineers alter its proposal, BPA would also reevaluate its transmission proposal.

A more direct issue related to BPA's proposed transmission line is whether or not conservation actions in Northwest Montana and North Idaho could sufficiently reduce peak demands so that an investment in conservation could be considered a reasonable alternative. The following discussion addresses this subject.

Conservation is usually defined as improving the efficiency of energy use, which has the effect of extending present energy supplies by reducing electrical demand.

Conservation actions in general are less costly than building additional power generating plants. They provide additional time to develop other types of generation to conserve scarce fossil fuels, and they typically require a short lead time to implement. Savings attributed to conservation tend to be expressed in terms of reductions in average energy consumption as opposed to reductions in peak load demand. This method of expressing and calculating conservation is problematic, for the proposed transmission line is designed to accommodate those periods of maximum power use. Only those conservation actions which would reduce consumption during peak use periods would contribute to achieving a balance between transmission system capacity and peak electric demand.

In the Northwest Montana/North Idaho area, those conservation techniques which would have the effect of reducing electrical consumption during the winter--the period of peak use--would be of greatest benefit with regard to the transmission system. At present, BPA's efforts to promote energy conservation are in an early stage of development. In this geographic area, very little other than providing information to BPA's customers on voluntary conservation techniques has been accomplished. Most of BPA's effort to date has been directed at obtaining baseline information and developing programs rather than implementing conservation techniques.

In the region as a whole, little beyond BPA's efforts has been accomplished by utilities, although many programs and measures have been initiated. A majority of utilities give conservation information, advice, and audits upon request. Those falling under the authority of the National Energy Conservation Act of 1978 (NECPA) or the laws of Oregon are required to promote these services. Some public utilities are participating in BPA's four pilot projects: residential weatherization audits and loans, solar domestic hot water system stipends and loans, a small wind energy conversion system, and irrigation pump efficiency testing. Although the savings from these pilot programs will be small, the potential savings are significant if these programs prove feasible for regional implementation.

Private utilities have devoted most of their efforts to residential audits and weatherization financing for customers with electric space heating. One utility recently announced a comprehensive residential water heating conservation program which includes free hot water heater jackets and shower flow restrictors, lower thermostat settings where feasible, and a cash advance or rebate towards the price of a hot water heat pump or solar water heater. This type of program is likely to be adopted by other large utilities. All the private utilities offer comprehensive audits to their commercial and industrial customers, and one has begun offering deferred payment, no-interest loans for efficiency modifications to heating, ventilation, and air conditioning systems and lighting. They are becoming involved in alternative energy sources such as solar, wind, small hydro, cogeneration, and heat recovery. In the planning stage for several private utilities are programs to switch to sodium-vapor street lighting. One utility in Washington State requested and was granted a ban on new electric resistance heating in its service area, **but this ban was later overturned in Court**. This type of prohibition also is being evaluated elsewhere in the region.

Less visible is the level of conservation practiced in the region today. Measures such as night thermostat setbacks and lower daytime thermostat settings, for example, are already practiced by a majority of people according to a recent BPA-sponsored residential end-use survey. Additional information on existing conservation levels in this sector will become available as the survey data is analyzed. Fuel-use surveys for the commercial and industrial sectors are under preparation.

In the residential sector, the major savings potential is in the areas of electric space and water heating. Reduction of heat losses through insulation and weatherization, improvements in heating system efficiencies (e.g., heat pumps) and displacement of electric energy by renewable energy resources offer the greatest potential savings. Cogeneration, waste vent utilization, and biomass applications are the promising areas in the industrial sector. Commercial buildings can become more efficient through reductions in heat loss from the building;

through efficiency improvements in the heating, ventilating, and air conditioning systems; and through greater utilization of solar energy and district heating. In certain locations, geothermal energy is a promising alternative to electricity for space and water heating in the commercial and industrial sectors.

BPA currently assumes as part of its projected conservation savings that its customers will be able to achieve a 12 percent reduction in their 1990 load forecasts through energy conservation efforts (US DOE, BPA 1981). If one assumes that BPA's customers in Northwest Montana and North Idaho implement energy conservation at an annual rate of 1.7 percent between 1980 and 1984 (the need date for additional transmission capacity) loads would be approximately 9 percent less than forecasted. At the current rate of load growth (5.5 percent average) conservation actions would delay the need for the proposed transmission line by a period of one to two years. This would be the time required for loads to increase to the level for which additional transmission capacity is required.

Because the proposed transmission line would be delayed but a short period of time by conservation, and because the line is required to integrate new generation from Libby **Dam**, conservation does not meet the purposes for which the project was developed.

Although the effects of anticipated energy conservation do not meet the purposes of the project, this is not to say that conservation in this geographic area is unnecessary or will not be a BPA priority. BPA supports and intends to work for the employment of every feasible conservation tool to modify energy demand in the Pacific Northwest.

COMPARISON OF ALTERNATIVES

In order for an alternative to be reasonable, it must satisfy the needs to which the agency is responding and accomplish the purposes of the proposal. Therefore, the following comparison of alternatives is based on how well each satisfies those needs and purposes.

Unless otherwise stated, it is assumed that Libby Dam additional units will be installed and operating as stated under PURPOSE OF AND NEED FOR ACTION. The Reregulating Dam generation was not considered in the evaluation except as indicated.

COMPARISON OF ALTERNATIVES

	NEED:	DOES THE ALTERNATIVE PROVIDE RELIABILITY OF ELECTRICAL SERVICE TO NORTHWEST MONTANA AND NORTH IDAHO?
Proposed Plan	Yes	It meets BPA's and the Western Systems Coordinating Council's reliability standards for transmission systems, which provide that service to customers is maintained under certain outage conditions. (BPA Reliability Criteria and Standards, updated 1979).
No Action	No	Load dropping can be expected by about 1985 because the system will not have the capacity to carry the full output of Libby Dam and serve loads under outage conditions. It does not meet BPA reliability standards.
Minimum Build	Yes	If Libby Reregulating Dam is built, reconductoring the line would, for a limited time, relieve the problem of dropping loads in the N.W. Montana/N. Idaho area because the additional generation source could maintain line voltages at an acceptable level. However, BPA reliability standards for generation units would not be met.
	No	If Libby Reregulating Dam is not built, severe low voltage problems, which could result in load dropping, would occur by the mid-1980's; line overloads at the Albeni Falls end of the 115-kV system would occur by the late 1980's under certain outage conditions. In this case, BPA reliability standards would not be maintained.
Conservation	No	Conservation measures currently practiced or being initiated in the region appear unable to reduce loads below levels forecast for 1985, which are the levels at which overloads are predicted to occur under some outage conditions.
	NEED:	DOES THE ALTERNATIVE ALLOW THE ADDITIONAL POWER FROM LIBBY DAM TO BE INTEGRATED INTO THE TRANSMISSION SYSTEM?
Proposed Plan	Yes	The transmission system provides sufficient capacity to integrate all eight Libby Dam generators, if operated during peaking periods, under outage conditions which satisfy BPA reliability criteria.

No Action	No	If the 115-kV system is sectionalized and both 230-kV lines are in service, Libby Dam could be peaked in winter but not in summer. During an outage on the 230-kV system, the dam could not be peaked. This alternative does not allow the additional units at the dam to be used as planned and does not maintain the transmission system at BPA's current standard of reliability.
Minimum Build	No	Libby Dam could be peaked in summer and in winter only if all lines were in service. Such a condition does not meet BPA's reliability standard.
Conservation	No	The Corps of Engineers does not expect conservation to be able to eliminate the need for or use of the additional generation at Libby Dam, and the existing transmission system cannot handle the expected demand.

Because the Conservation and Minimum Build alternatives do not satisfy both identified needs, they cannot be considered reasonable alternatives and will not be evaluated further. The alternative of No Action also does not satisfy the needs; however, it will be used as a benchmark against which to evaluate the consequences of the proposal.

	PURPOSE: HOW WELL DOES THE ALTERNATIVE MINIMIZE ENVIRONMENTAL IMPACTS?
Proposed Plan*	Compared to the other routes and plans of service presented in the Final Facility Planning Supplement (FPS) to the Proposed Fiscal Year 1980 Program EIS, the proposed plan keeps environmental impacts to a minimum: 1) It uses existing, cleared right-of-way for 89 miles (142 km) of the 93 miles (149 km) of line. The 146 acres (59 ha) of new or additional right-of-way necessary to expand the existing right-of-way to accommodate the double-circuit towers, to bring one circuit into substations or tap points, to reroute the

*Impacts listed are those which are expected after the proposed mitigation is implemented. See the following section (II.D.) for the proposed mitigation measures.

line to avoid **unstable soils**, or to build new access roads, will not destroy significant amounts of natural vegetation or remove significant amounts of land from production of harvestable timber or agricultural products. The other routes either parallel existing lines or open entirely new corridors. They would require acquisition of new right-of-way for the entire distance of the line, with the associated impacts that would be created (see the FPS).

2) It avoids occupied and proposed critical habitat of the grizzly bear, a threatened wildlife species; the other routes do not.

3) It avoids habitat of the gray wolf, an endangered species; the other routes do not.

4) It avoids roadless areas whose status, at the time of the plan-of-service decision, was still being determined under the Forest Service Roadless Area Review and Evaluation (RARE II). Other routes, although not all, cross roadless areas.

Compared to the No Action alternative, the proposal has greater environmental impacts in the following areas:

1) Taller towers and an overhead groundwire could create collision hazards to waterfowl and endangered bald eagles at river crossings on the Kootenai River. **Use of shorter structures at the most critical area (Kootenai Falls) should reduce collision potential in this area from that created by steel towers**. The project will not jeopardize the continued existence of bald eagles or waterfowl.

2) Clearing for the 4 miles (6 km) of new right-of-way required would remove 30 acres (12 ha) of moderately productive and 17 acres (7 ha) of highly productive forest land from production for the life of the line (about 50 years).

3) The taller steel towers would create additional visual impacts at some residences, highway crossings, and recreation areas.

4) Construction activity and new tower sites could disturb or destroy cultural resources, including some in the proposed Kootenai Falls Historic and Archeologic District.

5) Construction of new access roads and the presence of heavy equipment could disturb soils and create erosion problems, especially where new right-of-way is cleared near Vermiculite Mountain. Heavy equipment could also compact the soil, temporarily reducing yields in agricultural areas for the year of construction.

Compared to the No Action alternative the proposal causes less impact in the following areas:

1) The number of structures in agricultural land would be reduced in some areas, thus eliminating some of the time spent by farmers in working around structure bases.

2) The economic and social impacts associated with unreliable electrical service would not occur.

No Action

Compared to the proposal, No Action causes fewer environmental impacts in the following **<u>general</u>** areas:

1) The construction effects on natural resources --soils, wildlife, and forest and wetland habitat--would not occur. Any adverse effects of the present vegetation management program would continue.

2) Effects of construction on economic and cultural resources--forestry, agriculture, esthetics, and historic and archeologic resources--would not occur.

The social and economic impacts of No Action are different from those created by construction activities and are basically speculative and unquantifiable. Possible effects include annoyances such as dimming lights and damage to unprotected motorized equipment due to low voltages, as well as potential adverse economic effects if industries should decide not to locate in the area due to unreliable supplies of electricity.

These effects contrast with the socioeconomic effects of construction, which can include temporary increases in pressure on housing and social services; or the benefit created by a short-term stimulus to local businesses, noticeable mostly in small towns. Property values may or may not be affected by the change in visual conditions, depending on the type of land use near the line and the intrinsic value the landowner places on the characteristics of his land and the changes created by the transmission line.

PURPOSE: HOW WELL DOES THE ALTERNATIVE SAVE ENERGY?	
Proposed Plan	It directly reduces system **power** losses by 38 MW, which is equivalent to an annual energy loss savings of 13,300,000 kwh or enough energy to supply annually about 960 households in western Montana **(assuming an operating reregulating dam)**. However, the proposal would also require an indirect commitment of an undetermined amount of energy to produce the steel and other products necessary to build the line. The vehicles used in construction and maintenance would also use energy. **For construction of this line, between 400,000 and 800,000 gallons of fuel would be used, including transportation of materials to the job site**. It seems probable that the long-term energy loss savings would greatly exceed the amount used during construction **and maintenance**.

No Action	In terms of known, measureable quantities, energy lost on the system would be equal to the savings indicated under the Proposed Plan. It seems unlikely that energy savings resulting from no construction would offset system losses.

PURPOSE: HOW WELL DOES THE ALTERNATIVE MINIMIZE COST?

Proposed Plan	Loss savings are worth at least $2,380,000 annually for the first few years **(assuming an operating reregulating dam)**. The value of losses would increase in succeeding years. The plan would cost about **$25,900,000** to construct and about $300,000 per year to operate and maintain over the estimated 50-year life of the facility.
No Action	In terms of quantifiable costs for this alternative, No Action would result in system losses costing $2,380,000 annually (see Proposed Plan). Maintenance costs for the existing line would at least remain the same and possibly increase as the line ages or is damaged due to overloading. In the long term, these costs could offset the money saved by not rebuilding the line.

PURPOSE: DOES THE ALTERNATIVE COMPLY WITH ALL APPLICABLE LAWS?

Proposed Plan:	Yes.
No Action:	**No. In accordance with the Flood Control Act of 1944, BPA has a legal obligation to transmit and dispose of power at Libby Dam**.

MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION

The following two sections on mitigation measures (both proposed and not proposed) are based on discussions in the ENVIRONMENTAL CONSEQUENCES section, although in some cases, when a comparison between the benefits and the adverse effects of mitigation was thought necessary, the more detailed discussion occurs in these mitigation sections.

Air Quality

Debris piles will be kept as clean and dry as possible and burned in such a manner as to reduce smoke. No garbage or petroleum-based products will be burned.

Leftover construction materials will be retained for reuse or reprocessing where practical.

Dust control measures such as applications of water or gravel will be used on roads as necessary.

Noise and Electrical Effects

If television or radio (including CB) interference occurs, BPA will follow a standard mitigation procedure to restore reception to its ordinary level.

If a telecommunications or railroad company determines that unacceptable voltage or noise levels are appearing on their circuits because of the operation of BPA's transmission line, the problem will be investigated and mitigated according to BPA policy in cooperation with the affected company.

Geology, Soils, and Minerals

**To avoid unstable soils on the existing right-of-way on Vermiculite Mountain, the line will be rerouted for about 4 miles (6 km).

Rather than attempting to build roads in the rugged terrain between the Kootenai Falls river crossing and Troy, BPA proposes to use helicopters for tower erection and conductor stringing.

Standard measures BPA employs to reduce erosion caused by access roads include seeding most roads with native ryegrass and other grass seed on the cut and fill slopes as well as on the road itself. Use of ryegrass seed may be limited in Boundary County. BPA will contact the Boundary County Extension Agent before using ryegrass seed on roads there.

Water bars are also used on most roads, with the amount of separation between bars dependent on local soil conditions, weather, and percent of grade. Under more severe conditions, intercepting dips may be used. Special attention will be given to the high hazard areas in the Rainy Creek drainage area, at Pine Creek, and northwest of O'Brien Creek. Once specific right-of-way and road locations are established, mitigation measures will be developed in cooperation with the USFS and local landowners**.

If temporary access roads in fields between Bonners Ferry and Sandpoint substations compact the soil, those areas would be tilled and restored to their original condition as much as possible.

If construction increases wind erosion in sandy soils between Naples and Samuels, stabilization measures would be used to prevent soil loss.

Water Resources

A 100-foot (30 m) buffer zone would be maintained between water bodies and areas aerially sprayed with **herbicides if this vegetation management technique is necessary in inaccessible areas**. Ground applications of herbicides, except safe chemicals, would not be allowed within 10 feet (3 m) of any water body.

BPA is currently considering the development of a new vegetation management technique for which some experimental sites would be located along the Bonners Ferry-Troy segment of the transmission line right-of-way. This technique would involve the deliberate planting of low-growing shrubs and grasses to prevent establishment of taller-growing hazard vegetation. If plant competition can be used in this manner, use of chemicals can be reduced. However, this technique probably would take a minimum of 5 years to develop and evaluate.

Four wood transmission structures in the Pack River floodplain would be replaced by one double-circuit steel tower built on concrete footings designed to withstand flooding. Areas around the old and new tower sites in the floodplain would be regraded to their original contours and reseeded.

Construction in the wetland area adjacent to McArthur Lake will take place using matting, **tracked vehicles**, or other special measures to **minimize rutting of the soil and** damage to wetland vegetation. Revegetation will be undertaken to restore damaged vegetation.

Wildlife

To avoid potential impacts to the threatened grizzly bear and endangered gray wolf and their habitats, BPA proposes to rebuild the transmission line using primarily existing right-of-way.

**To reduce impacts to aquatic life from erosion caused by roads crossing streams, BPA will:

1) Use fords at important fishery streams that do not have bridges.
2) Place culverts at stream bed level where culverts are used, to allow fish passage.

3) Rip-rap the lower ends of culverts to prevent down-cutting of stream beds.
4) Use water bars to control runoff in the steeper road grades.
5) Reseed exposed areas**.

As a conservation measure in the bald eagle winter high-use area between Quartz Creek and Kootenai Falls, BPA will clear only those cottonwoods with the potential to fall into the line (danger trees). Construction will be prohibited between about November **15** and mid-March, when eagles are present.

**BPA will restrict activity associated with removing the old line and constructing the new one in the McArthur Lake Wildlife Management area between March 15 and June 1 to prevent disturbance to nesting Canada geese. Before March 15, activities associated with removing conductors from the existing line (hanging of travelers) would take place. If necessary, this activity could occur until March 20. After this date all tear-down and construction activities would be restricted until June 1.

To prevent disturbance to bighorn sheep during lambing season and the fall rut, BPA will avoid construction between Quartz Creek and Kootenai Falls during spring green-up and early nursing periods when sheep use areas near the right of way (usually corresponding to March, April, and June) and after November 15.

Disturbed sites in the bighorn sheep habitat near Kootenai Falls will be seeded with grass species palatable to sheep, such as orchardgrass, timothy, and brome**.

To enhance osprey nesting habitat, BPA will place artificial nesting platforms on transmission towers at the Kootenai River crossing near Moyie Tap and at McArthur Lake.

The feathering of right-of-way borders proposed to mitigate visual impacts (see Esthetics) will also benefit wildlife by creating more "edge", with its resultant greater diversity of habitat and species (Kitchings, et al 1974).

Agriculture

BPA will work with landowners, the SCS, and local weed control districts to develop appropriate mitigation for affected land including subsoiling, weed control, and compensation for land lost to production and for crops destroyed during construction.

**Esthetics

To reduce the visual impact created by the higher steel towers, BPA proposes to use the shorter double-circuit wood structures on three segments of line: 9 miles (14 km) between Sandpoint and Selle Substations; 4 miles (6 km) in the McArthur Lake Wildlife Management Area; and 15 miles (24 km) between the crossing of the Kootenai River near Kootenai Falls and 1 mile (1.6 km) east of Libby (PP&L) Substation. Compared to steel towers, benefits of the wood structures include:

1) Lower structure height. Near Sandpoint, this will keep the structures from visually dominating the landscape. The structure tops will be near tree height rather than towering above the trees as the steel design would have done. Local residents will be the primary beneficiaries. The same advantage will be evident at McArthur Lake and from Kootenai Falls to Libby. Beneficiaries in these areas will include both local residents and recreational users of the highway, lake, and river. The lower structures will also create less of a collision hazard for birds than would the steel towers at Kootenai Falls. The configuration of the conductors on the steel towers creates 3 levels of wire birds must avoid; the wood structures have only 2 levels.

2) Material which will more readily blend with the trees and rural character of the area.

3) Smaller amount of land required for the structures. In fields near Sandpoint, less land will be removed from production by structures, although the resulting combination of more access roads and more structures may offset this benefit in the Sandpoint and McArthur Lake areas. In general, 1000 square feet (305 m^2) is needed for each steel structure site. The wood structures would take up about 100 square feet (30 m^2). At 5.5 structures per mile with about 5 miles of farmland involved, steel towers would remove about 0.6 acre (0.2 ha) of farmland from production. For wood poles, about 8 structures per mile would be needed. In addition, 2 more access roads of between 500 and 1000 feet (150-300 m) would be needed; both would go through nurseries. In all, for wood poles, about 0.6 acres (0.2 ha) of land would be removed from production, about the same amount as for steel towers.

At Kootenai Falls, the benefits of less land required for structures are more apparent. The wood design creates less potential for disturbing or destroying known cultural resources at the river crossing because it eliminates the large tower base and the need for at least three extra single-circuit structures. However, the additional roads required on this segment between the falls and Libby may affect resources that have not yet been identified.

The disadvantages of using wood poles rather than steel include:

1) More structures per mile. This will be a disadvantage in farmland near Sandpoint if a landowner considers the structures an obstruction during cultivation. At McArthur Lake, it means that a wet area that could be spanned using steel towers will have wood structures in it. This will require more activity in the wetland and consequently more destruction of wetland vegetation during construction. Using matting, tracked vehicles, or other special measures during construction and reseeding disturbed areas following construction is expected to mitigate most of the adverse effects.

2) More access roads. The tradeoffs between more access roads and smaller structure bases were described previously. The access road in the wet area at McArthur Lake will need to be about 600-700 feet (180-215 m) long to reach the structure site, rather than 300-400 feet (90-120 m) if steel were used.

Non-reflective conductor will be used for the line between Bonners Ferry Substation and Libby Dam and for those portions of the line between Sandpoint and Bonners Ferry Substation that use the double-circuit wood structures.

Steel towers near Libby Dam will be painted or stained a dark green or black to reduce the contrast between them and the background. Existing steel transmission structures in this area have been similarly treated.

To assure as much screening of the line as possible, natural vegetation will be retained where the line crosses roads and rivers. Specific areas include but are not limited to:

1) Libby Dam area.
2) Crossing of the Kootenai River and Highway 2 near Kootenai Falls, Troy, and near Moyie Springs.
3) Crossing of the Yaak River and Yaak River Highway.
4) Crossing of Highway 2 south of Bonners Ferry.

Wherever clearing is required, the right-of-way will be feathered to reduce the straight-line effect of the cleared right-of-way. As much vegetation as is feasible will be retained in the right-of-way. Special attention will be given to the area where the line crosses a hill between Quartz and Bobtail Creeks west of Libby. Only vegetation presenting a hazard or preventing access to the line is subject to some form of control.

BPA location engineers and Forest Service landscape architects are making a visual analysis of tower sites on alternative routes at Vermiculite Mountain for use in the decision. When tower sites are identified and access road needs determined in this area, further analysis will be done to identify roads with the least visual impact**.

Historic and Archeologic Resources

BPA will complete an intensive survey for cultural sites on the right-of-way before construction begins. For sites listed on or eligible for the National Register, mitigation or avoidance measures will be developed with help from the Advisory Council on Historic Preservation and the State Historic Preservation Office, **in accordance with 36 CFR 800**. Towers and access roads will be located to avoid all identified cultural sites.

**Since preventing locations of sites from becoming public knowledge helps to reduce vandalism of sites by "pothunters" and others, BPA will not make available to the public, under subchapter II of Chapter 5 of Title 5 of the United States Code or any other provision of law, information concerning the nature and location of any archeological resource. According to the Assistant Attorney General, under Section 9 of the Archeological Resources Protection Act of 1979, 16 USC Section 470hh, the State Historic Preservation Office is able to guarantee the confidentiality of Federal archeological site information.

Exceptions to the regulations conform to the stipulations specified in 36 CFR 1215.20(b)(1), (2), (i)(ii) and (iii). Exceptions: (1) Site disclosure will not harm the archeological resource or the area in which it is located; (2) the Governor of the State in which the resource is located submits a request to BPA including: (i) the specific archeological resource or area about which information is sought; (ii) the purpose for which the information is sought; and (iii) the Governor's written commitment to protect adequately the confidentiality of the information.

The Branch of Construction will caution contractor personnel about the need for protecting sensitive areas. Prohibitions against excavation, removal, damage, or defacement of any archeological resource located on public lands will be emphasized by the Branch of Construction during post-bid-award meetings. The contractor will also be made aware of the need to halt work and to inform the Contracting Officer should artifacts or evidence of archeological significance be encountered.

BPA construction specifications spell out protective measures and equipment restrictions for use in sensitive areas such as archeological sites. The Contracting Officer will determine if ground conditions are satisfactory to sustain activities without damage to the resource and without erosion damage from construction. The contractor will be advised to restrict routes of travel and equipment to a single set of tracks on the right-of-way to minimize soil erosion; exceptions would be granted only on approval of the Contracting Officer. The contractor will be advised of site locations in order to avoid them. Construction inspectors will ensure that stipulations outlined in construction specifications are followed.

The Contractor will be responsible for the measures protective against erosion and will be required to preserve the natural landscape in the entire construction area and in use-areas on or off the right-of-way. Upon completion of work, restoration of rutted, compacted, or disturbed land and disposal of debris will be required.

Finally, to minimize accessibility to archeological sites, BPA will work with landowners to provide protective measures such as fences, gates, signs, deep water bars, or rip rap rock as road barriers. It is anticipated that the occasional maintenance necessary will pose little threat to archeological sites**.

MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION

These mitigating measures were considered by BPA during the planning process but not included in the proposed action for reasons detailed below.

Water Resources

An alternative to locating the line through the wetland at McArthur Lake was considered (fig. 3). The alternative would avoid disturbance to wetland vegetation and wildlife created by the proposal (see ENVIRONMENTAL CONSEQUENCES). It also would involve removing the existing line, thus enhancing the area's esthetic value for recreational users. On the other hand, the alternative would clear 47 acres (19 ha) of new right-of-way through highly productive forest land. (The existing right-of-way is already cleared.) The relocation could also disturb or destroy potentially important archeologic sites; if any exist on the present right-of-way, they probably have been disturbed already (Choquette and Holstine 1980). Also, because the alternative follows a pipeline, and because another pipeline is planned parallel to the existing one, the amount of right-of-way available for a transmission line is restricted. In sum, the alternative is no longer being considered, as the benefits of using existing right-of-way outweigh the potential problems involved in opening a new corridor.

The effects on the Pack River floodplain could be mitigated by locating the line outside the floodplain. However, because the river's alignment is perpendicular to the transmission line route, the line must cross the river at some point, unless the line skirts the river altogether. A route around the river would require several miles of new right-of-way, adding substantial dollar and energy costs to the project. Opening new right-of-way in this mixed forested and agricultural area would also have adverse environmental effects, not only because of the new clearing required, but also because the extra miles of line would remove a greater amount of land from production than is already lost to the existing line.

The existing alignment crosses the floodplain at one of its narrowest points (the highway and a railroad cross the floodplain at the only narrower points within several miles) (figure 9, WATER RESOURCES). In addition, the proposal will reduce the number of structures in the floodplain by replacing four wooden structures with one steel tower especially designed to withstand flooding. Fewer towers and specialized structure design will reduce the risk of property loss during flooding.

**The effects on the Sand Creek floodplain could also be mitigated by locating the line outside the floodplain. As at Pack River, the alignment of Sand Creek is perpendicular to the transmission line route. A new route to avoid the floodplain would create similar problems to those at Pack River, with the additional constraint of residential development.

Although the proposal adds a structure to the Sand Creek floodplain, it allows BPA to remove guys from two existing structures outside the floodplain. The net effect is to increase the amount of land available for pasture and to reduce the visibility of the line. Alternatives that would span the floodplain increase visibility of the line in this rural residential area and reduce the amount of land available for pasture (see WATER RESOURCES)**.

Because of the added dollar, energy, and environmental costs of routing around the floodplains, there appears to be no practicable alternative to routing the transmission line across the floodplains. If the new line is not built, the floodplains and their resources would not experience the disturbance that new construction would cause. However, adverse economic and social effects of no action could occur to area residents (see NO ACTION).

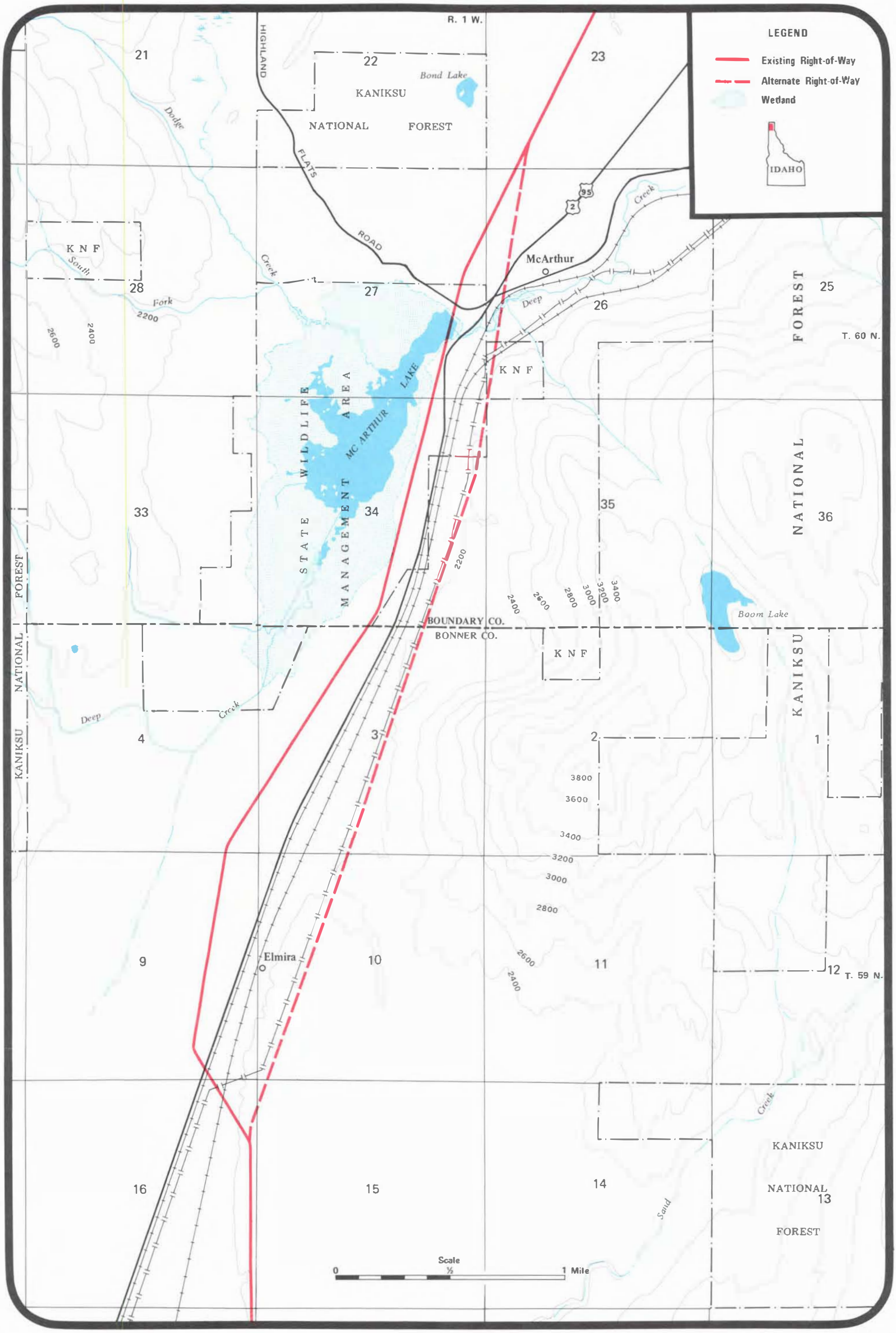


FIGURE 3
MC ARTHUR LAKE WETLAND
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
80-3

Wildlife

Although the U.S. Fish and Wildlife Service (USFWS) determined in its biological opinion of November 6, 1979 that the potential for eagles colliding with transmission lines was low, USFWS concurred with Meyer's recommendation to build two single-circuit 230-kV lines with flat configuration towers at the Kootenai Falls and Troy crossings of the Kootenai River (Meyer 1979). The lower single-circuit towers would create less of a hazard to the birds than the double-circuit towers because the **conductors would be at one height rather than stacked vertically**. This mitigation measure would, however, create greater potential for disturbing significant cultural resources, particularly at the Kootenai Falls crossing which is within the proposed Kootenai Falls National Historic and Archeologic District. Two single-circuit lines rather than the double-circuit line will require at least three more towers, and therefore more ground disturbance and potential site destruction. In addition, the wider right-of-way for the two lines may require clearing brush that presently screens the existing line from view of highway travelers near the falls.

**With the proposal to use double-circuit wood structures at the Kootenai Falls crossing, using two single-circuit lines is no longer being considered. The alternative line will create less of a hazard than the steel option because the structures are lower and the conductors are at only two heights instead of three. Informal discussions with USFWS personnel confirmed that the double-circuit wood design is an acceptable alternative.

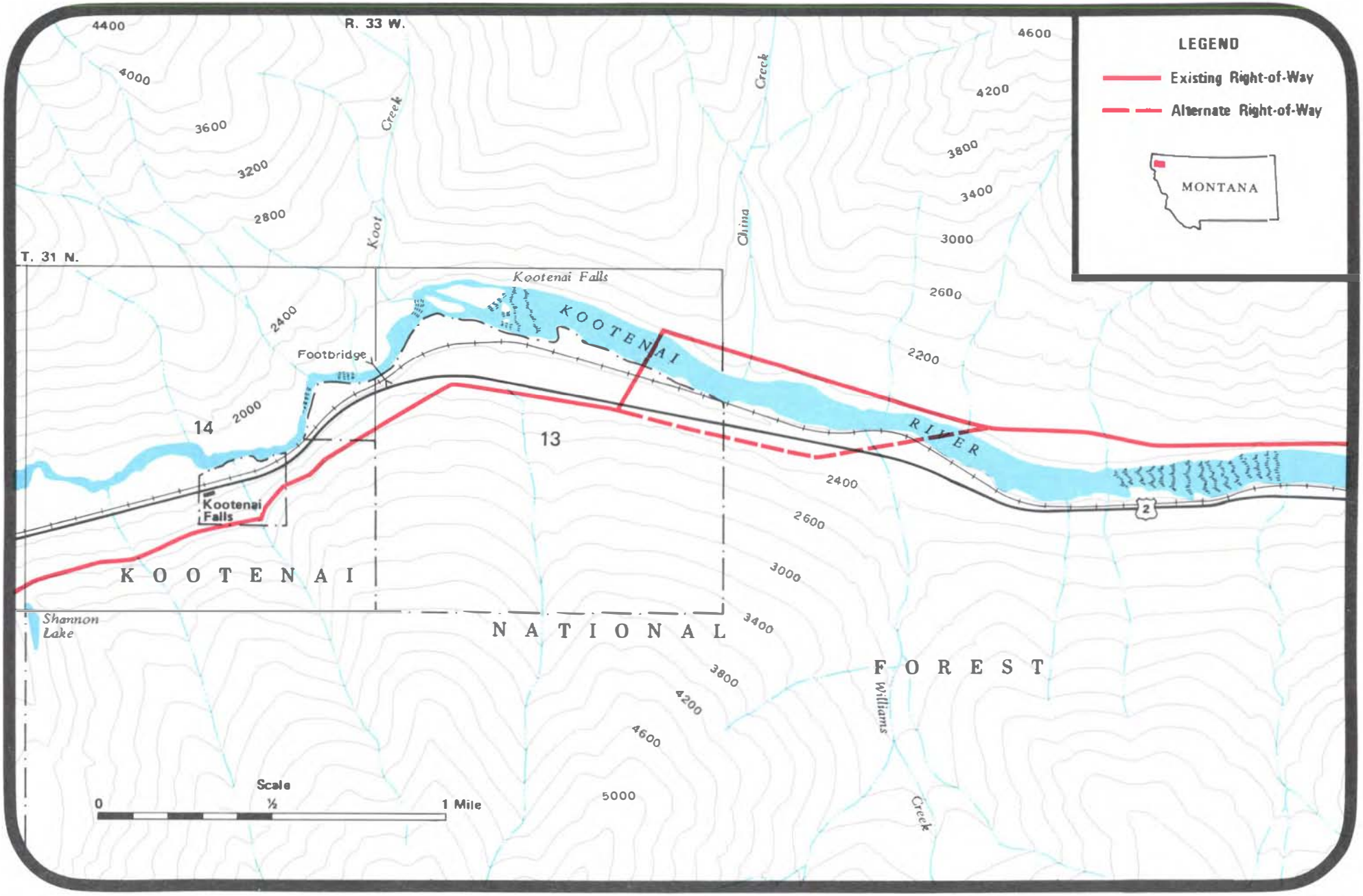
Use of the single-circuit design at the Troy crossing is not being considered due to lack of space at potential tower sites on the south side of the river**.

Historic and Archeologic Resources

A 1-mile (1.6-km) relocation of the line **was** considered in the vicinity of the Kootenai Falls river crossing (fig. 4) to avoid disturbance or destruction of important archeologic resources at Kootenai Falls. The existing crossing is within the proposed Kootenai Falls Historic and Archeologic District; **consequently, construction activity there has the high potential to create physical impacts to cultural resources and visual impacts to cultural and recreational resources. The relocation on new right-of-way would have avoided the proposed district; however, it would have greater visual impact than the existing crossing. The alternative crosses the river in a sparsely vegetated area, adding an intrusive element into those views of the river afforded highway and river users, whereas the existing crossing is screened from the highway and from most places near the falls.

Use of wood pole rather than steel structures in the falls area will significantly reduce the potential for impact to known cultural resources. The wood structure base requires much less land than the steel base, although more structures will be needed (see MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Esthetics). If existing structure sites are used, the potential for adverse effects would be further reduced. Disturbance to or destruction of as yet undiscovered resources outside the falls area might occur as a result of additional access roads needed for construction of the wood pole line. The standard mitigation procedures would apply, however, as described under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Historical and Archeological Resources. In any event, the same potential for impact to unknown resources exists for the alternative route.

In sum, the reroute is no longer being considered because the benefits of using the wood structures outweigh the potential adverse effects**.



NORTH

FIGURE 4
KOOTENAI FALLS ALTERNATIVE ROUTE
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
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AFFECTED ENVIRONMENT

A F F E C T E D E N V I R O N M E N T

The following pages describe the resources that could be affected by the proposed transmission line between Libby Dam and Sandpoint Substation. A broader discussion of the existing environment of northwestern Montana and northern Idaho is in the Final Facility Planning Supplement (FPS) to the Fiscal Year 1980 Program Statement.

The study area includes land 1 mile (1.6 km) wide on each side of the transmission line for its entire length. The right-of-way containing the line is about 100 feet (30 m) wide for the length of the line. Phrases such as study area, corridor, or project area refer to the 2-mile-wide area. The use of "right-of-way" refers specifically to the 100-foot width which will contain the transmission line. Resources are mapped for the corridor only; the FPS contains maps of resources for the original 6000 square mile (15,500 km^2) study area for this project.

The corridor crosses parts of Boundary and Bonner counties in Idaho and Lincoln County in Montana (fig. 5). The area is generally rural in nature, with population concentrated near major highways in the valleys. In 1975, the two major towns in the study area--Libby, Montana (pop. 2,950), and Sandpoint, Idaho (pop. 3,950)--accounted for 16 percent of the population in the three counties.

Prominent topographic features are Lake Pend Oreille, a remnant of glaciation, and the Cabinet and Purcell mountains in Montana with elevations ranging from 2,000 to 7,500 feet (600-2300 m). The Cabinet Mountains Wilderness has been designated a Class I Federal area by the U.S. Environmental Protection Agency (EPA) to protect its pristine air from significant deterioration. The wilderness is the only Class I Federal area that could be affected by construction of this project.

The generally good air quality in the study area is attributable to mixing heights that vary between a winter low of 2,300 feet (700 m) and a summer high of 8,900 feet (2700 m). The variation in these mixing heights, wind currents, and other climatic conditions scatters pollutants and provides a cleaner air space. However, for about 20 days annually, a moderate inversion occurs when light winds, high pressure, and nighttime cooling combine, trapping pollutants near the ground (EPA, 1972).

Four generalized geologic groups are in the project area; their main characteristics are summarized in table 2. Erosion hazards in each group vary according to the slopes on which they occur. Recognizing this, subunits of the geologic groups were combined and mapped on figure 7 (see GEOLOGY, SOILS, AND MINERALS). More detailed information is available in Preliminary Geologic Report-Libby Integration, October 1979.

The project area contains portions of the Kootenai and Pend Oreille rivers, their tributaries, and drainage basins. The corridor crosses 100-year floodplains at the Pack River and Pipe, Bobtail, and Sand creeks (fig. 5 and figs. 8 and 9 in WATER RESOURCES section). Floodplains were identified using U.S. Department of Housing and Urban Development (HUD) and U.S. Soil Conservation Service (SCS) maps.

Surrounding McArthur Lake are small wetlands (fig. 5). Although not on the U.S. Fish and Wildlife Service (USFWS) Wetlands Inventory (Dennis Peters, USFWS, personal communication, March 1980), the wetland is part of an Idaho State game management area. The existing right-of-way crosses wet areas on the east side of the lake (fig. 3).

Many of the wildlife species most likely to be affected by this project occupy habitats near rivers and wetlands; others require more remote territory. The identified species--bald eagle, grizzly bear, gray wolf, bighorn sheep, and Canada goose--are important because of their limited habitats or low population levels. The USFWS has listed the bald eagle and gray wolf as Endangered and the grizzly bear as Threatened under the Endangered Species Act of 1973. The **Canada goose** and bighorn sheep are important because of their specific **habitat requirements along portions of the proposed line**.

No plants officially listed or proposed as Threatened or Endangered under the Endangered Species Act occur in the study area (Federal Register, August 11, 1977 and April 26, 1978; Joyce Gebhardt, USFWS, personal communication, May 21, 1980).

The existing natural vegetation in the project area is about 80 to 90 percent commercial, mixed conifer forest (fig. 5). Less than 1 percent is riparian and contains deciduous trees. About 5 percent of the land is covered with grass and indigenous shrubs.

Cedar, hemlock, and Douglas-fir habitat series comprise about 85 percent of forest lands crossed. Productivity is generally high (85-120 cubic feet/acre/year) for cedar and hemlock series and moderate (50-85 cubic feet/acre/year) for Douglas-fir series. Most of the forests are second growth. Although some Federal and State forests are crossed, the route lies generally in river valleys and low elevation areas where private ownership dominates (fig. 6). Pressures to convert private forest land to homesites and, where suitable, agriculture, are expected to continue.

Presently, however, forest products manufacturing is one of the largest sources of employment in the three counties, although the percentage of total employment varies from county to county. Manufacturing in general (mostly forest products), wholesale/retail trade, and government were projected to provide between 49 and 61 percent of total employment in the

Table 2 Physical Description of Geology Groups

Group	Slope Range %	Landforms	GEOLOGY		SOIL	
			Lithology	Structure	Texture	Depth In.
ALLUVIUM	0 - 5 (locally steeper)	Broad Glacial Valleys Mountain Valleys Local Terrace Escarpments	Unconsolidated Silts, Sand and Gravel	———	Silt Loam to Loamy Sands	20 - 60+
GLACIAL DEPOSITS	0 - 15 (locally steeper)	Broad Glacial Valleys Mountain Valleys Local Terrace Escarpments	Undifferentiated Lacustrine Silt, Clay and Drift Gravel	———	Silt Loam Loam Gravelly Loam	20 - 60+
BELT SERIES	0> 50	Mountain Valleys Mountains	Argillites Quartzites Shale Minor Limestone Beds	Faulted and Folded Strikes Vary From NW to NE, Dips Vary From 84°SW to 5°E	Stony Silt Loam	10 - 40+
INTRUSIVES	0 - 50	Mountain Valleys Foothills Mountains	Quartz Monzonite and Granodiorite Near Idaho/ Montana Border Locally Syenite and Pyroxene Stocks	Intrusive Mass	Stony Silt Loams	10 - 40+

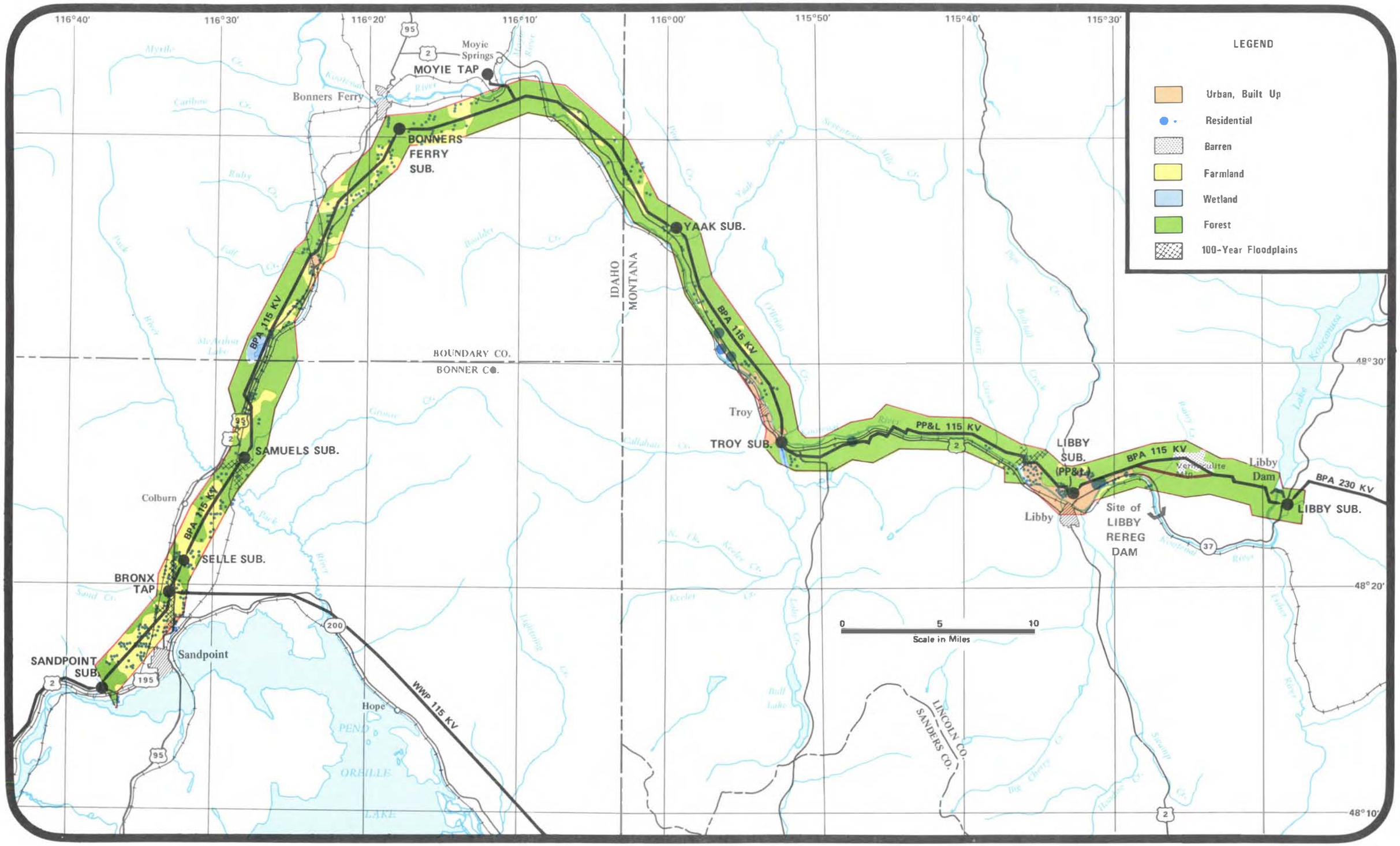

FIGURE 5
LAND USE
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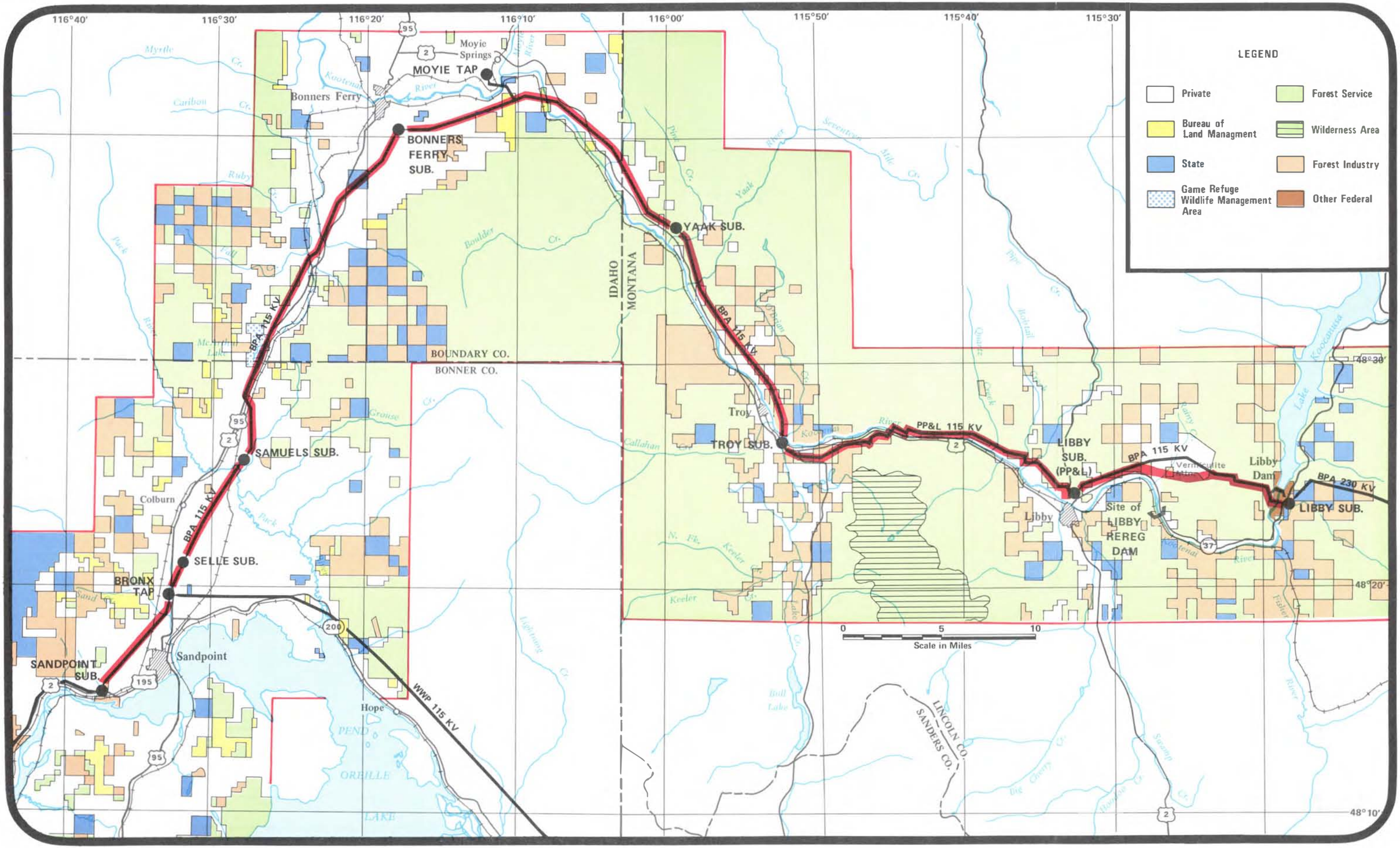

FIGURE 6
OWNERSHIP
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
80-3

two Idaho counties in 1980. The manufacturing, government, and services sectors were forecast to provide 52 percent of employment in Lincoln County. (New figures were not available as of this writing.)

About 25 percent of the corridor is in agricultural production (fig. 5); 70 percent of that amount is non-irrigated rangeland. The major field harvest is small grains and fodder, although some farmers produce specialty crops such as grass seed and hops. Except in Boundary County, however, agriculture does not employ many people or provide a significant percentage of county income. Because of the short growing season (100-150 days), the economic importance of farmlands is lessened. No irrigated land or Prime and Unique Farmlands (CEQ memorandum, 8-30-76) occur in the corridor, according to local representatives of the SCS.

Much of the residential land is associated with agricultural development and similar flat lands. Near Lake Pend Oreille and along the Pend Oreille and Kootenai rivers, some of the residences are recreational homes. Commercial, industrial and institutional land use patterns closely match the urban and residential distribution. An exception is a vermiculite mine located at Vermiculite Mountain between the town of Libby and Libby Dam.

The visual quality of an area can enhance certain recreational experiences. Features of high visual quality in the study area which provide opportunity for dispersed recreational activities include Lake Pend Oreille; the Pend Oreille, Kootenai, and Pack rivers; and McArthur Lake. Primary and secondary roads which parallel the existing lines allow heavy use of some of the recreational resources.

Areas near rivers can also contain important historic and archeologic resources. Archeologic studies in this region have been concentrated along the Kootenai and Pend Oreille rivers, where many open campsites have been found. The analysis of artifacts indicates that certain areas near the Kootenai River may have been occupied by prehistoric hunters 15,000 years ago (Spritzer, 1973). The Confederated Salish and Kootenai Tribes still consider the Kootenai Falls area to have religious significance. White men first visited this part of northern Idaho in 1808; settlement came in 1863 with the discovery of gold.

Table 3 lists known prehistoric and historic sites with national or state significance within 1 mile (1.6 km) of the proposed route. Detailed information on historic and archeological resources of the area is in A Cultural Resource Overview of the Bonneville Power Administration's Proposed Transmission Line from Libby Dam, Montana to Rathdrum, Idaho by Choquette and Holstine.

Table 3. Historic and Archeologic Resources

	State	Township	Range
National Register of Historic Places			
Sandpoint Burlington N. RR Stn.	ID	57N	2W
Proposed for National Register			
Libby-Jennings Archeological District	MT		
Archeological Sites 24-LN-1036, 1037, 1130, 1131	MT		
Kootenai Falls Archeological District	MT	31N	32&33W
State Register or Inventory of Historic and Cultural Resources			
Kootenai Post II	MT	30N	29W
Kootenai Post I	MT	30N	31W
Jordan's or Guion Ferry	ID	59N	1W
Presumed Eligible for National Register			
Kootenai Falls Portage Trail	MT	31N	32 & 33W
Archeological Site 10-BY-10	ID	60N	1W
79 BPA LR8	ID	60N	1W
10-BY-11	ID	60N	1W
10-BY-36	ID	60N	1W

ENVIRONMENTAL CONSEQUENCES

ENVIRONMENTAL CONSEQUENCES

Impact evaluations are provided for the proposed plan of service as described in the ALTERNATIVES INCLUDING THE PROPOSED ACTION section and in figures 1 and 2. Impacts were evaluated by assuming a 100-foot right-of-way for the double-circuit line. Although a fixed line had to be assumed for analysis purposes in areas involving new right-of-way, a certain amount of leeway is available. Final location, involving close work between engineers and affected landowners and agencies, can mitigate some of the impacts described. Upon completion of the Final Supplement, details of all mitigation to be implemented and a proposal for monitoring and enforcing those measures will be included in a mitigation report, and included in construction contract specifications.

Detailed analysis of the effects of the No Action alternative was not attempted, as most impact predictions would have been based on speculation as to the reaction of individuals and businesses to unreliable electricity supplies. Potential effects are discussed briefly in the section entitled NO ACTION. The Conservation and Minimum Build alternatives do not meet the stated project purposes, so their impacts are not evaluated in detail.

NATURAL RESOURCES

AIR QUALITY

In general, air quality would be affected by slash burning, vehicle and equipment exhaust fumes, and dust from construction activities. Slash burning reduces visibility and adds pollutants such as hydrocarbons to the air. Construction equipment also emits harmful pollutants in exhaust and raises dust that can reduce visibility. Effects are temporary, however, lasting only for the construction period, and will not adversely affect the health of nearby residents.

BPA's contractors will comply with local, State, and Federal air pollution regulations and smoke management programs and will obtain all applicable permits. The regulations can prohibit burning during weather conditions which are not conducive to smoke dispersal. Debris for burn piles will be kept as clean and dry as possible and burned in such a manner as to reduce smoke. No garbage or petroleum-based products will be burned.

In compliance with the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act as amended, other solid waste, such as domestic and construction waste, will be disposed of in a State-approved landfill. Some leftover construction materials will be retained for reuse or reprocessing where practical. All materials from

the existing line that is to be replaced belong to the construction contractor. Much of the material, such as conductors and insulators, can be sold for scrap or reuse and some material is given away. The remainder must be disposed of at approved disposal sites.

Hazardous and problem wastes generated during the construction and subsequent operation of the facility require special handling to avoid harm to individuals and the environment. These may include such materials as oil, insulating liquids, pesticides and pesticide containers, and other chemicals (40 CFR Part 261). All wastes in this category require special handling and/or special disposal facilities. All hazardous wastes will be disposed of according to RCRA, 40 CFR Parts 260-265, 40 CFR 120-124, and Montana Solid Waste Management Act (RCM 69-4001 et seq.).

To minimize the creation of dust, control measures such as water or gravel will be used on roads as necessary. Exhaust emissions will be minimized by using vehicles that are properly maintained and operated.

Libby Dam-Sandpoint Substation Rebuild

Rebuilding would cause increased dust and vehicle emissions in the immediate vicinity of the activity. These effects are temporary, occurring intermittently over about 2 months for any one segment of the double-circuit line from Libby Dam to Sandpoint Substation.

Because most of the right-of-way is already cleared, little slash burning will take place, and impacts to the Class I air of the Cabinet Mountains Wilderness are not expected. The only significant amount of clearing will take place at Vermiculite Mountain, where the existing line will be rerouted. The new route is about 10 miles (16 km) east of the wilderness, and, as prevailing winds are from west to east in the summer when construction occurs, it is usually downwind from the wilderness. Residents of valleys south of the reroute may experience reduced visibility when smoke is carried in with evening and early morning cooling and subsequent downslope flow of air; however, the smoke usually dissipates after the sun heats the air enough for the air to rise again. Such effects would last several days.

BPA does not propose to remove any old transformers or capacitors containing PCB's, which would require special disposal procedures, as part of this project.

NOISE AND ELECTRICAL EFFECTS

The principal types of noise associated with this project would be noise from construction equipment (a short-term source) and operational noise from transmission lines (a long-term source). Depending on the decibel (dB) level of the noise source, distance from the source, and other factors of weather and topography, a person could experience sleep or speech interference or risk hearing impairment if the noise is loud and long-term (Role EIS, Draft App. B, Ch. VII). BPA complies with noise regulations established under the Occupational Health and Safety Act (29 USC, Sec. 553). The states of Idaho and Montana do not have environmental noise regulations.

The electromagnetic and electrostatic fields of transmission lines may interfere with radio and television reception and operation of wire communications facilities. Impacts and mitigation measures are described below.

Libby Dam-Sandpoint Substation Rebuild

Noise from construction equipment would be above 70 dB at 50 feet (15 m) from the work area. At this dB level, contribution to hearing impairment begins (EPA 1972). The noise, however, would be localized and occur intermittently over about 2 months for any one segment of the line. Construction activity would rarely occur close enough to residences to be more than a temporary annoyance during the day. Residents within 100 yards (91 m) of the line (table 6 in URBAN/RESIDENTIAL section), who for various reasons sleep during the day, may be disturbed. Hearing impairment is not expected due to the shortness of the construction period and the distance between the noise source and the people exposed.

BPA has found that 115-kV and 230-kV transmission line noise (a crackling sound caused by ionization of air during poor weather) has not disturbed most residents in the past and would not have detrimental health effects on people or animals. Noise from operation of the line will be noticeable only during rain. Such noise will be well within limits of the State of Oregon standard, which is the most restrictive in the BPA service area.

Experience also indicates that the lines will not interfere with ordinary reception of AM radio stations. However, during wet weather, a weak signal received within about 150 feet (46 m) of the line could be degraded. At present there are 21 homes within 150 feet of the transmission line. Most of these are near Libby or between Bonners Ferry and Sandpoint.

Television and CB or FM radio reception should not be affected by the 230-kV transmission line. All reported complaints are investigated. To date BPA has found that some of its 500-kV lines have occasionally caused TV reception problems, but its 230-kV lines have not. However, if problems do occur, a standard BPA mitigation procedure is followed to restore TV reception to its ordinary level. This procedure is also applicable to CB radio. Signals on the FM radio band are immune to interference.

Transmission lines can also affect buried and aerial communication facilities such as those operated by telephone and railroad companies. A power line's electromagnetic and electrostatic fields may be sufficient to cause unacceptable voltage and noise levels to appear on voice, data transmission, and signal circuits. The least potential for such effects exists where either the transmission line and the communication or signal lines are separated by more than 0.3 to 0.5 miles (0.4-0.8 km) or where they parallel each other for less than 1 mile (1.6 km). If a telecommunications or railroad company determines that a problem may be occurring because of the operation of BPA transmission facilities, the problem will be investigated and mitigated according to BPA policy and in cooperation with the affected company.

The potential for adverse electrical effects to the facilities of Burlington Northern Railroad and General Telephone Company of the Northwest appears to be the greatest along a 5-mile (8-km) section of the proposed double-circuit line between the north end of McArthur Lake and 2 miles (3 km) north of Samuels Substation.

Overall noise impacts along the transmission lines would periodically be moderate to high during construction and would drop to low once work was completed. Electrical effects are not expected, but if they do occur, they can be mitigated by moving antenna locations, installing amplifiers, and increasing antenna height (Loftness 1980).

BIOLOGICAL EFFECTS

All transmission lines produce electric and magnetic fields. Interest has arisen in recent years about the possible effects of these fields on plants, animals, and people. There is no substantial evidence, however, to indicate that even the most powerful lines (500-kV, 765-kV) in operation pose any health hazard. The proposed 230-kV line would produce electric fields of about half the strength of the larger lines. Therefore, no adverse effects are expected. Information on effects of noise and electric fields is contained in a BPA publication, Electrical and Biological Effects of Transmission Lines: A Review. **The following section summarizes conclusions of the research that has been done to date.

Questions have been raised about the possibility of biological effects from induced body currents below the level of perception. In the early 1970's, a growing interest developed about possible effects associated with long-term exposure to electric fields such as those produced by transmission lines. This was largely because of reports from the Soviet Union which suggested that workers in electrical substations were adversely affected by electric fields. Such effects, however, have generally not been reported by substation personnel or linemen in the U.S. or other countries.

In 1975, BPA formed a special team to conduct an in-depth review of information on this subject. Results of the review were first reported in a BPA publication of September 15, 1975, entitled Electrical Effects of Transmission Lines. The review is continuing and updated editions of the Electrical Effects booklet were completed in June 1977 and November 1978. These documents have been widely distributed. We concluded that no valid evidence indicated a health hazard from BPA 230-kV or 500-kV transmission line electric or magnetic fields. Most other published reviews on this subject (including a review by the U.S. Environmental Protection Agency) reached the same conclusion about transmission lines. It is usually acknowledged, however, that additional research is desirable. Since 1975, numerous research projects involving electric fields have been initiated in the U.S. and in several foreign countries.

The growing body of scientific information indicates that there is little reason for concern about the possible existence of long-term health effects from exposure to transmission line electric and magnetic fields. The reader is referred to the BPA booklet referenced above for background information and for a discussion of specific research findings pertaining to both a.c. and d.c. transmission lines.

Electrical power in the United States is generally transmitted and used as 60 cycle per second (Hertz (Hz)) alternating current. However, the 60 Hz current is transformed to many voltage levels, e.g. 115 volts in the home, 500 kilovolts for long range power transmission. In the U.S., most current research involving effects of 60 Hz electric fields is sponsored by the U.S. Department of Energy (DOE) or by the Electric Power Research Institute (EPRI). Private contractors follow strict scientific protocol in designing and conducting the studies. Reports and publications on the research are routinely made available to the public and scientific community. These measures are intended to foster thorough review by interested persons and thus to enhance the credibility of the studies, an important consideration when questions involving human health are involved.

Some of the most comprehensive research is being conducted by Battelle-Northwest Laboratories. A DOE-sponsored study involves rats and

mice exposed to 100 kV/m electric fields (Phillips et al. 1979). No effects have been found related to metabolism and growth, susceptibility to infection and illness, cell genetics, pathology, bone growth, cardiovascular system, and reproduction and development. Subtle effects of small magnitude were detected in studies of endocrinology, neurophysiology, hematology, urine volume, bone fracture repair, and behavior.

In an EPRI-sponsored study, Battelle is investigating swine exposed to a 30 kV/m electric field (Phillips 1981). During the first generation studies, no adverse effects were detected in mating, fertility, gestation, number or size of offspring, growth of pregnant females and their fetuses, or in blood and serum chemistry. Preliminary results of multigeneration studies include effects on reproduction of a type not seen in the rodent studies. It is not clear whether the effects are related to the electric field or to an outbreak of illness that occurred earlier in the study. Both the rodent and swine studies are continuing.

Much of the biological research with 60 Hz electric fields suggests that laboratory animals perceive and react to the presence of the field. This may be through such means as hair, feather, or skin stimulation. In some cases, animals may be aware of the field indirectly because of shock or noise associations. Studies underway will provide more definitive information on the mechanisms associated with electric field detection by animals and the relationship of the effects to animal health.

In addition to work with laboratory animals, research on persons who work around electrical transmission facilities is continuing. Michaelson (1979) and Mehn (1979) reviewed research with humans. They concluded that there was no evidence that electrical fields produced by transmission facilities were detrimental to human health. They believed that symptoms reported in some cases were most likely due to factors other than the electric field.

Most recent studies involving electric fields and humans have been done in Canada (Stopps and Janischewskyj 1979); Sweden (Knave et al. 1979); Turkey (Malboysson 1977); and the Soviet Union (Dumansky et al. 1978). Only the study in Sweden (and subsequent followup work) indicated a possibility of long-term effects. Knave et al. (1979) reported that medical evaluations of personnel who worked in 400-kV substations did not reveal direct effects of the electric field on the workers. The substation workers did father fewer children, especially boys, as compared to a control group. The researchers pointed out, however, that the difference in number of children existed 10-15 years before the fathers' work in electric substations began. The Swedish State Power Board is sponsoring followup research (Anonymous 1979). Preliminary results again indicated that substation workers tended to have fewer children. There was also a tendency in a small sample for increased

chromosome breakage and a suggestion of increased birth problems associated with the offspring of the workers. Studies are continuing to determine whether the effects are valid and to clarify what aspects of the substation environment may be involved. No chromosome damage has been reported in the extensive studies of swine and rodents being conducted by Battelle Northwest.

Health effects is an issue in Minnesota where a +400 kV d.c. line was energized in 1979. Some persons living near the line felt that it caused adverse effects to them and their livestock (Genereux and Genereux 1980). We are not aware of similar reports, however, from persons in Oregon or California during 10 years of operation of the +400 kV Celilo-Sylmar line. Studies by the Comptroller General of the United States (1979), Minnesota Environmental Quality Board (Banks et. al. 1977), and preliminary findings of the Minnesota Department of Health (Pettersen 1980) show no evidence that the d.c. line is a threat to human health.

Although most human research has involved electric fields, a Colorado study suggested a magnetic field effect (Wertheimer and Leeper 1979). The incidence of cancer patients in homes near highest current-carrying powerlines increased very slightly compared to controls. A similar study done in Rhode Island, however, found no relationship between leukemia and proximity of powerlines (Fulton et al. 1980). A major problem in such studies is the measurement of actual field exposures involved.

Ecological studies of transmission lines, also continuing, indicate that, in most cases, if electric field effects exist, they are very subtle and difficult to identify. A recent interim report describes results of the ecological studies conducted since 1976 at the site of the BPA 1200-kV prototype line near Salem, Oregon (Rogers et al. 1980). During the first 2 years of the study, maximum electric field strengths were essentially the same as those of 500-kV lines (i.e., 7 kV/m). No adverse effects of the field were detected on crop growth, wildlife, cattle grazing, or newly established honeybee colonies. Some fir trees purposefully left near the line experienced some needle and branch tip damage. This has also been reported for trees growing too near a 500-kV line.

In 1979 and 1980, conductors in the 1200 kV test span were lowered to achieve an electric field strength of 12 kV/m. Adverse effects were observed in the honeybee studies, including possible reduced brood numbers, increased mortality, lower colony weights, increased propolization (buildup of a resinous material), and increased bee aggressiveness in established hives near the line as compared to controls. Those effects appeared to be related to high current levels induced in tall hives. Results of the two studies seem to indicate that bees experienced mini-shocks within certain types of hives when induced

current was sufficiently high. Effects were noted in fields of 8 kV/m and 12 kV/m but not in fields of 4 kV/m. Thus it appears unlikely the electric field from a 230-kV line would affect honeybees.

Biological studies are also being conducted at the site of an UHF test line in Indiana (Hodges and Mitchell 1979; Green 1979). These studies have shown that the growth of corn, oats, onions, wheat, clover, and soybeans were not affected by electric fields up to four times stronger than those from a 230-kV line.

Results of a study involving farm animals were recently reported (Amstutz and Miller 1980). This study involved beef and dairy cattle, horses, hogs, and sheep living near a 765-kV transmission line in Indiana. After veterinarian and farm owner evaluations, the overall finding of the study was that health, behavior, and performance of livestock were not affected by the line. Electric field strengths involved were up to three times stronger than BPA 230-kV lines.

As seen above, evidence indicates it is unlikely that electric fields as produced by the proposed 230-kV transmission line pose a threat to people or animals**.

GEOLOGY, SOILS, AND MINERALS

Access road construction causes the major geologic and soil impacts associated with transmission line construction. These impacts depend on the amount of construction disturbance related to the type of access, and the geologic/slope group on which construction occurs. Erosion hazard zones crossed by the proposal are shown on figure 7. The hazard zone group numbers on this figure correspond to groupings in table 4, which summarizes potential access road impacts and their significance. These impacts are generalized and are based on the worst-case situation of building new access. The method used to determine geologic impacts is described in Engineering and Environmental Geology Evaluation Methodology, December 1979. In areas where no new access is needed, impacts would be less, and would depend on soil disturbances that occur from new towers and heavy equipment.

Libby Dam-Sandpoint Substation Rebuild

About 74 percent, or 69 miles (110 km) of the proposed line crosses land with minimal or low mass wasting and water erosion potential (fig. 7). Of the remainder of the route, less than 5 percent (4 mi, 6 km), crosses land with high mass wasting or water erosion potential. Potential problem areas are discussed below.

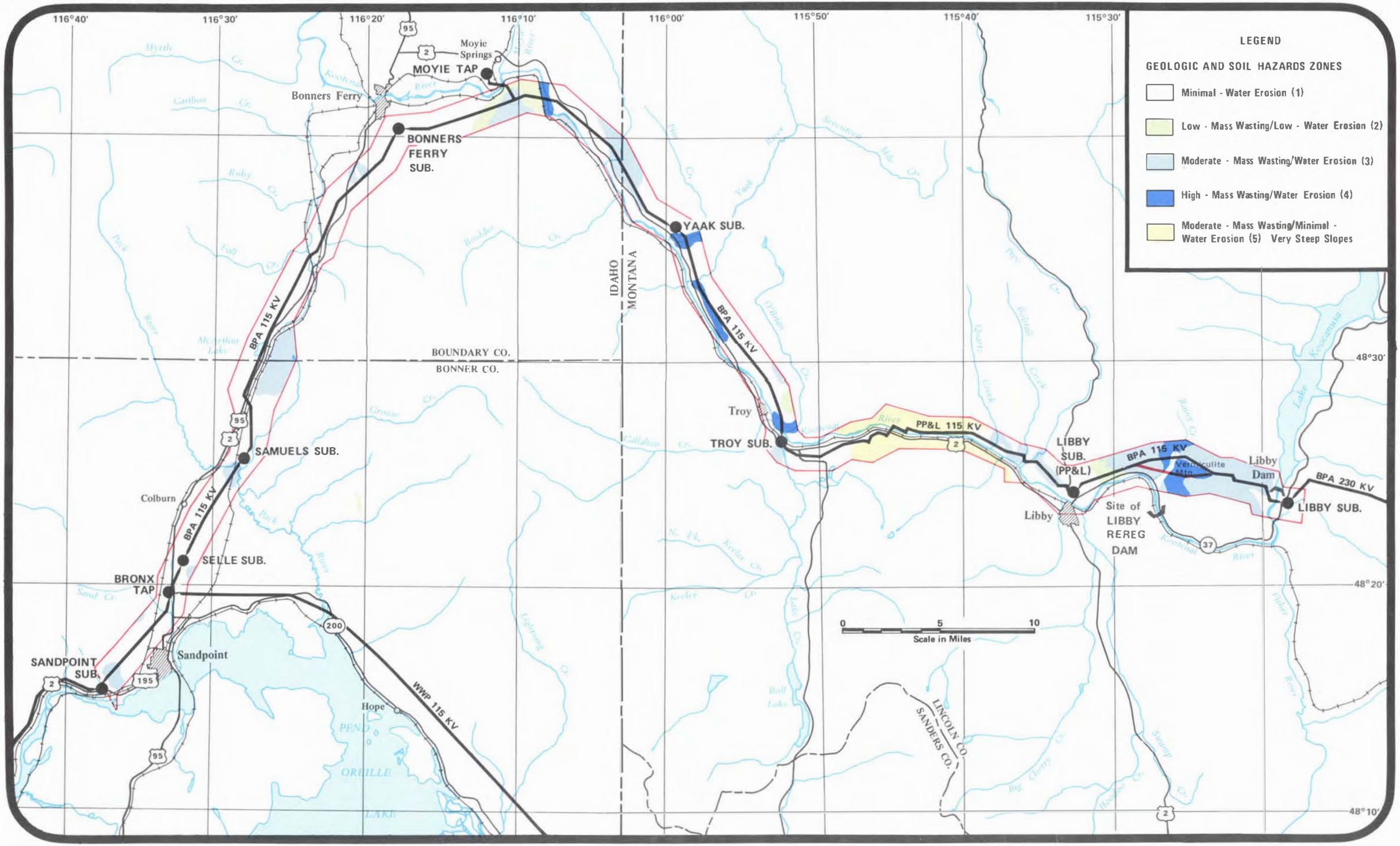

FIGURE 7
GEOLOGY AND SOIL HAZARDS
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Table 4 Potential Access Road Impacts

HAZARD ZONES		Hazards	Potential Impacts [1]	Mitigation
Geology	Slope %			
1		Minimal Erosion	Sheet and Minor Localized Rill Erosion Most Sediment Would Remain Near Construction Site Duration - From 1 to Several Years Impact Significance - Negligible	Slope Protection Reseed
ALLUVIUM	0-5			
GLACIAL DEPOSITS	0-15			
BELT SERIES	0-15			
INTRUSIVES	0-15			
2		Low Mass Wasting Low Water Erosion	Sheet and Rill Erosion Some Rock Falls Some Sediment Would be Transported Away from the Construction Site Duration - From 1 to Several Years Impact Significance - Low	Slope Protection Reseed Check Bedding Plane Dips Before Making Cuts
BELT SERIES	15-30			
3		Moderate Mass Wasting Moderate Water Erosion	Moderate Rill to Gully Erosion Moderate Road Cut-Fill Sloughing or Rock Falls Fair Amount of Sediment Transported Off Site Duration - 2 to 5 or More Years Impact Significance - Moderate	Slope Protection Reseed Runoff Diversion Check Bedding Dips Before Making Cuts Localized Sediment Containment Structures
GLACIAL DEPOSITS	15-30			
INTRUSIVES	15-30			
BELT SERIES	30-50			
4		High Mass Wasting High Water Erosion	Rill and Gully Erosion Locally Large Road Cut Failures Considerable Cut-Fill Sloughing or Rock Falls Large Volume of Sediment Transported Off Site Duration - 5-10 Years or More Impact Significance - High	Slope Protection Reseed Runoff Diversion Sediment Containment Structures Good Maintenance to Keep Drainage and Culverts Open
GLACIAL DEPOSITS	30-50			
INTRUSIVES	30-50			
5		Slope Moderate Mass Wasting Minimal Water Erosion	Minimal Erosion, Locally Rock Falls in Road Cuts Sediment Would Remain Near Construction Site Large Cut Scars Duration - 10 or More Years Impact Significance Low to Moderate	Check Bedding Dips Before Making Roadcuts Keep Excavation Work to a Minimum
BELT SERIES	> 50			

1) Assumes construction of all new access roads. In areas where roads already exist, impacts would be less.

Impacts between the dam and Sandpoint will be concentrated where existing access is poor or the line is relocated. However, only a few deviations from the existing right-of-way occur. Sheet and minor rill erosion could occur in exposed areas near old and new structure sites and along spur roads, thus delaying natural revegetation for 1 to 2 years. Reseeding disturbed areas will reduce such erosion.

Near Vermiculite Mountain, the right-of-way will be relocated to **avoid unstable soils**. As with the existing right-of-way, highly erodible terrain is crossed. This relocation will require about 4 miles (6 km) of new right-of-way and, due to the steep terrain, more than 4 miles of new access. Right-of-way clearing and road construction will disturb and expose the soil surface. If soils are not stablized, moderate rill and gully erosion will occur (table 4). To minimize impacts, exposed areas would be reseeded and roads waterbarred. Any large cut slopes could require additional stablization measures (table 4), depending on slope steepness and soil type (Role EIS, Draft App. B, Ch. VIII). Wherever possible, roads and right-of-way will be planned to avoid creating unstable slopes, and any additional stabilization measures will be implemented when necessary to prevent erosion. Locations and mitigation will be coordinated with the USFS, the managing agency for land along this line segment, **and with other landowners**.

From Rainy Creek to 2 miles (3 km) east of Libby Substation (PP&L), access roads will be widened 4-6 feet (1-2 m) to handle the large construction equipment. Because the new double-circuit towers will span longer distances, most existing structure sites cannot be used, thus requiring new spur roads. Although revegetation is very slow in these rocky soils and cut scars will remain for several years, erosion will be minor. Water-barring roads will mitigate most impacts.

From Quartz Creek to about 4 miles (6 km) east of Troy, very steep, rocky slopes with poor access are crossed. Upgraded and new access would create cut scars that would remain for many years. Rockfalls could occur in slope cuts for roads or tower sites. Using helicopter construction through this area would reduce impacts because fewer cut slopes would be created. However, because some temporary access would still be needed to bring in digging and stringing equipment, impacts (table 4) would not be eliminated.

From east of Bonners Ferry Substation south towards Sandpoint Substation, some agricultural fields are crossed (fig. 5). About 9 miles (14 km) of temporary access will be necessary through these fields. Due to the soil textures present, soil compaction should not be a problem. However, if localized compaction should occur, those areas will be tilled and restored to their original condition as nearly as possible. Temporary access and tower erection across this nearly level terrain will not cause any water erosion impacts.

Between Naples and Samuels, the existing right-of-way crosses sandy soils. A few areas show signs of wind erosion, although present impacts are minimal. If construction should increase wind erosion, stablization measures would be used to prevent soil loss.

**As discussed in the Final Planning Supplement to the Fiscal Year 1980 Program EIS, metallic and non-metallic minerals are found in portions of the area. Although the right-of-way passes near mines on Vermiculite Mountain and near Troy, the proposed route would not adversely affect mining activities. The ASARCO copper and silver mine south of Troy is too far from the right-of-way (17 miles, 27 km) to be affected. The existing right-of-way on Vermiculite Mountain is in an area into which W. R. Grace Company would like to expand its vermiculite mine spoils at some future date. The proposed 4-mile (6 km) reroute in this area would avoid unstable soils and allow the company to expand its mine spoils site.

The Vermiculite mine is an open pit mine; no others are anticipated within or near the right-of-way. All other mining in the area is underground mining; neither mining nor powerline should affect each other**.

Overall geologic impacts of the line will be low to moderate.

WATER RESOURCES

The most significant impacts on water resources from transmission line construction and maintenance occur as a result of 1) erosion from clearing and construction activities; 2) turbidity increases and channel alterations from equipment traffic at stream and river crossings; and 3) herbicides that may run off into the drainage system. Increased erosion rates can add sediment to streams, thus reducing the quality of drinking water or habitat for aquatic life. Use of herbicides and accidental spills of herbicides and other substances can add potentially harmful chemicals to surface or ground water.

Most hydrologic impacts are short-term. Water quality changes in surface streams tend to be of particularly short duration since flowing water renews itself easily through the hydrologic cycle and the processes of aeration and biological action (Role EIS, Draft App. B, Ch. VII).

To prevent tall-growing vegetation from interfering with operation of the line, herbicides may be applied along the right-of-way once every 8-10 years. Although selective application of herbicides is presently the common practice by BPA, the agency may use aerial application in steep, relatively inaccessible terrain where heavy equipment access problems and slash disposal problems may make aerial spraying the most economical and least environmentally damaging method of right-of-way maintenance (Role EIS, Draft App. B, Ch. VI).

To prevent contamination of water, BPA requires a 10-foot to 100-foot (3-30 m) buffer zone between sprayed areas and water bodies. BPA uses only EPA-registered herbicides. All applicators are trained in proper herbicide application procedures and meet the requirements of the state in which they operate (Proposed FY 1981 Program Final EIS). The vegetation management program for the proposal **is expected to involve primarily handcutting of brush and hand treatment of selected stumps with a herbicide to prevent resprouting of hardwoods. Chemicals currently being used on rights-of-way and at substations in this area include Tordon 101, Banvel 4WS, and Pramitol 5 PS. Used as projected in the FY 1981 Program EIS, these chemicals are not expected to be a significant hazard to humans or animals. Generally these chemicals do not leach or migrate into ground water supplies (Proposed FY 1981 Program Final EIS, Section IV). Effects of herbicides on ground water will be evaluated in BPA's forthcoming programmatic EIS on the vegetation management program for transmission facilities**.

BPA **complies with all State and Federal** regulations pertaining to insecticides, fungicides, and rodenticides used in its construction and maintenance activities. These regulations include those enforcing the Federal Insecticide, Fungicide, and Rodenticide Act (as amended) (40 CFR, Part 162); those for acceptance of certain pesticides and their use, storage, and disposal (40 CFR, Part 165); and those for protection of workers handling such pesticides (40 CFR, Part 170). Chapter V of the BPA Right-of-Way Management Standards specifically spells out various procedures and practices used by BPA to maintain compliance with various Federal regulations.

Another substance of concern to BPA, primarily because it can contaminate water resources, is polychlorinated biphenyls (PCB's). Their processing, distribution, and use is regulated under the Toxic Substances Control Act (40 CFR, Part 761). EPA regulations on PCB's directly affect BPA because PCB's in the past have been used as cooling and insulating agents for substation transformers and capacitors. BPA has not purchased new transformers and capacitors containing PCB's since 1975. **Any such new equipment purchased as part of the proposed action or related actions will not contain PCB compounds**. If the No Action or Minimum Build alternative is chosen, such equipment may be needed to maintain service. In that case also, new transformers and capacitors will be purchased which do not contain PCB compounds.

**BPA takes care to avoid accidents or spills of pesticides, petroleum products, and other hazardous substances. In the event of a spill, however, BPA complies with regulations governing the treatment and disposal of such substances. Depending on the substance and whether it is spilled on land or water, regulations under the Clean Water Act, the Resource Conservation and Recovery Act, the Toxic Substances Control Act, and the Federal Insecticide, Fungicide, and Rodenticide Act (as amended) may be applicable.

A Section 404 permit (Clean Water Act, 33 U.S.C. 1344) from the U.S. Army Corps of Engineers may be required at any of the river crossing sites if fill material, including poured concrete, is placed waterward of the ordinary high water line or in adjacent wetlands. Until tower sites and access roads are identified, specific places where a permit will be required are unknown. A permit may be necessary at McArthur Lake in the wetland, at the Kootenai River crossing near Kootenai Falls, and at the Pack River and Sand Creek floodplains.

The Kootenai River is considered navigable for a five-mile (8 km) section in the Libby project area, beginning at Libby Dam and continuing downstream to the Jennings old town site. The existing right-of-way crosses the Kootenai River four times; one of these crossings will be within the section of the Kootenai River designated as navigable. Therefore, a Section 10 Permit under the River and Harbor Act of 1899 (Section 10, 33 U.S.C. 103) will be required at this crossing point**. (C.E. Primrose, U.S. Army Corps of Engineers, personal communication, **February 26, 1981)**.

The project is not on and will not affect a Sole Source Aquifer or its streamflow source zone as defined in Section 1424(e) of the Safe Drinking Water Act (Federal Register, February 9, 1978). This project is not in and will not affect a coastal zone and therefore is not subject to the Coastal Zone Management Act (16 U.S.C. 1451).

Libby Dam-Sandpoint Substation Rebuild

Transmission line construction would have insignificant impacts on existing water quality. **Although several areas with high erosion potential are crossed in these areas, tower sites would not be adjacent to streams, but would be located instead on benches as much as several hundred feet above water level (fig. 7). Because sites are located away from streams and because precipitation levels are relatively low, most sediment eroded from construction sites would be filtered and deposited before reaching surface water. To cross streams in high erosion hazard areas, construction equipment either would use existing roads and bridges or would not cross the stream; therefore, water quality degradation resulting from heavy equipment fording streams in high hazard areas would not occur. Equipment would ford a few streams, but these streams are outside the high hazard areas and impacts are expected to be minor and short-term (see WILDLIFE)**.

Compliance with E.O. 11988 (Floodplain Management) requires assessment of the effects of a proposal on 100-year floodplains. Floodplain boundaries were determined from HUD and SCS maps. Before Libby Dam regulated Kootenai River flows, parts of the existing right-of-way crossed 100-year floodplains. Since construction of the dam and of levees near Bonners Ferry, these areas are now out of the Kootenai River floodplain.

At Pipe and Bobtail creeks (figs. 5 and 8), 100-year floodplains less than 300 feet (90 m) wide are crossed. These can be easily spanned and no towers will be placed in them. Therefore, impacts to floodplain resources caused by removing land from production will not occur.

**The right-of-way crosses the Sand Creek 100-year floodplain twice (fig. 8). The northern crossing is at a narrow part of the floodplain, so the floodplain can be spanned. At the southern crossing, the floodplain is about 1000 feet (300 m) wide. The existing line spans this distance and no transmission structures are in the floodplain. For the new line, BPA proposes to use wood structures in this area, primarily to mitigate visual impacts; however, the wood poles will not support the heavier conductor proposed for this line and still span the floodplain unless they are taller and reinforced with guys.

Therefore, to keep from placing taller, more complex structures close to nearby residences, a new wood structure would be placed in the floodplain. This structure would occupy about 100 square feet (30 m^2). The new structure will allow BPA to remove guys from 2 existing structures outside the floodplain on either side of the new site. The existing guyed structures occupy about 0.25 acre (0.1 ha) each. The net effect of adding a structure in the floodplain and removing the guys from the existing poles will be to increase the amount of land available for use as pasture, although not significantly. After construction, the areas around the new and old tower sites will be returned to their original contours and reseeded. No new permanent access roads will be required.

Alternatives to the proposal that would allow the floodplain to be spanned would require taller, guyed wood structures; parallel single-circuit wood structures; or steel towers at two sites, one on each side of the floodplain. These alternatives would require between 0.25 and 0.5 acre (0.1-0.2 ha) at each site. They would remove much more land from pasture than the 100 square feet (30 m) required for the structure in the floodplain. The taller towers could also make the line more visible to local residents. BPA's primary purpose in using wood poles in this area is, in response to public comments, to mitigate visual impacts; the alternatives would increase visual impacts**.

The Pack River floodplain is about 1000 feet wide. The eight wood poles now in it would be replaced by one double-circuit steel tower (figs. 5 and 9). During this process only minor disturbances will occur in the floodplain. About 0.5 acre (0.2 ha) of soil and vegetation will be disturbed during removal of old transmission structures and placement of the new ones. The tower itself will occupy about 0.01 acre. The tower will be built on concrete footings designed to withstand flooding. After construction, the areas around the new and old tower sites will be regraded to their original contours and reseeded.

Construction activities and the physical presence of the transmission line will not alter floodplain characteristics or create the potential for greater loss of property or life during flooding.

Crossing the floodplains at alternative sites was considered more detrimental to floodplain values than the proposal. By using existing right-of-way, the proposal prevents additional disturbances caused by construction of new access and clearing of new right-of-way through mixed forested and agricultural land **and through a visually sensitive rural residential area**. (see MITIGATION NOT INCLUDED IN PROPOSED ACTION). If the new line is not built, the floodplains and their resources would not experience the disturbance that new construction will cause. However, adverse economic and social effects of no action could occur to area residents (see NO ACTION).

The proposed line crosses a wetland near McArthur Lake (figs. 3 and 5). The wetland is associated with the State of Idaho McArthur Lake Management Area, designed primarily to provide habitat for Canada geese. Effects of the proposal on those waterfowl values of the wetland are discussed under WILDLIFE.

If the double-circuit steel design were used in the wetland, three or four wood pole structures would be replaced by one or two steel towers. Some excavation and filling for tower sites may be necessary. Also, an existing access road near the southern end of the wet area may be extended northward 300-400 feet (90-120 m) on the right-of-way to provide access to one tower. In all, rebuilding would disturb about 0.5 acre (0.2 ha) of soil and vegetation, including the 600-1200 square feet (56-112 m^2), depending on number of towers, devoted to tower footings. Excavating for the footings would not drain the wetland or affect its preservation.

If the proposed double-circuit wood pole design were used in this area, the existing structure sites will be used. More structures will be needed than if steel towers are used, but the wood poles will occupy less area. The land required for structure footings is much smaller than that required for steel (225 square feet (20m^2) versus 1000 square feet (93 m^2)). The road into the wet area, however, will need to be extended 600-700 feet (180-215 m), rather than 300-400 feet if steel towers were used, in order to reach one structure site. In all, about 0.5 acre (0.2 ha) of soil and vegetation will be disturbed. This activity will not affect preservation of the wetland.

Use of matting, **tracked vehicles**, or other special measures in the wet area help prevent heavy equipment from making deep ruts that make vegetative recovery difficult. Revegetation will be undertaken to restore damaged vegetation. Mitigation measures will be coordinated with the refuge manager. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

BPA considered an alternative line location east of Highway 2 that would have avoided the wetland. However, potential disturbances to other resources by a new right-of-way outweighed the negative effects of using

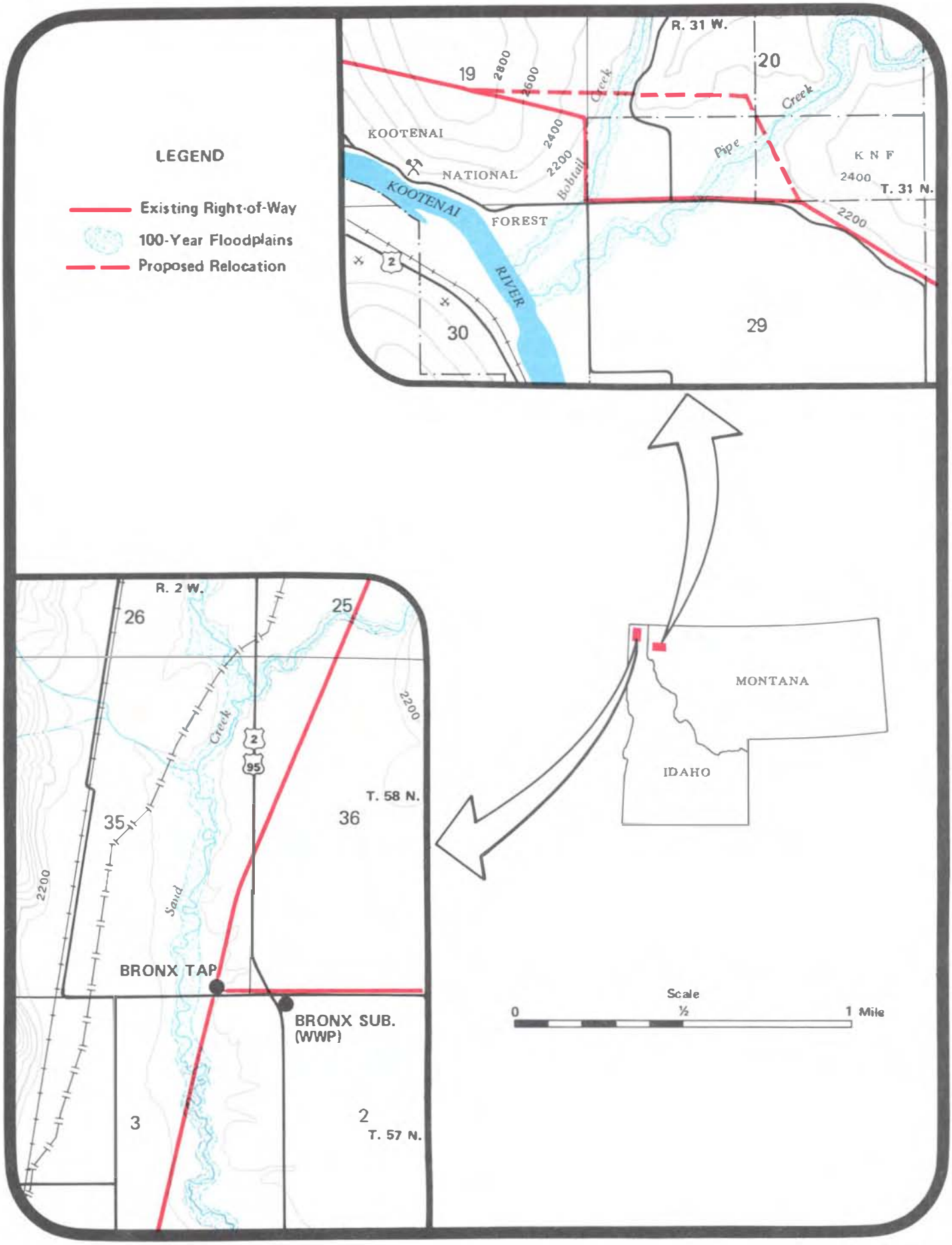

FIGURE 8
PIPE, BOBTAIL, AND SAND CREEK 100-YEAR FLOODPLAINS
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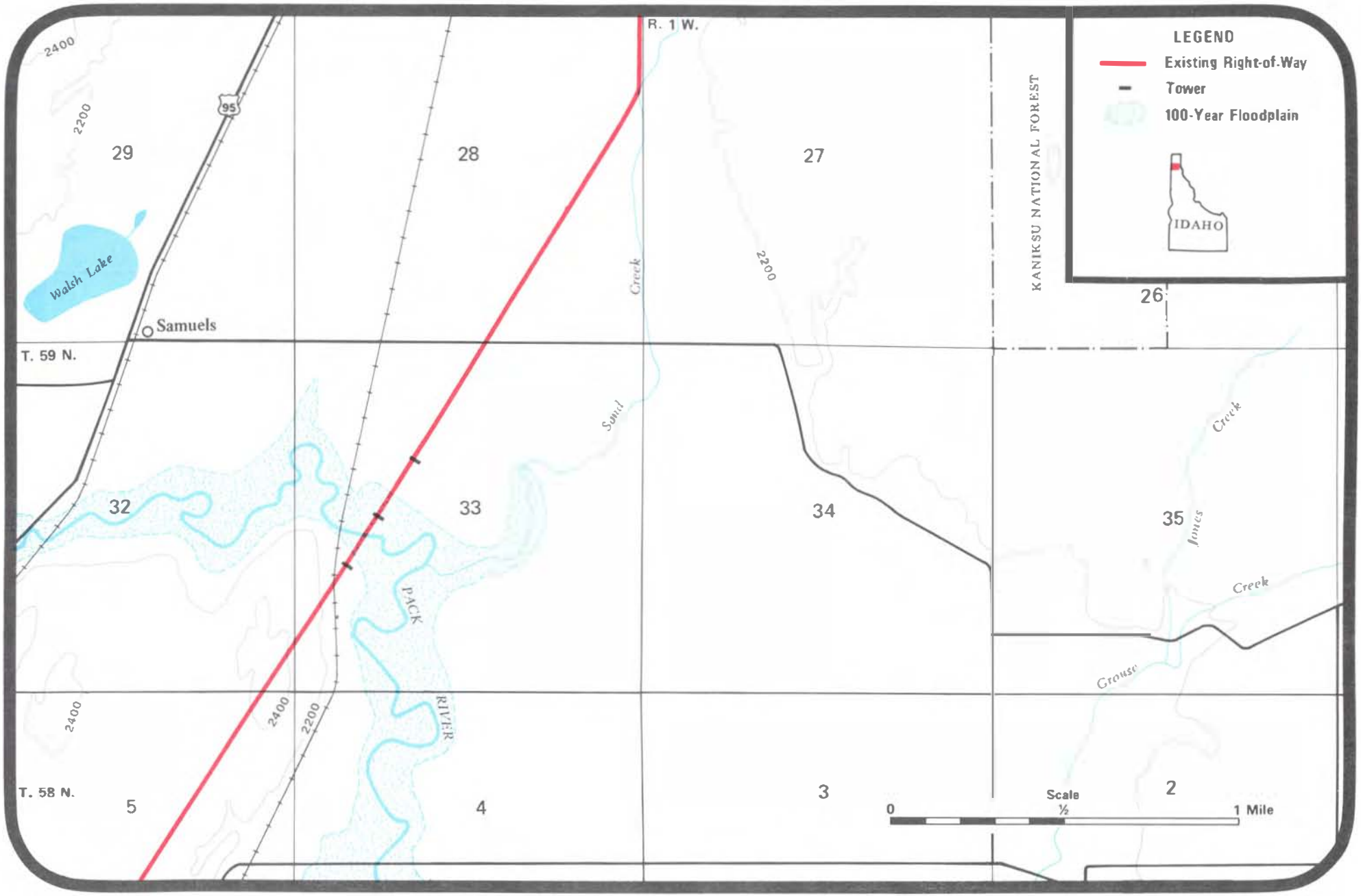

NORTH

FIGURE 9
PACK RIVER 100-YEAR FLOODPLAIN
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the existing right-of-way through the wetland. **There appears to be no practicable alternative to routing through the wetland**. See the discussion under MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION.

WILDLIFE

Impacts to wildlife generally come from disturbance by workers and equipment, habitat loss or modification from tree and brush clearing for right-of-way and new access, and additional collision hazards introduced into areas heavily used by waterfowl and other birds. Duration of impacts varies from a few weeks to the life of the project.

The discussion of impacts concentrates on **threatened and endangered species and** those species for which there exists a potential for significant impact. Figure 10 shows areas they occupy. Effects on other species, such as small mammals and birds, will not be discussed. Although some mortality to small mammals is expected, it will not significantly reduce local populations. This is because only small amounts of new access and right-of-way are required (see DESCRIPTION OF THE PROPOSAL), thus resulting in minimal destruction of habitat.

**Impacts to aquatic life from increased sediment loads and physical barriers in streams are primarily caused by construction of access roads. Cut-and-fill slopes necessary for roads may increase mass soil movement and surface erosion of the exposed slope. Road surfaces and drainage ditches left bare are subject to surface erosion and may increase sediment in streams below the right-of-way. Greater sediment loads in streams may increase fish mortality. Culverts may block fish passage and also increase mortality. Culverts can be barriers to fish passage because of excessive water velocity in the culvert, insufficient water in the culvert, culvert outlets so far above tailwater that fish cannot enter the pipe, or lack of resting pools below and above the culvert. Scouring of the streambed can occur at the culvert outlet if the discharge from the culvert is placed in an area of erodible soil or into the stream. Such scouring may increase sediment in the stream over the long term (Yee and Roelofs 1980).

Fording streams by construction equipment increases sediment in the stream temporarily, which may cause increased mortality of fish and other aquatic life if it occurs during the spawning season. Rock placed on the stream bottom to provide a driving surface for heavy equipment may also destroy spawning beds. However, fording effects are temporary, do not change the contour of the streambed as culverts may, and may be mitigated by timing activity to avoid spawning seasons (Yee and Roelofs 1980).

In construction of new roads or improvement of existing roads, BPA takes the following measures to minimize these impacts.

1) Using fords when equipment must cross important fishery streams that do not have bridges.

2) Placing culverts at streambed level when fords are not used, thus allowing fish passage.

3) Rock riprapping the lower end of culverts to prevent downcutting of the streambed, which reduces streambed erosion and sediment discharge, and eliminates outfall barriers to fish.

4) Using water bars to control run-off on the steeper road grades. This measure reduces the velocity of surface water, reduces erosion of the road surface, and diverts run-off to vegetated slopes or drainage ditches.

5) Reseeding exposed soil areas such as road banks and drainage ditches to prevent erosion**.

No bird deaths from electrocution are expected. Research on raptors and shorebirds has determined that electrocution usually occurs on lower-voltage distribution lines (69-kV and below), where the wings contact two conductors or a conductor and a groundwire simultaneously (Nelson and Nelson 1975). Electrocution is not a problem on high voltage transmission lines, such as the 230-kV line proposed for this project, because the conductors are spaced wider than the wing span of even the largest bird.

Although the route passes through a large amount of deer and elk winter range, no significant amount of habitat will be disturbed or removed, because the proposal will open new right-of-way in winter range only in a small area near Vermiculite Mountain. Little construction activity will occur in the winter, so disturbance to wintering animals should be minimal.

Both the Pend Oreille and Kootenai Rivers support a healthy nesting osprey population (fig. 10). The critical period for osprey is the nesting and fledging period (April through June). During this time, disturbance can cause nest abandonment or premature fledging. No significant disturbance to nesting osprey is expected from the project as the nest sites are located far enough from the proposed route (0.5-1 mi., 0.8-1.5 km) to insure an adequate buffer zone from construction activity. Artificial nesting platforms will be placed on towers at the Kootenai River crossing near Moyie Tap and at McArthur Lake to enhance osprey nesting habitat.

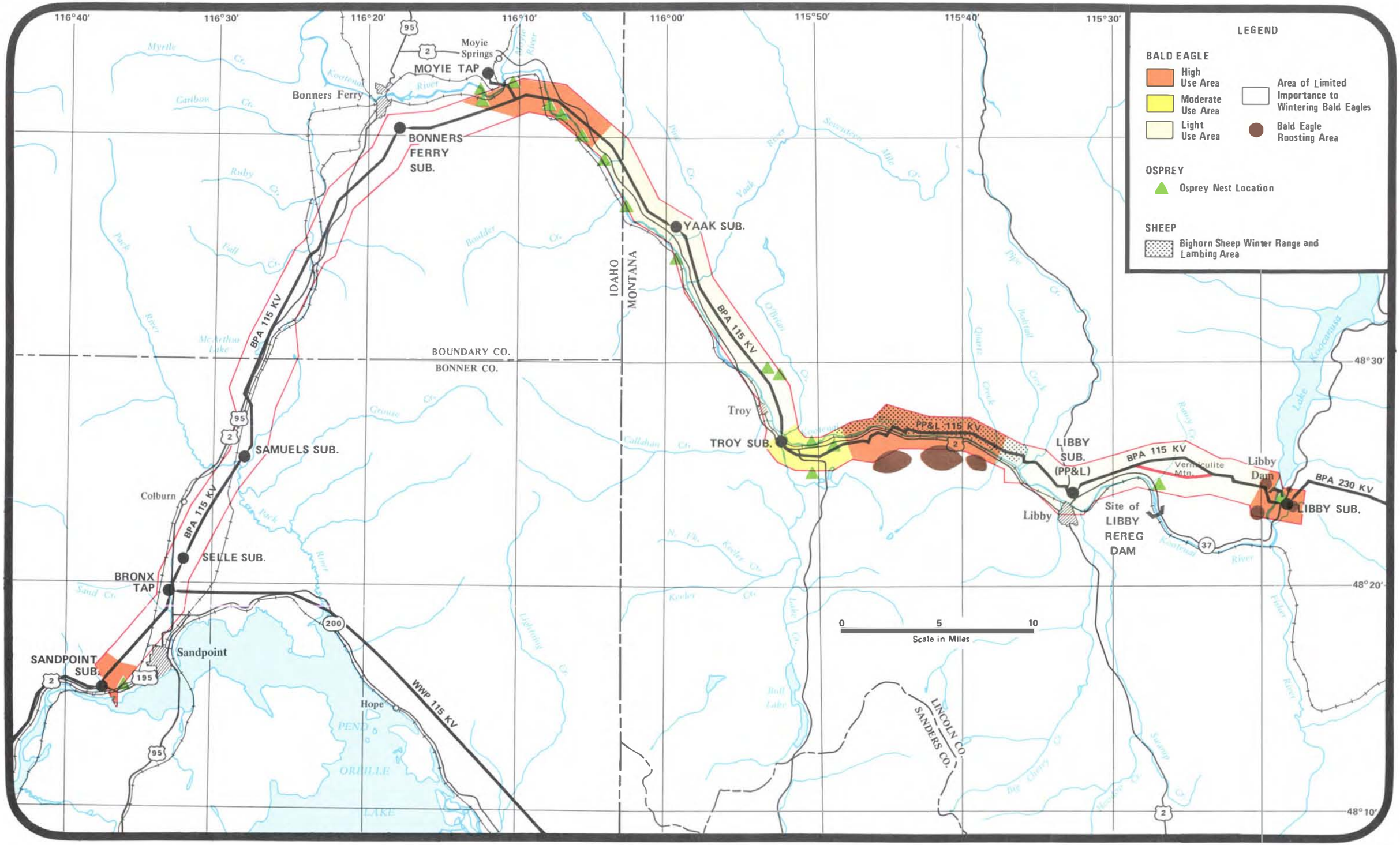

FIGURE 10
IMPORTANT WILDLIFE HABITAT
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To fulfill its obligations under the Endangered Species Act of 1973, BPA consulted with U.S. Fish and Wildlife Service (USFWS) regarding impacts to the grizzly bear (listed as Threatened under the Act) and the gray wolf (Endangered). In their formal biological opinion, dated September 15, 1978, USFWS indicated that, of the alternative plans of service presented in the FPS, only BPA's proposed plan of service is not likely to jeopardize the continued existence of the grizzly bear or gray wolf, or to destroy or adversely modify their habitat. The route does not cross proposed grizzly bear critical habitat, although it does pass along its edge. Wolves and grizzlies do not occupy the area near Vermiculite Mountain where new right-of-way is proposed. If, as proposed, the existing line is rebuilt on present right-of-way and no new through access roads are built between about Quartz Creek and Boulder Creek, the major impacts identified in the FPS (reducing the amount of grizzly habitat and increasing human access to remote, bear-occupied areas) would be avoided.

Consultation with USFWS was also required for the bald eagle, due to the bird's Endangered status (see AFFECTED ENVIRONMENT). The biological assessment to determine what adverse impacts the transmission line might have on the eagle and its habitat included a special 1-year study (Meyer, 1979). After reviewing the scope of the transmission project and the Meyer study, USFWS stated in their formal biological opinion dated November 6, 1979, that the project would not be likely to jeopardize the continued existence of the bald eagle. Conservation measures recommended by Meyer and USFWS are discussed under the description of the proposal's impacts. **Conservation measures** will be adopted in coordination with USFWS.

A portion of the proposed line between Sandpoint and Bonners Ferry crosses an area included as critical habitat in the petition to FWS to propose listing the mountain caribou as a threatened or endangered species (46 FR 11567, Feb. 9, 1981). However, the transmission line would not affect the caribou or its habitat, as the line would be on existing right-of-way and does not cross vegetative communities used by the caribou. The caribou depend on old-growth sub-alpine fir-Englemann spruce communities which produce arboreal lichens, needed by the animals for food. These communities begin at about the 4500 foot (1375 m) elevation level in the Selkirk Mountains (Freddy and Erickson 1972). The transmission line stays well below the 3000 foot (915 m) elevation level in this area.

Libby Dam-Sandpoint Substation Rebuild

The bald eagle, Canada goose, and bighorn sheep would be most affected by this proposal. Disturbance from noise of workers and heavy equipment and habitat loss from right-of-way clearing or access road construction would be the major impacts.

The greatest effects on bald eagles would occur in winter high use areas (fig. 10). Habitat loss and construction disturbance could be the most significant effects, depending on construction timing and line location.

The only portion of the rebuild that could destroy habitat would be along the Kootenai River between Kootenai Falls and Quartz Creek (fig. 10). Eagles use tall trees, especially cottonwoods, within 100 feet (30 m) of the river as perches while searching for food. If the existing right-of-way is widened toward the river, cottonwood trees used for perches would be removed as danger trees. This could significantly affect the ability of bald eagles to obtain food in this area.

Meyer (1979) recommended widening the existing right-of-way on the side away from the river (to the north of the right-of-way) and removing only those cottonwoods that are danger trees. If these measures are taken, loss of primary perching habitat could be avoided. Wherever possible, BPA will leave the cottonwoods in place. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

Stalmaster (1976) determined that human activity can cause eagles to abandon favorable use areas. He recommended restricting activity within 980 feet (300 m) of such areas. Such disturbance to wintering bald eagles is likely between Kootenai Falls and Quartz Creek if construction occurs between November and March, because much of the construction will occur within 800 feet (240 m) of the river near primary perching habitat. This area has a mean flight intensity of 4.5 eagles per day, or 0.5 eagles per daylight hour. Impacts from disturbances are expected to be minor if construction is not allowed during this period. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

The number of eagle deaths from collisions with the line is expected to be small (Meyer 1979). Research on bird collisions (primarily waterfowl) indicates that transmission lines with stacked configuration (vertically-arranged conductors) and an overhead groundwire cause greater mortality than flat-type designs (Meyer 1978). Most collisions occurred with the overhead groundwire. Although towers for portions of this line will be of the stacked design, the line will have groundwires only within 1 mile (1.6 km) of substations. The Libby Substation crossing of the Kootenai River, which is within the bald eagle wintering area (fig. 10), will have a groundwire. However, due to topography at this crossing, conductors will not be at the eagles' normal flight height; therefore, collision potential will be lower than at the Kootenai Falls crossing, where the eagles' flight heights were at the proposed line height (Meyer 1979).

Although collision mortality is expected to be small, to further reduce the potential, USFWS recommended constructing two single-circuit 230-kV lines with flat configuration at the Troy and Kootenai Falls crossings of

the Kootenai River. This mitigation measure is discussed under MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION. **The proposal to use wood pole structures at the Kootenai Falls crossing would accomplish the purpose of further reducing collision potential to eagles because the configuration of the conductors will create only 2 levels of wires for the birds to avoid, rather than the 3 levels of the steel design. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)**

The greatest potential for waterfowl collisions with the line would be at the Kootenai River crossing near Libby Substation, due to the overhead groundwire. However, the number of waterfowl deaths is not expected to be significant because the area is not a major migration route nor is there a high flight intensity.

A small bighorn sheep population occupies an area on the north side of the Kootenai River (fig. 10). The presence of workers and construction equipment during spring green-up, lambing, and early lactation periods and during the fall rut could have a detrimental effect on their reproductive success for those years. BPA's proposal to avoid construction activity during April, May, and June, and after November 1 would reduce harassment to these animals at a time when they do not need additional stress (Brown 1980). In addition, disturbed sites would be seeded with grass species palatable to sheep, such as orchardgrass, timothy, and brome, to reclaim the sites as productive sheep habitat (Christensen 1980; Brown 1980). (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

The McArthur Lake Management Area (the lake and adjacent wetlands) is considered by State game officials to be the most important management area in North Idaho for Canada goose production. Of the 102 goose nests at the lake, between 15 and 20 are within 20 feet (6 m) of the existing structures (Branch 1980). The birds occupy nests between mid-March and June 1. If construction were to occur during nesting, eggs and goslings could be destroyed, thus reducing the number of geese returning the next year. The population at the lake could be somewhat reduced for several years after construction. Work on the line will be prohibited between mid-March and early June, thus avoiding adverse impacts.

Collision potential is not expected to be significant at McArthur Lake because waterfowl tend to fly up and down the lake (north-south) or to the west across the lake. The transmission line, on the east side of the lake, should not interfere with these normal flight patterns. This portion of the line will not have an overhead groundwire, further reducing collision potential. Extension of an access road would not adversely affect the wildlife population or its habitat (Branch 1980).

**Of the types of stream crossings used by BPA, culverts have the greatest potential to affect fisheries; however, no culverts are proposed

for important fishery streams. Bridges and fords should not affect fish movement, but will cause a short-term increase in sedimentation. Following is a list of streams in the project area and the anticipated type of road crossing.

Montana

Rainy Creek - cross on existing road
Pipe Creek - ford
Bobtail Creek - existing bridge or ford
Quartz Creek - ford
China Creek - culvert or ford
Yaak River - no road crossing
Pine Creek - bridge

Idaho

Curley Creek - existing road crossing
Twentymile Creek - replace existing bridge
Pack River - no road crossing

Pipe, Bobtail, and Quartz Creeks are the important spawning streams. No significant impacts to fisheries should occur, as access roads will cross these streams near their mouths and the streams are not in high erosion hazard areas (fig. 7). The temporary sedimentation increases will not affect the major portions of the spawning beds located upstream from the crossings. In addition, the type of crossing to be used will not restrict fish movement. Overall impacts to fish and other aquatic life resulting from the project should be minor and short-term**.

SOCIOECONOMIC RESOURCES AND RESOURCE USE

FORESTRY

The major impacts of transmission line corridors and their maintenance on commercial forest resources include changed land use, removal of existing timber, loss of productivity, interference with timber management practices, and possible damage to surrounding timber. For a more detailed discussion of these impacts, see BPA's Role EIS, Draft App. B, Chapter VII.

Generally, forestry impacts increase with lengths of corridors and amounts of productive land crossed. Impacts are for the life of the facility. Electrical clearances and reliability require that the right-of-way be maintained to clearances which usually preclude growing trees. Trees that may be grown in the right-of-way include orchard

trees, Christmas trees, or other low-growing species. Trees outside the right-of-way with the potential for falling into the energized line (danger trees) must be cleared.

Habitat series were used to rank relative productivity of forest lands by relating the series to yield capability classes (Pfister 1977). Then the lowest parameter of each class was used to compute growth losses: ponderosa pine series, low productivity of 20 cubic feet/acre/year (cf/ac/yr); Douglas-fir and subalpine fir series, medium productivity of 50 cf/ac/yr; grand fir, cedar, and hemlock, high productivity of 85 cf/ac/yr. These were multiplied by acres crossed and life of transmission line expressed in years to arrive at potential growth losses. Combining these figures with a conversion factor of 5 board feet/cubic foot and stumpage values of $89.55/thousand board foot (Ruderman 1979) approximates present values of future productivity. Stumpage values represent the actual value of a tree standing in the woods, before the costs of logging, milling, and marketing it are added. Stumpage values and growth losses provide a uniform means to compare and evaluate impacts, as other costs of producing wood products vary considerably.

For a summary of ownership, forest productivity, and acres affected, see table 5.

There are no major conflicts with Bureau of Land Management (BLM) or U.S. Forest Service (USFS) plans (Olson, BLM, personal communication, 1980; O'Brien, USFS, personal communication, 1980). Location details and mitigation measures will be worked out in consultation with USFS and BLM personnel as part of the procedure to obtain permits across Federal land required by the Federal Land Policy and Management Act of 1976.

Libby Dam-Sandpoint Substation Rebuild

Most of the land used for the rebuild is presently cleared right-of-way. Therefore, the rebuild portion of the project will only minimally affect forest resources further. The new line, its access roads, and other adjustments will only require cutting a few trees or clearing small areas. The main exception is discussed below.

The realignment over Vermiculite Mountain would clear about 48 acres (19 ha) of new right-of-way, of which all but 6 acres (2 ha) is on the Kootenai National Forest. Thirty acres (12 ha) are classed as moderately productive and 17 acres (7 ha) as highly productive. Only one acre is in the low productivity class. This realignment has moderate impacts because it clears new right-of-way across productive forest

lands. However, the existing line will be removed and the right-of-way returned to the previously forgone uses, primarily mining and secondarily forestry, thereby offsetting some impacts of the new right-of-way.

Growth losses for the realignment are expected to be about 147,000 cf (4200 m^3) for the life of the facility. The present value of this potential growth is about $66,000. Part of those values could be recovered by retiring the existing line and using its right-of-way for uses forgone until now, and using the new right-of-way for uses compatible with a transmission line.

Overall, the rebuild has low impacts to commercial forest resources. Existing right-of-way, with the noted exception, is used for the new line. Little or no new right-of-way is cleared, and when it is, the existing right-of-way is by-passed and retired.

AGRICULTURE

Farmers experience two main types of damage from transmission lines crossing their fields. About 70 percent of the dollar loss results from the non-productive area created under the towers. The other 30 percent results from time lost in working around towers, crop damage, and in some cases, seed and fertilizer waste due to double coverage (Gustafson 1979). Other impacts to farming include infestation of cultivated land by weeds from uncultivated tower sites; and soil compaction by heavy equipment, which reduces yields by impairing plant growth.

Between 0.5 and 1 acre (0.2-0.4 ha) of ground per tower is temporarily disturbed during construction by excavating for footings, assembling steel tower sections, using travelways between towers, and creating parking areas for various pieces of construction equipment. The tower base itself occupies about 625 square feet (58 m^2) or 0.01 acres (0.01 ha); about 5.5 towers per mile are required for a 230-kV double-circuit line.

A wide variation in actual cropland lost from production per structure can be attributed to differences in farming practices, equipment, crops, structure location, line orientation to field, and cropping patterns.

Many farmers consider the best location for towers to be on fence rows and other logical land subdivisions such as lot or section lines. This results in less time and productive area lost, and less equipment damage due to possible contact with the towers.

Soil compaction from heavy equipment can be mitigated. A subsoiling plow or blade can be used to loosen the soil to a density comparable to that of the surrounding soil with no reduction in crop yields except for the

Table 5 Ownership, Land Use and Forest Productivity Classes: Acres in Right-of-Way [1/]

	REBUILD				TOTAL
	Private	State	Federal	Industry	
FARM [2/]	230			21	251
WATER		2			2
FOREST PRODUCTIVITY					
Low			1		1
Medium	103	2	162	61	328
High	419	27	83	13	542
TOTAL	752	31	246	95	1124 [3/]

[1/] Acreages were calculated by assuming about 12 acres/mile within the 100-foot right-of-way. Numbers have been rounded.

[2/] Includes cultivated land, pasture, and open ground not identified as cutting units or plantations.

[3/] Note that 1076 acres are cleared already. At Vermiculite Mountain, 48 acres of new clearing will be required, but the existing line will be retired.

year of construction. To minimize weed infestations, tower sites can be seeded, sterilized, have mantle rock added, or otherwise be treated as the landowner desires. Once a route is chosen, BPA works in close coordination with local SCS offices in developing seeding and erosion control procedures. BPA cooperates with local weed control districts and landowners to eliminate noxious weeds.

Libby Dam-Sandpoint Substation Rebuild

The right-of-way crosses about 260 acres (105 ha) of farmland. Of this amount, about 70 percent is rangeland; the rest is in cultivated crops. However, only **2.6 acres (1.1 ha)** is lost to production under tower bases along the length of the line. This is an increase of about **2.3 acres (0.9 ha)** over the amount presently lost to wood structure sites. (Acres lost to tower sites are estimated by multiplying 5.5 steel towers per mile by **1000** square feet per tower base and 8.8 wood structures per mile by 100 square feet per structure base). The remainder of the land in the right-of-way may be cultivated or grazed.

The existing right-of-way crosses most fields diagonally; some farmers may prefer a routing parallel to lot or section lines. Some of the adverse effect of crossing a field diagonally may be offset by locating towers at field edges wherever practical.

In general, the new line would have fewer towers in fields than does the existing line. Because the new structures are larger and spans are longer, on the average, two steel towers would replace three wood pole structures. The major problems to farmers occur when towers are in cultivated land. On this project, most of the cultivated land is between Bonners Ferry and Sandpoint. Along this line segment, about 23 steel towers would replace 50 wood pole structures in cultivated land. This is expected to reduce somewhat the inconvenience some farmers presently experience in working around existing structures. **If wood structures are used between Sandpoint and Selle substations, some of this inconvenience will continue. The amount of land lost to production would remain about the same because more access roads would be needed for the wood structures. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Esthetics.)**

BPA will work with landowners and the SCS to develop appropriate mitigation for affected land, including subsoiling, weed control, and compensation for land lost to production and for crops destroyed during construction.

DEMOGRAPHIC AND ECONOMIC CONSIDERATIONS

Construction of the proposed transmission line would have low to moderate demographic and socioeconomic impacts to the counties crossed. An average of 53 contractors' employees would be required for construction work from February to November of **1982 and 1983 and through August, 1984**, with a peak of 105 persons in the summer and fall of **1983**. Of these, 18 to 25 would be local workers hired for general construction work. Because the unemployment rate for all of the counties is fairly high, there would be a large local labor pool from which to draw. Since construction on this project would proceed in segments, impacts on individual communities would occur at different times over the 3-year period.

Little impact is expected on governmental and educational services because the non-local workers would be spread out over the entire line in Libby, Coeur d'Alene, Sandpoint, and possibly Troy, Montana. Few non-local workers bring families that increase the demands on such services. Housing, however, would be significantly affected for several reasons.

Normally there is a very low vacancy rate for apartments and house rentals in the area, and the number of available hotel rooms, especially during the summer tourist months, is low.

ASARCO Inc. is presently constructing a silver and copper mine near Troy. This has further reduced the number of available housing units in Libby, Troy, and Bull Lake. As the transition is made over the next two years between temporary construction workers and permanent mine workers, however, temporary housing should become more available.

Finally, the Pacific Gas Transmission Company is planning a gas pipeline from Canada to California with a portion running through the area from Bonners Ferry to Rathdrum, approximately parallel to the existing gas line right-of-way and generally within 1.5 miles (2.4 km) of BPA's transmission line between Bonners Ferry and Sandpoint. **As construction of the transmission line is now scheduled to begin in 1982, after projected completion of the gas line, no temporary housing conflicts should occur**.

The combination of the gas line, mine, and transmission line projects would cause a greater temporary increase in population, especially for **Libby and Troy** and would place a greater burden upon local resources, notably housing, than that caused by BPA's transmission line alone. There would be a moderate to high impact on the socioeconomic resources of the area in 1981, dropping to low once the transmission line construction was completed.

No other cumulative impacts from the mine project in combination with BPA's proposal are expected. The mine is at least 13 miles (21 km) from the transmission line, so the two projects will not affect the same area. **The gas line project will be completed before transmission line work begins**.

When construction is completed, fewer than 10 permanent employees will be needed for maintenance; **BPA will not need to hire new people for this work**. This will not have a significant impact on housing or economics of the area.

Because the construction workers would contribute a relatively small amount to the total economy of the area, and then only seasonally over 3 years, businesses would not be likely to expand their operations in response to the stimulus.

Because BPA is a Federal agency, it is legally prohibited from paying taxes. As a result, the local property tax base would be reduced by the number of privately-owned acres BPA buys outright (in "fee simple"). The amount of land BPA acquires outright for this project probably will be very small, because most of the right-of-way already exists and because it has been agency policy to acquire easements in preference to purchasing land in "fee simple". Loss of tax revenue therefore should be negligible.

Studies on the effect of transmission lines on property values disagree as to whether the presence of the line reduces property values. Some indicate that property values are not **noticeably affected (Kinnard 1967; Clark and Treadway 1972; Strong 1965; and Bahl 1974). However, effects vary widely for different types of land crossed and impacts can vary for individual pieces of property in a single land-use category. Thus, an analysis of each individual case would be necessary to predict changes in property values for a particular line, as the effects are unevenly distributed (Role EIS, Draft App. B, Ch. VII).

A recent study shows that property values may decline significantly in those areas where adverse visual impacts are identified. Ten years of home sales records in two suburban Illinois subdivisions crossed by a 138-kV steel tower transmission line were examined (Colwell and Foley 1979). A number of independent variables, such as lot size, living area, number of rooms, and distance to the transmission line, were related to the selling price in an equation model. Values of property within 200 feet (61 m) of the line were significantly reduced when all other factors were held constant. It was suggested, however, that larger lot size could compensate for proximity to the transmission line.

While the exact amount of reduction of property value would not be applicable to northern Idaho and northwestern Montana, it would appear

that where visual quality is high and is valued by the landowner, property value could decrease somewhat within several hundred feet of the proposed transmission line. Until a number of similar studies are completed, particularly in more rural settings, the extent of depreciation will remain unknown**.

During construction, noise from equipment could also temporarily reduce property values by making the property less esthetically desirable. Improved access might increase property values in more isolated upland areas such as southeast of Bonners Ferry. Unauthorized trespass, however, could also be somewhat of a problem for individual landowners. In general, the effect on property values depends on the type of land use near the line and on the intrinsic value an individual landowner attaches to the characteristics of his or her land and the changes made by the transmission line and right-of-way (Role EIS, Draft App. B, Ch. VII).

**Property owners are compensated for any reductions in the value of their land which occur as a result of the right-of-way easement agreement they enter into with BPA. Compensation is based upon the difference between the fair market value of the property prior to and subsequent to the establishment of the right-of-way. These market values are determined in appraisals made by experienced BPA or independent real estate appraisers. Each estimate is examined by a review appraiser to ensure that it is written in accordance with the "Uniform Appraisal Standards for Federal Land Acquisitions" (Interagency Land Acquisition Conference 1973). Each appraisal must be supported by recently consummated comparable sales in the area which are compared with the property being evaluated.

It is recognized that, in some instances, the imposition of a transmission line right-of-way may so adversely affect a particular parcel of land as to leave the owner with an uneconomic unit. BPA's appraisers are alert to possible damage to portions of the ownership exterior to the transmission line easement. On such occasions in the past, BPA has purchased the entire property.

Each property is evaluated and considered individually in arriving at a figure for just compensation to affected property owners. If the affected property owner voluntarily sells the land or an easement to it, there is prima facie evidence that he is satisfied. If a settlement must be reached in the courts, it may be assumed that the courts will adequately compensate the owner for any fair market value loss. Only when an owner has an enjoyment peculiar to himself, such as sentimental value not shared by buyers and sellers in the market generally, will a landowner experience a loss (Role EIS, Draft App. B, Ch. VII)**.

URBAN AND RESIDENTIAL LAND USE

Residential land use and incorporated cities are shown on figure 5. The figure shows residences within 1 mile (1.6 km) of the right-of-way. Because of the rural character of most of the study area, the primary emphasis will be on impacts to residences.

One major impact to residential land use is the removal of a home from the right-of-way. Construction of this transmission line would not require removal of any residences. A transmission line may also place some limitations on how property within the 100-foot (30 m) right-of-way is used; e.g., prohibiting the construction of barns, sheds, or a television or radio antenna. The transmission line will cause visual impacts and may cause television and radio interference. Any radio or television interference will be corrected (see NOISE section). Residents could be disturbed by maintenance activities on the right-of-way and by unauthorized use of the right-of-way by hunters, motorcyclists, or others.

Other, temporary impacts are limited to the actual construction period. Nearby residents may be disturbed by noise, dust, smoke, and the presence of construction personnel (see AIR QUALITY and NOISE). In some instances, the use of roads could be temporarily hindered. There is also a potential for safety hazards, especially to children who might be attracted by the construction activities.

Table 6 indicates areas of residential land use in the vicinity of the proposed line which may be affected. The table includes only houses within 100 yards (90 m) of the right-of-way. Residents of these houses will experience most of the impacts discussed above. Beyond this distance, the severity of the impacts would be significantly less. Visual impacts could be relatively high up to 1.5 miles (2.4 km) away, depending upon available vegetative and topographic screening.

Table 6. Number of Houses Near Right-of-Way

Location	Number
2 mi. W of Libby	4
4 mi. W of Libby	4
3 mi. E of Troy	1
3 mi. W of Troy	2
1 mi. E of river crossing near Bonners Ferry	1
Near Bonners Ferry Substation	2
1 mi. S of Bonners Ferry	4
4-5 mi. S of Bonners Ferry	4
1 mi. N of Naples	3
1 mi. S of Naples	1
McArthur Lake	4
Elmira	4
Samuels Substation	3
2-3 mi. S of Samuels Substation	3
Sandpoint vicinity	40

All counties and incorporated cities within the study area were contacted to determine the status of land use planning and zoning and to obtain copies of their planning documents. Bonner and Boundary counties, in Idaho, provided copies of their comprehensive plans; Lincoln County, in Montana, has not prepared a plan. The proposed facilities are in compliance with the plans received. Discussion with planning personnel in Lincoln County indicated that the proposed facilities are acceptable. The existing lines pass near Libby and Sandpoint; however, the planning agencies in those two cities indicated that the corridors are outside of the areas covered by their comprehensive plans.

Libby Dam-Sandpoint Substation Rebuild

Rebuilding the existing transmission line will require acquisition of only small amounts of new right-of-way (see DESCRIPTION OF THE PROPOSAL). Therefore, the new construction generally will not affect the use of any land along the right-of-way. As discussed under ESTHETICS, the height of the new towers and the reflectivity of the tower material will cause the new line to be more visible than the existing line. The transmission line is unlikely to cause more problems with noise from corona discharge, and radio and TV interference are unlikely at the low voltage level of this line (see NOISE AND ELECTRICAL EFFECTS). The

construction impacts described earlier would occur. Their severity will vary depending upon factors such as distance from the right-of-way, weather conditions, and site-specific factors such as topography and types of roads.

Construction of this section of line would not require the removal of any houses. Approximately 80 houses are within 100 yards (90 m) of the right-of-way (table 6). Long-term impacts would be primarily visual, although, in some instances, residents' use of land near their homes may be limited. Impacts would be moderate.

ESTHETICS

The assessment of the visual impact of the proposed transmission facilities is based on visual quality/transmission line compatibility and on the visibility of the transmission line from viewer positions within the study area.

In the earlier planning phase of the project, the study area was much larger. Visual complexity was a problem, so BPA contracted the services of a landscape architectural consultant to conduct a study of the visual environment. The results of the consultant's study are contained in a publication entitled Visual Impact of High Voltage Transmission Facilities in Northern Idaho and Northwestern Montana, July 1976.

A map titled "Potential for Visual Alteration," prepared by the consultant, combines an assessment of visual quality and an analysis of the compatibility of each identifiable landscape with transmission line development. Figure 11 is a generalization of that map. Areas identified as high in potential for visual alteration would be more likely to experience high visual impacts from a transmission line. These are generally areas of high visual quality not compatible with transmission line development. Some areas of fairly high visual quality may be capable of screening or visually "absorbing" a transmission line and would be assigned a moderate rating. An example of this is along **portions of** the highly scenic Kootenai River where views of the existing transmission line are screened by forest vegetation. At McArthur Lake, scenic quality is also high, but the inability to screen views of the transmission line resulted in a rating of high potential for visual **alteration**.

An additional part of the visual study was an evaluation of potential viewer contact with transmission lines. This generated a list of types of viewer positions such as travel routes, rest areas, parks, and streams and a rating of the probable visual sensitivity of people at these places. Table 7 lists significant viewer positions within the study area and includes the consultant's evaluation of viewer sensitivity and the

potential for visual alteration for that location within the study area. It also includes an evaluation of the frequency of viewers at that position and an estimate of the overall visual impact.

**The potential for visual alteration ratings and the viewer sensitivity ratings were based on the consultant's study of the entire study area and therefore do not recognize small-scale, site-specific factors such as vegetation, topography, tower siting, or tower design which may significantly affect the visibility of the transmission line. As an example: the crossing of the state highway near Troy is in an area where the potential for visual alteration is high. At this crossing, however, forest cover provides enough screening to limit the duration of views from the highway to a very short period of time. As a result, the overall assessment of visual impact is low. (See discussion of specific locations under Libby Dam-Sandpoint Rebuild.)

The estimate of overall impact also includes consideration of mitigation which will be used during construction of the line. As an example: at the crossing of the Kootenai River at Libby Dam the line would be readily visible in an area where the potential for visual alteration is rated high. In this location BPA will paint the transmission towers with a non-glossy, dark-colored paint and use non-reflective conductor. Experience has shown that these two measures will significantly reduce the visibility of the transmission line at this location**.

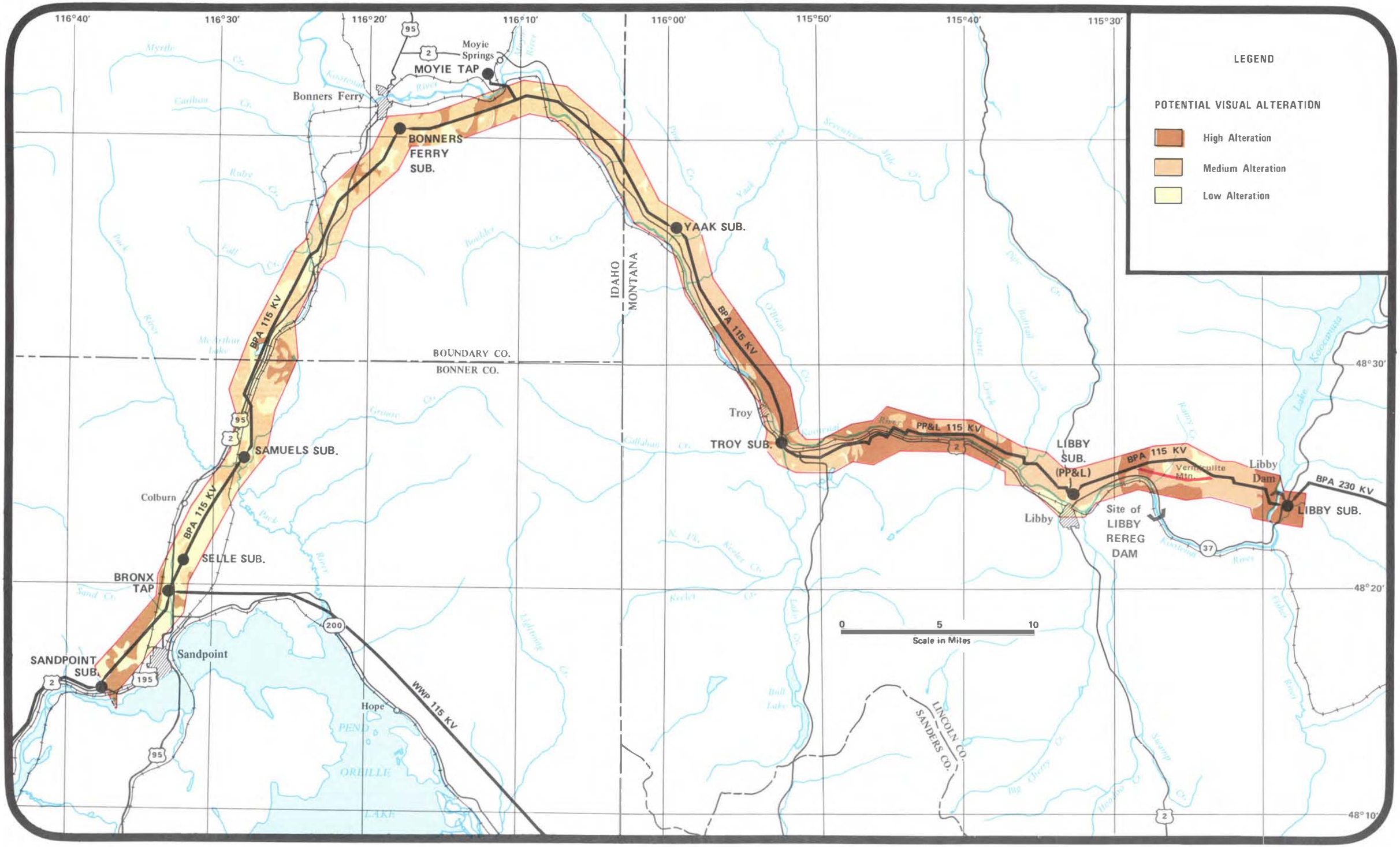

FIGURE 11
POTENTIAL FOR VISUAL ALTERATION
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
80-3

Table 7. Primary Viewer Positions Within the Study Area

	Potential for Visual Alteration	Viewer Sensitivity	Viewer Frequency	Estimated Overall Impact
River Crossings				
Kootenai-Libby Dam	H	M	M	L
Kootenai-Kootenai Falls	H	H	M	M
Kootenai-Near Troy	M	M	L	**H**
Kootenai-East of Moyie	M	M	L	**H**
Highway Crossings				
St. Hwy. 56-Near Troy	M	L	H	L
U.S. 2-Near Troy	L	L	H	L
U.S. 2-Near Moyie River	M	L	H	M
U.S. 2-Near Naples	L	L	H	M
U.S. 2-Near Elmira	L	L	H	M
U.S. 2-Bronx Tap	L	L	H	M
**Other Locations				
McArthur Lake	H	H	M	H**

*L=low; M=medium; H=high

The evaluations of viewer sensitivity were made after meeting with 28 groups of people of highly varying interests who live in the planning study area. The consultants used a prepared slide program with questionnaires to determine the people's response to views of transmission lines. Although the ratings of viewer sensitivity will not be accurate for every viewer, they do provide general ratings that are useful for assessing impacts.

The URBAN/RESIDENTIAL section discusses the location of houses where visual impacts to residents may occur. The HISTORIC/ARCHEOLOGIC section discusses visual impacts to sites of cultural significance.

Libby Dam-Sandpoint Substation Rebuild

Rebuilding the existing line would cause noticeable changes in visual conditions along the right-of-way. The new steel towers would be 120 feet (37 m) high compared to an average height of 60 feet (18 m) for the existing wood structures (fig. 2). In a number of places, therefore, the new line may no longer be screened by forest vegetation. These would be primarily in the flat areas between Sandpoint and Bonners Ferry where the line may be seen above trees when the viewer's position is in non-forested areas.

Although little additional clearing of large trees would be required, the activities on the existing right-of-way would remove some low-growing vegetation **and would disturb the soil** at tower sites, access routes, and conductor stringing sites. The **lineal clearing and ground disturbance caused by transmission line construction is most** visible from viewer positions above the line and in places where the right-of-way extends over hillsides **and ridge tops**. These conditions would last until revegetation occurs in 1 to 3 years. This type of impact will be seen from the east side of the Kootenai River near Libby Dam, from State Highway 37 about 5 miles (8 km) east of Libby, and from U.S. Highway 2 about 5 miles west of Libby.

As indicated under DESCRIPTION OF THE PROPOSAL, the line between PP&L's Libby Substation and Troy Substation would require additional clearing on 14.5 miles (23 km) of existing right-of-way and clearing on 0.5 miles (0.8 km) of new right-of-way. The 20 to 40 feet (6-12 m) of additional clearing will increase the visibility of this portion of the existing right-of-way.

Where used, the new steel towers and conductors will have a shiny appearance for several years before they weather to a dull finish. In certain lighting conditions, and from some viewing positions, the shiny appearance may greatly accentuate the visibility of the transmission line. **By using special types of conductor and painting towers a dark, dull color this problem can be significantly reduced**.

There are approximately 15 locations along the existing line where significant numbers of people could potentially see the transmission line. These places include recreation areas, highway crossings, and river crossings. The potential for visual impacts at each of those locations was evaluated. In most places, topography and/or vegetation would effectively eliminate views of the line. In some locations, special non-reflective conductor and the use of wood poles or painted towers would help reduce visibility. The following paragraphs in this section and the recreation section discuss impacts at those locations where the line would be visible.

The line would cross the Kootenai River about 0.5 mile (0.8 km) east of Kootenai Falls and about 0.8 miles (1 km) east of a footbridge across the river. A small park adjacent to Highway 2 overlooks the falls. From several positions on the north side of the river, the line can be seen crossing the river in the distance. These can be reached only by crossing the footbridge and walking several hundred feet over the rocks along the river. One or two towers would be visible from these positions. The use of special **non-reflective conductor and wood structures would** reduce the visual impact at this crossing. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Esthetics).

Transmission towers at the crossing of the Yaak River and at the Kootenai River 8 miles (13 km) east of Bonners Ferry Substation will be marked with red and white paint to identify the towers as hazardous to aircraft. Aircraft marker balls will be installed on the conductors at the same locations. This requirement may significantly increase the visibility of the line to the few residents near the crossings and to highway travelers and persons using the river.

At U.S. Highway 2, 5 miles (8 km) east of Moyie River, the line crosses the road at a shallow angle. Travelers will be able to see brief foreground and middle ground views of towers. There would be a noticeable change in visual conditions.

Because vegetative cover is absent, the line would be clearly visible at the highway crossing north of Naples. There would be a noticeable change in visual conditions. Due to the foreground location of the towers, there will be little opportunity for mitigation.

The existing line borders a portion of McArthur Lake. The line crosses the lake adjacent to the highway, causing it to be clearly visible to highway travelers and lake users. **However, use of single-pole steel structures at two tower sites near the highway will reduce the impact created by the complex structures of the lattice towers. Use of wood poles across the remainder of the wildlife management area will also reduce the visual impact on highway and lake users. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION)**.

Because of the absence of vegetative cover, the line will be clearly visible at the highway crossing 4 miles (6 km) south of McArthur Lake. There would be a highly noticeable change in visual conditions **if steel towers were used**. Due to the foreground location of the towers **it will not be possible to screen them from view. The use of wood structures at this highway crossing, as proposed, would greatly reduce the visual impact**.

Impacts at the highway crossing near the Bronx Tap, **4 miles (6 km) north of Sandpoint**, are similar to the highway crossing discussed above.

Because the rebuilt section of transmission line will replace an existing line and will generally not require additional right-of-way clearing, overall visual impacts will be low. The most significant visual problems will result from the greater height of the new steel towers and their increased visual complexity relative to the existing wood structures. Where double-circuit wood pole structures are used, little, if any, change in appearance will be noticed.

RECREATION

Impacts of transmission facilities to recreational users of an area vary with the setting and the activity and primarily involve reduction in the visual quality of the user's surroundings. Transmission facilities are less intrusive in some landscapes than in others; this aspect is discussed under ESTHETICS and is illustrated in figure 11. The type of recreational activity influences, to a certain extent, viewer sensitivity and the perceived level of impact. Table 7 in ESTHETICS rates the probable viewer sensitivity at recreation areas as well as at other viewer positions. Normally, a transmission line adds a discordant element to the landscape. Transmission facilities are generally more compatible with recreational activities in developed areas than with those in areas containing fewer man-made elements.

Figure 12 shows the location of the existing corridor with respect to designated recreational resources. The visual impacts at each one of these designated areas and at river and highway crossings is described under ESTHETICS.

No National Wild and Scenic Rivers (16 U.S.C., Sec. 1271-1287) are found in the corridor. The planning supplement indicated that the Moyie River (a study river for Wild and Scenic classification) might be visually affected by this project. Subsequent investigation showed it would not be so affected, however, so it was eliminated from consideration in this study.

No National Trails defined in the National Trails System Act (16 U.S.C. 1241 et seq.) are in the study area.

**The northern boundary of the Cabinet Mountain Wilderness Area is about 2 miles (3 km) south of the transmission corridor. According to a study prepared for BPA (Driscoll Nov. 1976), a threshhold between high and moderate visiblity for a 230-kV double-circuit tower occurs at 1.6 miles (2.6 km). Several trails enter the wilderness area from the vicinity of U.S. Highway 2. Vistas from these trails may include views of the existing transmission line, highway, and railroad track; however, topography screens most views of the line until the hiker is more than a mile from the highway. Rebuilding the line and widening the right-of-way

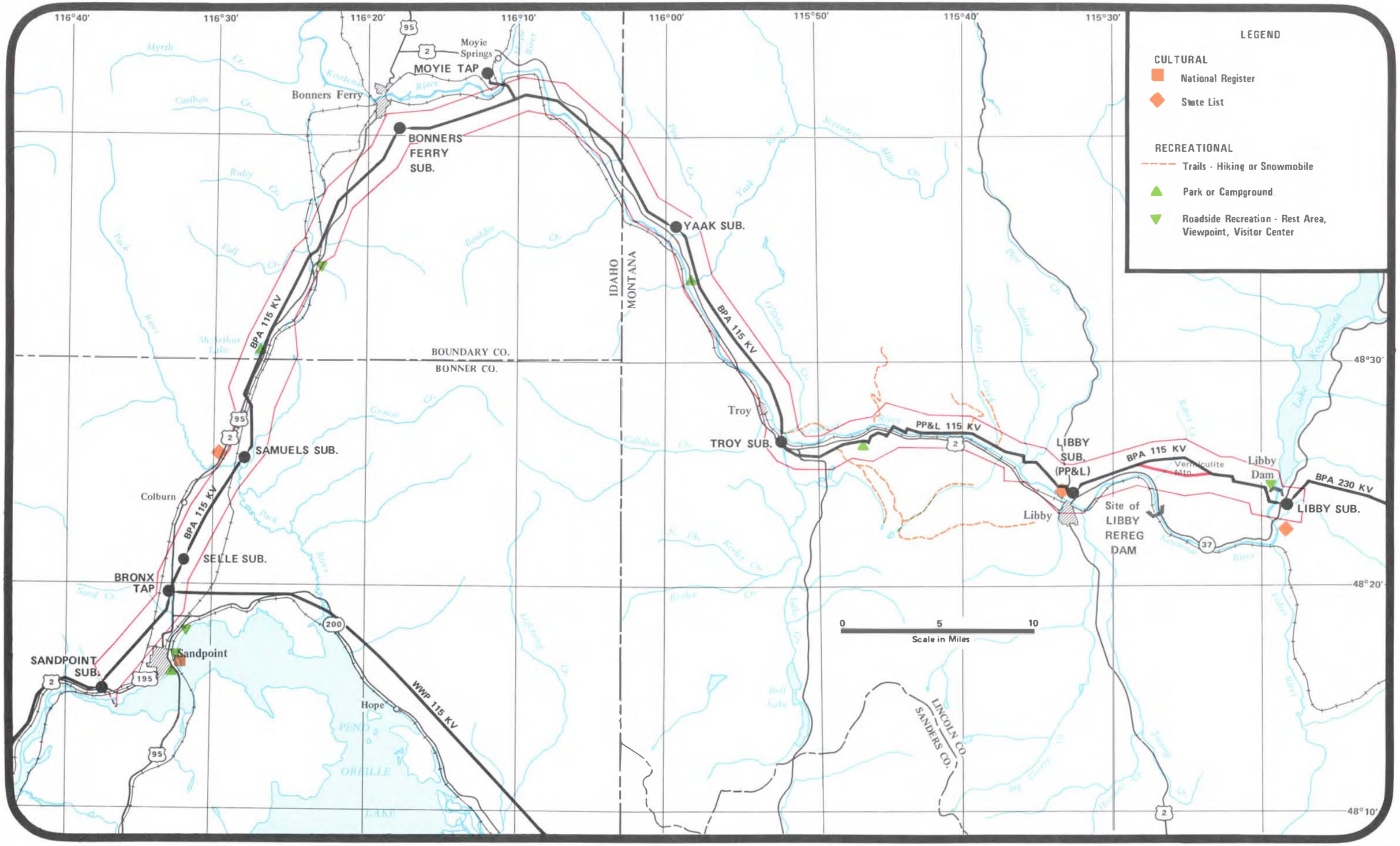

FIGURE 12
CULTURAL/RECREATIONAL
N. W. MONT./N. IDA. SUPPORT/LIBBY INTEG. PROJ.
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in this area may increase the visibility of the transmission line and right-of-way. Effects are not likely to be significant, however. In one case, the hiker's view would be of the wood pole segment east of Kootenai Falls. If the line were noticed at all, it would not appear noticeably different from the existing line. From the other location most likely to have a view of the line, the vista would include the area around Troy, which has other development besides the transmission line. After revegetation of the right-of-way is complete, it is likely that viewers would not perceive a change from existing conditions**.

With the exception of McArthur Lake, the rebuilt line will not actually cross a designated recreation area. Therefore, the reader should refer to the ESTHETICS section for a discussion of the visual impact of the transmission line on recreational resources.

At McArthur Lake, the transmission line parallels the east side of the lake and crosses a small part of the lake at the north end. During foggy or rainy weather, the operational noise of the transmission line could disturb persons using the lake; however, traffic noise from nearby U.S. Highway 2 would usually mask the transmission line noise.

With the exception of the visual impacts described at McArthur Lake and Kootenai Falls, this project will have little effect on designated recreation areas. Dispersed recreational activities **such as fishing, river floating, hiking, bicycling, and sightseeing** are widespread between Libby Dam and Sandpoint; however, because the project involves only a rebuild of an existing line in this area, new impacts will **generally** be low. **The ESTHETICS section discusses visual impacts along the line and indicates those areas where there may be visual problems**.

HISTORIC AND ARCHEOLOGIC RESOURCES

Transmission facilities may affect cultural resources in one of three ways: (1) introduce audible, visual, or atmospheric pollutants out of character with the site; (2) isolate or alter the site setting; or (3) destroy or alter part or all of the site.

The extent of these impacts will vary with different construction activities. For example, vehicle movement may not disturb subsurface deposits, but will disturb or destroy surface sites. Other construction activities may damage or completely destroy surface and subsurface cultural sites. In addition, improved access may result in vandalism of sites and/or theft of artifacts.

BPA will comply with the Historic Preservation Act of 1966, E.O. 11593, and all other laws and regulations protecting historic and archeologic

resources. Procedures are detailed in BPA's Fiscal Year 1981 Program Environmental Statement but generally follow the sequence described below. During the planning phase of a project, data is gathered on sites in the area from the National Register of Historic Places, State registers and inventories of cultural and historic resources, and archeological authorities. Later, in the location phase, contracted specialists survey the area. From information gathered in these two steps, the identified sites are assessed against the criteria set up by the Advisory Council on Historic Preservation. Documentation on sites potentially eligible for the National Register is then sent to the State Historic Preservation Office and the National Park Service for their approval.

In the interim, potential adverse impacts to any site of national or local significance are assessed. **If cultural resources are deemed eligible for the National Register**, mitigation or avoidance measures are developed with help from the Advisory Council and the State Historic Preservation Offices (SHPOs). When a site is found during construction, work is stopped until the site is evaluated.

Table 3 lists significant historic and archeologic resources identified **in the Choquette-Holstine report prepared for BPA's contractor (Washington State University)**. No properties listed on the National Registry of Natural Landmarks or on the World Heritage List were identified. Figure 12 shows National Register and State sites in relation to the proposed route. An intensive survey will be conducted before construction to identify any previously unknown sites, and measures will be taken to avoid damage to all identified archeologic sites. Whenever possible, construction activities will avoid archeologic sites. If avoidance is not possible, **consultation will take place among BPA, the SHPO, and the Advisory Council on Historic Preservation to determine whether data recovery would be appropriate. If data recovery is deemed necessary, it will be designed as outlined in 36 CFR 66**. If excavation on public or Federally-owned lands is necessary as part of the **data recovery** process, an "antiquities permit" would be required under the Archeological Resources Protection Act of 1979 (36 CFR Part 1215).

Libby Dam-Sandpoint Substation Rebuild

Little of this line has been surveyed for cultural resources. However, the results of the cultural resources overview conducted for BPA indicate that five areas within the existing right-of-way have high potential for containing archeologic and historic resources. The contractor's report **(Choquette and Holstine 1980)**, available from BPA, details the

historical background of the area, methodology used for the overview, and the conclusions reached. The following paragraphs summarize the conclusions presented in the report.

In general, construction at river crossings, including access road construction, may disturb or destroy archeologic sites, since waterways and riverbanks served as campsites and/or transportation routes for the early inhabitants. At present, sites have been located only at crossings in the Kootenai Falls area, but most of the crossings have not been inspected.

Within the proposed Libby-Jennings National Historic District, one known cultural site is within 600 feet (183 m) of the present transmission line and one is near the proposed reroute at Vermiculite Mountain. Current studies indicate that this area has been occupied for the last 8,000-10,000 years. **Introduced visual, audible, or atmospheric elements could be out of character with a historic property or could alter its setting**.

The Bobtail Creek-Kootenai Falls segment contains a large number of archeologic and historic sites. Several cultural sites that lie within the existing right-of-way and at existing structure sites could be destroyed or damaged by reconstruction. Existing access roads cross several other sites and could contribute to their erosion and disturbance. Because this area contains the proposed Kootenai Falls National Historic and Archeologic District, potential for impacts, both physical and visual, is high. A 1-mile (1.6-km) relocation of the line **was considered to avoid impacts to this area (see MITIGATION NOT INCLUDED IN THE PROPOSED ACTION) and was rejected**.

The Kootenai Falls area has been identified as religiously significant to the Kootenai Indians; however, vision quest sites are away from the right-of-way and not likely to be affected by the transmission line (O'Brien 1980).

Several small knobs on the alluvial terraces between Bonners Ferry and Katka may contain burial sites. Because disturbance of burials is a sensitive issue, these areas should be avoided to prevent conflicts.

The existing right-of-way near McArthur Lake crosses one of the earliest landforms in northern Idaho. The area was probably used extensively by prehistoric people because of its suitability for campsites and food sources, and sites found here would have high potential for containing information about some of the first inhabitants after the last glaciation. Construction work, especially vehicle movement and tower placement, could disturb or destroy unidentified sites in this area.

In summary, the majority of the Libby-Sandpoint rebuild is located on mountainsides and glacial till where there is little potential for impacting cultural resources. Construction work and access roads, however, could disturb unidentified sites within the five areas discussed above and could result in a loss of these resources and the information they contain. While visual impacts would not damage the sites physically, they would detract from their esthetic value.

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GLOSSARY OF GEOLOGICAL TERMS

G L O S S A R Y O F G E O L O G I C A L T E R M S

Alluvium: A general term for all detrital deposits resulting from the operations of modern rivers, including the sediments laid down in river beds, lakes, fans at the foot of mountain slopes, and estuaries.

Bedding Plane: In sedimentary or stratified rocks, the division planes which separate the individual layers, beds, or strata.

Dip: The angle at which a stratum or any planar feature is inclined from the horizontal. It is at a right angle to the strike.

Drift Gravel: Rock debris transported by glaciers and deposited either directly from the ice or from the meltwater.

Gully erosion: The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 to 2 feet to as much as 75 to 100 feet.

Lacustrine: Produced by or belonging to lakes; of, or pertaining to, or formed or growing in, or inhabiting lakes.

Lithology: 1) The physical character of a rock, generally determined megascopically or with the aid of a low power magnifier, 2) the microscopic study and description of rocks.

Rill erosion: An erosion process in which numerous small channels only several inches deep are formed.

Sheet erosion: The removal of a fairly uniform layer of soil from the land surface by sheets of running water as distinct from streams.

Strike: The course or bearing of the outcrop of an inclined bed or structure on a level surface. It is perpendicular to the dip.

Terrace escarpment: The step face of a terrace.

Sources: American Geological Institute. 1974. Dictionary of Geological Terms. Anchor Books. Garden City, New York. 545 pages.

Soil Conservation Society of America. 1976. Resource Conservation Glossary. Soil Conservation Society of America. Ankeny, Iowa. 63 pages.

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LIST OF AGENCIES AND PERSONS TO WHOM

COPIES OF THE STATEMENT ARE SENT

LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE STATEMENT ARE SENT

Federal Agencies

Advisory Council on Historic Preservation
U.S. Department of Army, Corps of Engineers
  Office of the Chief Engineer
  Walla Walla District
  Seattle District*
  Portland District
U.S. Department of Agriculture
  Office of the Secretary
  Soil Conservation Service
  Forest Service
    Region 1
    Region 4
    Region 6
U.S. Department of Commerce
  National Marine Fisheries Service
U.S. Department of Energy
  Western Area Power Administration
  Federal Energy Regulatory Commission
U.S. Environmental Protection Agency
  Region X*
U.S. Department of Housing and Urban Development
U.S. Department of the Interior
  Office of Environmental Project Review*
  Fish and Wildlife Service
  Bureau of Indian Affairs*
  Bureau of Land Management
  Bureau of Mines
  National Parks Service
  Bureau of Reclamation
U.S. Department of Transportation
  Federal Aviation Administration*
  Federal Highway Administration

State Agencies

Idaho Department of Water Resources*
Idaho Division of Budget, Policy Planning and Coordination
Idaho State Clearinghouse, Division of Economic and Community Affairs*
Idaho State Department of Fish & Game*
Idaho State Department of Highways
Idaho State Department of Lands
Idaho State Department of Parks and Recreation
Montana Department of Community Affairs
Montana Department of Fish, Wildlife, & Parks
Montana Department of Natural Resources and Conservation*
Montana Department of State Lands
Montana Environmental Quality Council

Montana Office of Budget and Program Planning
Montana State Clearinghouse
Oregon Department of Environmental Quality
Oregon State Department of Energy
State of Oregon Intergovernmental Relations Division
Washington State Department of Ecology
Washington State Department of Fish & Game
Washington State Office of Community Development
Washington State Office Of Program Planning and Fiscal Management

State Historic Preservation Officers

Idaho Historical Society
Idaho State Historical Society
Idaho State University Museum
Department of Sociology/Anthropology, University of Idaho
Montana Historical Society*
Montana State University Department of Anthropology
Department of Anthropology, University of Montana
Oregon State Historic Preservation Office
Museum of Natural History, University of Oregon
Washington Archeological Research Center, Washington State University
Washington Office of Archaeology and Historic Preservation

Regional Clearinghouses & Counties

Idaho

Bonner County Board of Commissioners
Boundary County Board of Commissioners
Cassia County Board of Commissioners
Clearwater Economic Development Association
Ida-Ore Regional Planning and Development Association
Idaho Public Utilities Commission
Kootenai County Board of Commissioners
Minidoka County Planning Commission
Panhandle Area Council
Region IV Development Association, Inc.

Montana

Flathead County Areawide Planning Organization
Lake County Planning Board
Lincoln County Department of Planning
Mineral County Planning Office
Missoula Planning Office
Sanders County Planning Board

Washington

Douglas County Board of Commissioners
Ferry County Board of Commissioners

Lincoln County Board of Commissioners
Okanogan Cities and County Regional Planning Council
Okanogan County Board of Commissioners
Pend Oreille County Board of Commissioners
Spokane County Board of Commissioners
Spokane Regional Planning Conference
Stevens County Board of Commissioners
TRICO Economic Development District
Whitman County Board of Commissioners
Whitman County Regional Planning Council

Government Depository Libraries

Aubrey R. Watzek Library
Boise Public Library
Boise State University Library
College of Idaho Terteling Library
College of Southern Idaho Documents Library
Daniel J. Evans Library
David O. McKay Library
Eastern Washington State College Library
Eric V. Hauser Memorial Library
Everett Community College Library
Everett Public Library
Everill S. Collins Memorial Library
Fort Vancouver Regional Library
Governmental Research Association Library
Harvey W. Scott Memorial Library
Henry Suzzallo Memorial Library
Idaho State Library
Idaho State University Library
Library Association of Portland
Mabel Zoe Wilson Library
Montana State University Library
North Olympic Library System
Oregon College of Education Library
Oregon State Library
Oregon Supreme Court Library
Penrose Memorial Library
Port Angeles Public Library
Portland State University Library
Seattle Public Library
Southern Oregon State College Library
Spokane Public Library
University of Idaho Library
University of Montana Library
University of Oregon Library
University of Washington School of Law Library
Victor J.Bouillon Library
Washington State Library
Washington State University Library
Willamette University Library
William Jasper Kerr Library

Interest Groups - Idaho

Clearwater Conservation Forum
Clearwater Economic Development Association
Idaho Citizens Coalition
Idaho Conservation League
Idaho Environmental Council
Idaho Wildlife Federation
Kootenai Environmental Alliance
Kootenai Tribe of Idaho
League of Women Voters of Idaho
Lost Rivers - Lemhi Range Wilderness Council
Sawtelle Chapter of Outdoors Unlimited
Soil Conservation Society of America, Idaho Chapter
Sutton's Art Barn*
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Interest Groups - Montana

ASARCO, Inc.*
Burlington Northern Railroad, Inc.
Environmental Information Center
Environmental Library, University of Montana
Flathead Citizens for Safe Energy
Montana Wilderness Association
Montana Wildlife Federation
Normont Development Co.*
Northwest Energy Employment & Development, Inc.
Sierra Club
Western Environmental Trade Association

Interest Groups - Oregon

Confederated Tribes of the Umatilla Reservation

Interest Groups - Washington

Audubon Society
Citizens Against Toxic Herbicides
Confederated Tribes of the Colville Reservation
Ecotope Group
Friends of the Earth
Federation of Western Outdoor Clubs
Herb Library, Huxley College of Environmental Studies
Inland Empire Big Game Council
League of Women Voters
Olympic Conservation Council
Pacific Northwest River Basins Comm.
Pierce County Action
Portland General Electric Co.
Recreational Equipment Inc.

Richland Ecology Commission
Sierra Club
TRICO Economic Development District
Washington Environmental Council
Washington Forest Protection Assoc.
Washington State Sportsmen's Council, Inc.
Western Environmental Trade Association

Environmental Defense Centers

Environmental Defense Fund
Environmental Law Committee of Young Lawyer's Section of
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Natural Resource Defense Council
Northwest Environmental Defense Center
Northwest Fund for the Environment

Student Interest Groups

Environmental Affairs Commission
Environmental Studies Center, Western Washington University
Institute for Environmental Studies
Idaho State University Outdoor Program

Utilities

City of Bonners Ferry
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Kootenai Electric Cooperative
The Montana Power Company
Northern Lights, Inc.
Pacific Power & Light Co.
PUD #1 of Pend Oreille County
The Washington Water Power Co.

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*Designates receipt of letters on the Draft EIS Supplement.

Copies of the final EIS Supplement are sent to the Congressional Delegations of the States of Idaho, Washington and Montana. A notice of the availability of the final document has been sent to the landowners along the existing Sandpoint-Libby 115-kV transmission line.

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APPENDIX A

APPENDIX A

SUMMARY: PUBLIC COMMENTS FOLLOWING EDGEMERE GRANGE HALL OPEN HOUSE OCTOBER 15, 1979

P U R P O S E

The purpose of this study was to extract and summarize substantive public comments following the informal open house held at Edgemere Grange Hall on October 15, 1979. **The meeting was held to obtain information on concerns of residents potentially affected by alternative routes and substation sites south of Sandpoint, a part of the original project that now has been deferred**. Oral comments made at the meeting, although not formally recorded, generally covered the same subjects as the letters and response sheets. If specific resource information was provided in the meeting, it was incorporated into the EIS wherever possible. **The Comments will be part of the scoping process for the draft supplement on the deferred portion of this project**.

D A T A S U M M A R Y

Number of individuals commenting - 141***
Number of statements recorded - 961***

Number of Commentors	Number of Different Comments	Major Areas of Concern
131***	26	Power Corridor Plans
121***	9	Residential Property
118***	6	Scenic Quality
5	3	Flight Hazards
57**	5	Health Effects
59**	6	Electrical Effects
63*	1	Historical/Arch. Resources
65**	5	Right-of-Way Sharing
4	2	Forests
6	5	Wildlife
54**	2	Watersheds
61**	9	Route and Design Alternatives
4	4	Public Involvement
61**	6	Miscellaneous - (Project Related)

The following pages provide a more detailed examination of the content of the public response. "Frequency" indicates the number of times the same specific comment was made as opposed to "Number of Commentors", which refers to the number of people who commented on each major area of concern. Cross referencing has been done to more clearly reflect the number of comments made in each category. The "Number of Commentors" includes those who were cross referenced. The same person may have made more than one comment in a particular category, so frequency and number of commentors is not necessarily the same.

* Includes 59 signatures from a petition
** Includes 51 signatures from a form letter
*** Includes both of the above

MAJOR AREAS OF CONCERN

ROUTE ABJ

Number of commentors: 5

Frequency		Summary of Comments
		4 persons oppose ABJ route for the following reasons:
1	1.	-Route ABJ crosses prime residential property.
1	2.	-Many miles of clearcutting would be required.
1	3.	-Route ABJ does not follow existing roads or rights-of-way.
1	4.	-Concerned about the impact this route would cause to the watershed and springs originating from the watershed.
1	5.	-There is a delicate balance of marsh plant and wildlife in the Hoodoo Creek drainage.
1	6.	-Migrating birds rely heavily on this area during early spring months.
1	7.	Prefers route further down river because it would require less right-of-way and would be less expensive.
1	8.	Surprised that Location B was dropped.

ROUTE ACFIJ

Number of commentors: 4

Frequency		Summary of Comments
		4 persons oppose Route ACFIJ for the following reasons:
1	1.	-Route ACFIJ crosses prime residential property.
2	2.	-Concerned that the value of their property will decrease.
2	3.	-Object to trees being cut.
1	4.	-Towers would ruin their view.
1	5.	Prefers route further down river because it would require less right-of-way and would be less expensive.

ROUTE DEFIJ

Number of commentors: 64*

Frequency		Summary of Comments
		61* persons oppose Route DEFIJ for the following reasons:
1	1.	-Route DEFIJ crosses prime residential property.
2	2.	-The location of Route DEFIJ would reduce their property value.
60*	3.	-There would be considerable impact to the scenic quality of the area.
59*	4.	-The area has historical significance.
59*	5.	-The quality of life would be disturbed by high voltage lines and towers in one of the most favorable residential areas.
1	6.	-Less developed areas compared to Laclede appear to be more suitable.

ROUTE DGHIJ

Number of commentors: 58**

Frequency		Summary of Comments
		5 persons prefer Location H for the following reasons:
1	1.	-Location H is farthest from his residence.
4	2.	-Can use existing rights-of-way, county roads, or government land.
1	3.	-Can use single pole or wood structures ("cleaner looking") instead of conventional lattice type.
1	4.	-This location has the least impact on people.
1	5.	Opposes Route H because he does not want to live near powerlines.
1	6.	BPA should consider the West H location because it wouldn't go through as much private property.
51**	7.	Oppose route in Hoodoo Valley area because of (1) esthetics; (2) environmental factors; (3) personal hardships; (4) disruption of farmland; and (5) lack of full investigation of alternative routes.

* Includes 59 signatures from a petition
** Includes 51 signatures from a form letter

RESIDENTIAL PROPERTY

Number of commentors: 121*

Frequency		Summary of Comments
1	1.	Concerned about community growth at Laclede, which is a growing community with a water and sewer system.
1	2.	Concerned about the impact to residents living at Ott's Basin. 1/
1	3.	The number of residences impacted for each route should be included in the EIS.
1	4.	They want to keep their land and lifestyle as natural and undisturbed as possible. 2/
1	5.	Damage to existing properties will occur; should receive compensation for damages.
1	6.	Consideration is given primarily to economics. 3/
1	7.	The "looks" of his property will be ruined.
51*	8.	Do not want powerlines on their land or along routes they drive.
51*	9.	What compensations do farmers receive for attempting to control noxious weeds which BPA admits are brought in during construction of transmission towers?

59** additional persons oppose various routes because of the scenic impact to residential property.
55* additional persons concerned with property values decreasing
4 more oppose various routes because values would drop
3 more oppose various routes because prime residential property is crossed.

1/ It is wholesome living on small working homesteads.
2/ Their need for electricity is very minimal.
3/ Electric rates are increasing to accommodate people not living there yet who have a choice not to live by the line.

* Includes 51 signatures from a form letter and 59 signatures from a petition.
** Includes 59 signatures from a petition.

SCENIC QUALITY

Number of commentors: 118**

Frequency		Summary of Comments
4	1.	Concerned with the impact to the scenic quality of the area and the beauty of the river.
1	2.	There will be impact to the natural beauty at Ott's Basin.
2	3.	Suggests taking a route over less esthetic land.
1	4.	Concerned that opening new routes will disturb new valleys (scenic and pristine lands).
51*	5.	Any public construction should blend with the existing environment.
1	6.	Take the route over least valuable land (both esthetic and private).

117** additional persons are concerned with the scenic quality of residential property.

119** additional persons oppose various routes because of the scenic quality of the area.

FLIGHT HAZARDS

Number of commentors: 5

Frequency		Summmary of Comments
1	1.	Advises colored balls be placed on wires to warn low-flying planes.
1	2.	The area is a flight path for aircraft.
3	3.	Transmission lines would be hazardous to aerial navigation.

HEALTH EFFECTS

Number of commentors: 57*

Frequency		Summary of Comments
3	1.	Concerned about effects of radiation.
1	2.	High voltage lines can be a health hazard to people living in the immediate area.
1	3.	There will be emotional damage to people who own property in the right-of-way.
1	4.	Concerned about safety of human population.
51*	5.	What safeguards do farmworkers and irrigation changers who must work around these lines have?

* Includes 51 signatures from a form letter.

** Includes 51 signatures from a form letter and 59 signatures from a petition.

ELECTRICAL EFFECTS

Number of commentors: 59*

Frequency		Summary of Comments
55*	1.	Concerned with interference to television, radio, or CB. 4/
1	2.	Objects to the noise of the highly charged towers.
1	3.	If placed underground, would it cause an electrolyses field (sic) such as is present in northern Minnesota?
1	4.	Concerned with harmful emissions.
1	5.	Concerned that a high-tension line could cause a fire, burning the forest, animals, and their house.
51*	6.	What effect does resulting noise from 230-kV transmission line have on people?

HISTORICAL/ARCHEOLOGICAL RESOURCES

Number of commentors: 63**

Frequency		Summary of Comments
3	1.	The area is an historic site: sacred Indian grounds; original trading post still standing; and artifacts.

60** additional persons oppose various routes because of the historic importance of the area.

RIGHT-OF-WAY SHARING

Number of commenters: 65*

Frequency		Summary of Comments
8	1.	Existing rights-of-way should be used: 5/
1		-Such as right-of-way sharing with utility companies, i.e. power, gas, phone
2		-Such as major highways, roads
3		-Such as railroad lines
1	2.	Would prefer new wires by existing ones or beside railroad bridge.
1	3.	Possibility of using adjacent roads or shared transmission line right-of-way for each route should be included in the EIS.

51* additional people suggested that a right-of-way exists from Noxon that could be used and was discussed by BPA.

4/ Cable TV is not available that far out of town and many people depend upon CB in the area.

5/ One person stated that because this would be more expensive, people using the power should pay for it.

* Includes 51 signatures from a form letter.

** Includes 59 signatures from a petition.

FORESTS

Number of commentors: 4

Frequency		Summary of Comments
1	1.	Concerned about the damage there will be to trees in the area.
1	2.	Acres of wooded timberland clearcutting required for each route should be considered and included in the EIS.

2 additional persons opposed various routes because trees would have to be cut.

WILDLIFE

Number of commentors: 6

Frequency:		Summary of Comments
1	1.	Concerned about the impact to wildlife at Ott's Basin.
1	2.	Concerned about the impact to wildlife in the area.
1	3.	Concerned about the impact to mountain habitat.
1	4.	Hunting and poaching will become rampant in the area.
1	5.	Concerned about the disturbance to flora and fauna.

1 additional person opposed route in Hoodoo Creek drainage area because
(1) there is a delicate balance of marsh plant and wildlife; and
(2) migrating birds rely heavily on this area during early spring months.

WATERSHEDS

Number of commentors: 54*

Frequency:		Summary of Comments
52*	1.	Concerned with the impact on the watershed.
1	2.	The impact on watersheds for each route should be considered and included in the EIS.

1 additional person opposes ABJ route because of impact it would cause to watershed and springs originating in this watershed.

* Includes 51 signatures from a form letter.

ROUTE AND DESIGN ALTERNATIVES

Number of commentors: 61*

Frequency:		Summary of Comments
1	1.	BPA should put lines underwater at river crossings.
1	2.	Where new corridors must be created, BPA should go through uninhabited country.
2	3.	Single pole or wood structures are "cleaner looking" and should be used instead of conventional lattice type.
3	4.	Take the route over less private land to prevent ruining peoples' property.
1	5.	Take the route where least amount of new ROW is required.
1	6.	Other transmission tower designs that are "clean" looking should be considered and included in the EIS.
1	7.	Upgrade existing transmission lines.
51*	8.	All possible routes for this project have not been fully investigated. There is an existing transmission right-of-way roughly paralleling U.S. Hwy. 41 from Albeni Falls to Spirit Lake. Since BPA already proposes to use their existing right-of-way from Sandpoint to Thama and own a right-of-way to Albeni Falls from there, why not join the line at Albeni Falls instead of Spirit Lake. 6/ If an agreement to use the U.S. Hwy. 41 route is not reached, a route only 3 miles west of the proposed route utilizing federal and state lands should be used.
51*	9.	There also exists a right-of-way from Noxon that could be used and was discussed by BPA. 7/

PUBLIC INVOLVEMENT

Number of commentors: 4

Frequency:		Summary of Comments
1	1.	The people's wishes should come first.
1	2.	BPA does not care how the people feel; BPA wants progress at all costs.
1	3.	Very upset that landowners weren't involved in planning early enough.
1	4.	Decisions should be based on the will of the people most affected that have to live with the consequences on a day-to-day basis.

6/ Cannot see the logic of usurping more private land than necessary.

7/ Since Idaho land is already about 65% Federally owned, further encroachment on private land is unconscionable.

* Includes 51 signatures from a form letter.

MISCELLANEOUS

Number of commentors: 61

Frequency:		Summary of Comments
1	1.	Concerned about recreational use of river: boat races are held and pilots practice landing and taking off from water.
1	2.	Concerned that a chemical defoliant is being used underneath and around lines, killing brush.
1	3.	The use of irrigation equipment would be hampered.
1	4.	Concerned about the impacts all routes will have on their county.
6	5.	Request maps, time schedule, or additional information on the project.
51*	6.	Has an EIS been done on all areas under consideration for this project?

* Includes 51 signatures from a form letter.

APPENDIX B

APPENDIX B

NORTHWEST MONTANA/NORTH IDAHO SUPPORT AND LIBBY INTEGRATION

SUMMARY: PUBLIC AND AGENCY COMMENTS

P U R P O S E

The purpose of this study was to extract and summarize substantive, formal public and agency response to the Draft Supplement to the Final Planning EIS. Sources included official transcripts of public hearings at Sandpoint, Idaho (December 16, 1980) and Libby, Montana (December 17, 1980); and written comments on the project that BPA received between November 14, 1980 and January 23, 1981.

D A T A S U M M A R Y 1/

Number of individuals and agencies commenting - 62
Number of statements recorded - 317

Number of Commentors	Number of Different Comments	Major Areas of Concern
28	33	Need for Project
7	14	Alternative Routes
17	21	Alternative Structure Design
17	30	Other Alternatives to Proposed Project
7	9	Cost/Benefits of Proposed Project
12	22	Other Construction Proposals in Study Area
2	6	Long Term Plans for Corridor
22	60	Impacts
14	34	Mitigation Measures
9	16	Easement and Right-of-Way Concerns
5	8	Taxes
5	7	Permit Requirements and Legislation
9	12	Public Involvement
11	24	Preparation of Draft Supplement
15	21	Miscellaneous

The following pages provide a more detailed examination of the content of the public response. Note that "Frequency" indicates the number of times the same specific comment was made as opposed to "Number of Commentors", which refers to the number of people who commented on each major area of concern.

1/ An overview of the comment analysis method, including an explanation of terms, is appended to this report.

NEED FOR PROJECT

Number of commentors: 28

Frequency		Summary of Comments
13	1.	Support need for project. 1/
3	2.	Upgrading of present facility is reasonable. 2/
1	3.	When speaking against increased use of power, remember times and places you use electricty.
1	4.	Will exploit resources elsewhere for power if project is not here.
1	5.	Regardless of whether proposed dams are built, a 230-kV line has to go through this area.
4	6.	Request explanation of project need if Rereg. Dam, Kootenai Falls project and additional generators are not authorized.
6	7.	Oppose project and suggest delay. 3/
4	8.	Project may be premature due to uncertainty of LAURD and Kootenai Falls Dam projects.
1	9.	Defer project because current and projected needs do not justify this project.
1	10.	If line not needed until 1985, why is BPA building it for 1983?
1	11.	Concerned with the degree of upgrading of this project.
1	12.	Should address immediate needs of area and provide additional transmission facilities on a schedule that is more realistic and coincides with other generation projects.
2	13.	Question need for project based on amount of power used and generated.
1	14.	How much of the line capacity was planned expecting operation of the LAURD project?
3	15.	Concerned that project is waste of money and capacity of line too great due to uncertainty of Kootenai Falls project.

1/ Reasons given: 1) to produce jobs, 2) to accommodate growth, 3) to produce local commodities, 4) to increase baseload and peaking power, 5) for future industrial and recreational growth, and 6) little additional right-of-way needed, thus reducing impacts, 7) to prepare for future and reduce cost; 8) exchangeable power available from proposed dams.

2/ Reasons given: 1) to provide more adequate and dependable service in the future, 2) near term needs could be met, but any expense that includes the Rereg. Dam is a waste.

3/ Because of uncertainty of Kootenai Falls project, Rereg. Dam, additional generators at Libby Dam, and Hot Springs-Bell corridor decision.

1	16.	State politicians are opposed to the project as a waste of money.
1	17.	Concerned with need for the project at this date due to economic impact to citizens.
1	18.	The growth of electrical use in the past should not determine forecasts of future growth.
1	19.	Suggest in-depth load forecast analysis.
1	20.	Peak load growth is overstated, and with conservation project could be delayed.
1	21.	Need analysis of probabilities to justify reliability standards.
1	22.	What is probability of an outage at baseload and peaking load?
1	23.	Evaluate alternatives assuming Libby Dam is operated as baseload facility.
1	24.	Why will low voltage be detrimental to the reconductored line and not the 230-kV line?
1	25.	Is there need for a double- or single-circuit 230-kV line?
1	26.	Peaking appears to be restricted by limited flow through Libby Dam imposed by lack of the Rereg. Dam, not by current electrical system configuration.
1	27.	What has to be done before building the 230-kV line?
1	28.	Is BPA basing need on line loss and area loads that are not being adequately met?
1	29.	Why does BPA decide there is a need and then continue the project when it is only proposed?
1	30.	What is purpose of these towers and of the 230-kV line on these towers?
1	31.	Can the line be desectionalized?
1	32.	How long does the line take to desectionize?
1	33.	EIS should reflect scheduled need of project in specific areas, regardless of fate of Rereg. Dam and Kootenai Falls project.

ALTERNATIVE ROUTES

Number of commentors: 7

1. KOOTENAI FALLS

Frequency		Summary of Comments
2	1.	Kootenai Falls crossing alternative route should be used with single-circuit lines. 4/

4/ Reasons given: 1) avoid historical/archeological district, 2) reduce hazards to bald eagles, 3) reduce visual impact.

1	2.	How will issue of relocation at Kootenai Falls be resolved?
1	3.	Should revegetate abandoned right-of-way if alternate route is used at Kootenai Falls.
1	4.	Should avoid Sheppard property near Kootenai Falls. 5/

2. OTHERS

Frequency		Summary of Comments
2	1.	Concerned with using the existing corridor for Vermiculite Mountain. 6/
1	2.	How does BPA plan to resolve minor relocations or expansions of right-of-way between Libby and Troy?
1	3.	Fields near Boulder Creek should be avoided or crossed at right angles, not diagonally as they are now.
1	4.	Use alternate route around the McArthur Wildlife Management Area if construction occurs at a critical period for nesting geese.
1	5.	Study alternative routes outside grizzly bear habitat near Silver Butte.
1	6.	Has BPA considered routing towers behind area of residential growth at Sandpoint?
1	7.	Were the four alternative plans of service explained to the public?
1	8.	Benefits of decommissioning existing corridor should be considered in evaluating alternative routes.
1	9.	Prefer proposed line because it follows an existing corridor for much of route.
1	10.	Object to locating the corridor in Kootenai River Valley. 7/

5/ Because prescribed burning may be used to maintain area for wildlife, which BPA does not allow under its lines.

6/ Reasons given: 1) relocation would be expensive environmentally and economically, 2) existing wood pole structures could support an upgrade, 3) USFS is reluctant to commit more NF lands for W.R. Grace Co. convenience.

7/ Because it ruins esthetic, recreational, archeological/historical and agricultural values.

ALTERNATIVE STRUCTURE DESIGN

Number of commentors: 17

1. WOOD VS. STEEL

Frequency		Summary of Comments
6	1.	Object to steel towers. 8/
3	2.	Prefer use of wood poles wherever possible. 9/
2	3.	What were deciding factors and document used to determine the use of steel structures over wood?
3	4.	Request a more thorough discussion and analysis of tower selection. 10/
1	5.	Object to steel towers through Paradise Valley. 11/
1	6.	Give more consideration to wood pole design. 12/
1	7.	Request smallest possible pole height due to unpleasant appearance.
1	8.	If steel towers are necessary, why must they be 120 feet tall?
1	9.	Understand need for more power but not for steel towers.
1	10.	Are steel structures more economical if considering property value decrease?
1	11.	What is the existing wood pole span?
1	12.	Is the 120-foot steel tower the structure to be used?
1	13.	Was informed that wood poles did not meet maintenance standard.
1	14.	Would prefer towers to poles on property.

8/ Reasons given: 1) cut productivity of field, 2) obstruct view, 3) depreciate property, 4) unpleasant appearance, 5) used to wood poles, 6) too close to dwellings, 7) size, and 8) not in harmony with the land.

9/ Reasons given: 1) look better, 2) easier to maneuver around, 3) lesser size reduces tower visibility, and 4) should last due to dry environment.

10/ Such as cost comparison, visual impact, access requirements, maintenance, and topographic limitations.

11/ Reasons given: 1) esthetically unpleasant, 2) detrimental to land use, 3) depreciate land value, and 4) new towers exaggerate problems of existing line.

12/ Reasons given: 1) role of esthetics in communities' economy, 2) labor, and 3) local resource.

2. OTHERS

Frequency		Summary of Comments
2	1.	If maintenance of wood poles is a problem, the same design, using metal pipe, painted to camouflage appearance, could be used.
2	2.	Has BPA considered putting the line underground as an alternative?
1	3.	Underground line alternative should be included in EIS.
2	4.	BPA should have more alternative tower designs and materials than are discussed in EIS.
1	5.	Regardless of material or design, structures should not exceed height of existing towers.
1	6.	Choice of towers will cause some major impacts.
1	7.	BPA should have addressed alternative of upgrading the line; would approve if it were on wood towers.

OTHER ALTERNATIVES TO PROPOSED PROJECT

Number of commentors: 17

1. CONSERVATION

Frequency		Summary of Comments
2	1.	Alternatives should be studied for solving peaking problems such as introducing conservation and other means.
1	2.	Suggest using money planned for project to insulate citizens' homes.
1	3.	Conservation is preferable to handle local load forecast.
1	4.	BPA has a responsibility to distribute information on alternative power sources and conservation.
1	5.	Advise conservation of existing energy.
1	6.	BPA questions the economic return of conservation, yet during November 1980, because of conservation, extra power was available for resale from the Libby Dam.
1	7.	BPA's residential conservation efforts are small in comparison to effort and money spent in planning the line, and industrial conservation would mean even more savings.
1	8.	According to various reports, it is not necessary to continue building more and bigger.
1	9.	Object to expensive construction projects and BPA's refusal to study conservation as an alternative.
1	10.	BPA should conserve along with every citizen.
1	11.	Would rather conserve to preserve way of life than have an abundance.

1	12.	Like conservation idea, but is not solution to growing demands.
1	13.	Object to conservation if it means stopping all progress.

2. MINIMUM BUILD

Frequency		Summary of Comments
2	1.	Minimum build alternative was inadequate and should be examined more closely.
2	2.	Should examine minimum build combined with conservation.
2	3.	Increase efficiency of the line but defer project until authorization of the Rereg. Dam and Kootenai Falls project.
1	4.	Could the existing line be upgraded to a single 230-kV line on wood towers and solve present and short-term problems of line loss assuming the Kootenai Falls Dam and LAURD projects are not built?
1	5.	Inadequate analysis of non-build and minimum build alternatives reflects a presumption that deferring the project is unnecessary before committing irreplaceable natural resoures.
1	6.	Unlike the proposed plan, the minimum build proposal would provide jobs, not eliminate them.
1	7.	Support efficiency improvement and minimum build alternative because authorization of LAURD project and Kootenai Falls project unlikely.

3. ENERGY SOURCES

Frequency		Summary of Comments
1	1.	Various reports recommend hydro projects.
1	2.	Why has BPA ignored alternative generation and transmission needs and continued to plan on generation from the Rereg. and Libby Dam?
1	3.	Industries could provide cogeneration.
1	4.	Small generating installations could supply individuals and communities.
1	5.	Photovoltaics could make transmission corridors obsolete.

4. OTHERS

Frequency		Summary of Comments
1	1.	Benefits of decommissioning existing corridor should be discussed for proposed plan and alternatives.
1	2.	Alternatives presented do not include all possible proposals for upgrading line.

1	3.	No major concerns with preferred alternative using existing right-of-way across NFS land.
1	4.	Include details for plan to relieve overload situations; may cost less than construction of line.
1	5.	The money might be better spent on reconductoring the present line and funding education, efficiency, and cogeneration measures.

COST/BENEFITS OF PROPOSED PROJECT

Number of commentors: 7

Frequency		Summary of Comments
1	1.	Projects cost so much due to time spent on EIS.
1	2.	Expensive project to be built on assumptions, especially when costs will be passed to the consumer.
1	3.	Benefit and cost comparison and analysis of alternatives, specifically minimum build, should be evaluated.
1	4.	How will environmental costs be balanced against economic costs?
1	5.	Should not build Rereg. Dam or upgrade line due to cost-benefit information from GAO report.
1	6.	Annual increased cost of maintenance for proposed plan was not mentioned.
1	7.	Question significance of environmental benefits from reducing structures through farmland.
1	8.	Should indicate money wasted on project if Rereg. Dam and Kootenai Falls Dam are not completed.
1	9.	How can BPA continue a project that will lose money?

OTHER CONSTRUCTION PROPOSALS IN STUDY AREA

Number of commentors: 12

1. ADDITIONAL GENERATORS AT LIBBY DAM

Frequency		Summary of Comments
4	1.	Additional generators are useless without the Rereg. Dam, which is not authorized.
1	2.	Will Libby Dam be operated at 980 MW?
1	3.	How much electricity could Libby Dam produce?
1	4.	Libby Dam additional generators should be used whether the Rereg. Dam and Kootenai Dam are built.
1	5.	Should include plan of operation and related impacts which allow generation from Libby Dam without the Rereg. Dam.

1	6.	Unconvinced that the LAURD project would be a cost-effective expenditure of taxpayers' dollars.
1	7.	Feel it is a waste of money to build additional generators when they will not generate any more power.
1	8.	Need explanation of relationship of fluctuation criteria and use of additional generators and electricity they produce.

2. HOT SPRINGS-BELL

Frequency		Summary of Comments
1	1.	Resolution of regional corridor issue important in determining if project should be integrated with Hot Springs-Bell project.
1	2.	EIS should address alternative of integrating Hot Springs-Bell with this project, to obtain total environmental impact.
1	3.	Relationship of this project to Hot Springs-Bell should have been mentioned at Hot Springs-Bell workshop.
1	4.	Re-evaluate possiblity of integrating Hot Springs-Bell project with LAURD and Kootenai Falls projects and consider different generating capacities.
1	5.	Request response to Forest Service comment on Hot Springs-Bell and Libby corridor decision in program EIS.

3. OTHERS

Frequency		Summary of Comments
1	1.	If Rereg. Dam is to be built, when will that be?
1	2.	How long will delay of approval delay construction of Rereg. Dam?
1	3.	Are dams economically feasible?
1	4.	Will the dams ever be built?
1	5.	Support project's use of hydropower to serve peak loads.
1	6.	Integrate project planning with Kootenai Falls Dam EIS.
1	7.	Assuming need for capacity and upgrading facilities presupposes decision on Kootenai Falls project.
1	8.	Will corridor be used to run line to Albert Export Power Project?
1	9.	Question BPA's plan for construction across valley west of Sandpoint.

LONG RANGE PLANS FOR CORRIDOR

Number of Commentors: 2

Frequency		Summary of Comments
2	1.	Question number of lines to be used in project corridor in the future.
1	2.	BPA has neglected to discuss future intentions for corridor with concerned citizens.
1	3.	Text should address future plans for corridor and analyze regional perspective.
1	4.	Western Montana needs a complete regional study of utility corridor needs and alternatives before any new transmission corridors are established.
1	5.	Would this corridor be considered one of the seven corridors forecast in the "2020 Study"?
1	6.	Public favor for use of existing corridor reflects lack of awareness of possibility of future corridor expansion.

IMPACTS

Number of commentors: 22

1. GEOLOGY, SOILS, MINERALS, AND WATER

Frequency		Summary of Comments
1	1.	Consideration should be given to avoiding impacts to the Kettle Lake (pothole) area.
1	2.	Areas of potential slumping should be identified during centerline surveys and avoided.
1	3.	Neither proposed action nor alternatives appear to have adverse impact to mineral deposits, and proposal actually benefits vermiculite mining.
1	4.	Impacts on minerals are not addressed.
1	5.	New or enlarged roads crossing streams should be mapped.
1	6.	Will roads be located and designed with slope stability analysis?
1	7.	Require an analysis on geologic hazards caused by over saturating corridor with lines (that may cause a failure in Pacific Northwest electricity distribution system).
1	8.	Concerned about two potential geologic hazards along line, alluvial fans and massive slumping of unconsolidated sediments.

1	9.	Should not limit analysis of geologic hazards to impacts of access roads, but also potential problems related to tower locations.

2. BIOLOGICAL EFFECTS

Frequency		Summary of Comments
2	1.	What are effects of electrical smog on people; if effects are unknown, should defer project.
3	2.	Concerned that high voltage lines cause health problems in humans and animals which should be addressed in EIS.
1	3.	Concerned that electricity could cause cancer.
1	4.	A Colorado study related the incidence of cancer to distance from transmission line; BPA may want to contact researcher.

3. HERBICIDES AND HAZARDOUS WASTE

Frequency		Summary of Comments
1	1.	Should discuss possibility of accidents or spills of pesticides, petroleum products, and other hazardous wastes.
1	2.	Object to treating right-of-way with chemical herbicides to control brush.
1	3.	How extensive is BPA's spraying program to control brush on right-of-way?
1	4.	Nothing is wrong with spraying herbicides.
1	5.	Are there any transformers or capacitors containing PCB in Libby project area?

4. WILDLIFE AND WILDLIFE HABITAT

Frequency		Summary of Comments
2	1.	Request construction schedule that serves customers and avoids disturbance to bald eagles, bighorn sheep, and wintering big game.
2	2.	Game range is improved by corridor, dams, and clearcutting.
2	3.	Appreciate concern for wildlife, but would choose animals suffering over people. 13/
1	4.	How will the management plan for bighorn sheep area be affected?
1	5.	Did BPA consult any wildlife experts?
1	6.	Other species affected should be discussed.

13/ Because people will be affected for a longer time.

1	7.	Disagree that projects should be stopped to save animals.
1	8.	What steps will be taken to work with Federal and State wildlife biologists to assure the least possible disturbance?
1	9.	Concerned about BPA's noncommittment to construction schedule through McArthur Wildlife Management area. 14/
1	10.	Provide locations and describe impacts to fisheries through changes in hydrology and sedimentation from road construction.
1	11.	Study value of Rainy Creek as fishery to determine impacts.
1	12.	Consequences section should describe impacts to wildlife assuming no mitigation.

5. VISUAL

Frequency		Summary of Comments
2	1.	Visual impact discussion in text was inadequate.
2	2.	Discuss visual impact of access road cut-and-fill location, use, and construction.
2	3.	Should address impact of a 120-foot tower on resid nts. 15/
1	4.	Discuss visual impacts of new line built to service Rereg. Dam.
1	5.	Discuss visual impacts on view from Cabinet Mountain Wilderness Area.
1	6.	Discuss low visual absorption capability of ridgetops and Kootenai River Canyon.
1	7.	Discuss visual impacts of Libby and Troy substations due to higher towers and increased right-of-way width.
1	8.	Discuss possibility of red and white river crossing towers.
1	9.	What percentage of the line will be hidden by topography and vegetation?
1	10.	Address visual impact of proposed line to floaters and fishermen.
1	11.	Request visual analysis of tower sites, types, and locations along sections of project.
1	12.	What type of line was evaluated in visual impact study?
1	13.	Concerned with location of towers in view of home.
1	14.	Visual impacts along all major road corridors should be addressed.

14/ Because of conflict with nesting geese.
15/ Because visual impact will be greater than the 100 yards suggested in text.

6. OTHERS

Frequency		Summary of Comments
1	1.	Identify possible archeological and historical areas before final route is established.
1	2.	Discuss indirect effects of project on cultural resources.
1	3.	Kootenai Tribe is investigating the possibility that project may impact lands of religious and cultural significance.
1	4.	Clarify evalution and importance of socioeconomic impacts.
1	5.	Request number and types of jobs for alternatives.
1	6.	How does BPA analyze effects project has on community?
1	7.	Short-term economic stimulus is not a benefit as described in EIS but detrimental to communities' economy.
1	8.	Towers and neighborhoods are not compatible.
1	9.	Project will not affect any nearby airports.
1	10.	Project will affect fish, wildlife, and recreational values in the Kootenai area.
1	11.	Oppose any change or violation of fluctuation criteria because fish, wildlife, and recreation resources should be protected.
1	12.	EIS fails to evaluate impacts of establishing a new corridor.
1	13.	Has BPA considered the loss of property value due to power line?
2	14.	Why should a few people be burdened with reduced property value when the project will benefit many?
1	15.	Should address devaluation of land due to visual and physical impacts and restricted use of easement.
1	16.	No concern in EIS for impact of line on expanding residential area of Sandpoint.

MITIGATION MEASURES

Number of commentors: 14

1. ACCESS ROADS

Frequency		Summary of Comments
1	1.	After construction, access roads could be abandoned. 16/
1	2.	Will all temporary access roads be scarified, reseeded and closed?

16/ Because lines near existing roads and can use aerial maintenance.

1	3.	What other stabilization measures besides waterbarring will be used on access roads?
1	4.	What mitigation measures will be used to minimize impacts of road construction at Rainy Creek?
1	5.	If access roads must cross streams, mitigation measures should be used to minimize damage to aquatic life.

2. GEOLOGY, SOILS, MINERALS, AND WATER

Frequency		Summary of Comments
1	1.	What criteria will be used to determine when stabilization will be required?
1	2.	Mitigate impacts on water quality or aquatic habitat from erosion or mass wasting.
1	3.	Will matting and other special measures be used in wetlands?
1	4.	Recommend an erosion control program in all areas, especially areas of moderate to high hazard.
1	5.	Request mitigation at Rainy Creek to prevent erosion.
2	6.	Suggest use of helicopter for erecting towers along steep slopes in Kootenai Canyon and between Quartz Creek and Troy. 17/
1	7.	Suggest no equipment be operated in the river or on steep slopes of valley at the Yaak River crossing.

3. WILDLIFE AND WILDLIFE HABITAT

Frequency		Summary of Comments
2	1.	Recommend reseeding of disturbed bighorn sheep habitat.
1	2.	Should consider Quartz Creek for game range as mitigation.
1	3.	Will BPA buy land for game range to compensate for effects on environment?
1	4.	Should move right-of-way and fell only danger trees to avoid disturbing eagle perch trees.
1	5.	Specify where cottonwoods will be removed.
1	6.	Prohibiting construction between November 1 and mid-March is good mitigation measure for bald eagles.
1	7.	How will issue of using two single-circuit lines at Kootenai Falls and Troy crossings be resolved?
1	8.	To mitigate collision potential should use flat configuration such as wood pole design at river crossings.
1	9.	Concerned about rehabilitation and revegetation of areas disturbed during construction.

17/ 1) to minimize ground disturbance; 2) should be timed to avoid impacts to bighorn sheep.

4. RESIDENTIAL PROPERTY

Frequency		Summary of Comments
4	1.	Should BPA compensate landowners for loss in property value due to project, tower size, and location?
1	2.	Will landowners adjacent to project right-of-way be compensated for property devaluation?

5. OTHERS

Frequency		Summary of Comments
3	1.	Statements dealing with mitigation are confusing as to which will be proposed or not proposed.
3	2.	Discuss feathering edge of right-of-way to reduce visual impact of unnatural straight-line effect.
1	3.	Should use non-specular wire and dark-colored towers along entire corridor as a mitigation measure.
1	4.	Should address alternatives which would reduce visual impact.
1	5.	Request visual impact mitigation measures be proposed, not suggested.
1	6.	Should identify mitigation of impact on recreation at Kootenai Falls in final.
1	7.	Concerned that Corps had mitigated damages that were never resolved.
1	8.	How does BPA mitigate effects on telecommunication or railroad signal lines?
1	9.	What is procedure for restoring T.V. and CB radio reception; are there studies?
1	10.	Will there be compensation for agricultural land affected by construction on right-of-way?
1	11.	Suggest moving surveyed structure location a few feet to the east of property north of Bronx Substation to avoid hay field.

EASEMENT AND RIGHT-OF-WAY CONCERNS

Number of commentors: 9

Frequency		Summary of Comments
1	1.	Object to BPA using easement without notifying private owners first.
1	2.	Is easement width determined by requirements for maintenance or safety of persons underneath the line?

1	3.	Will BPA need more right-of-way for changes in tower design and arc?
1	4.	Concerned that BPA will need at least another 20 feet of right-of-way for this line.
1	5.	What is BPA procedure for acquiring more rights-of-way?
1	6.	Who sets the price for more right-of-way?
1	7.	Owning easement rights doesn't give BPA the right to build a new line.
1	8.	Does BPA consider this project a significant change in easement use?
1	9.	Should owners be compensated for significant changes in easement use?
1	10.	Concerned that previous landowners were compensated for easement rights that are now worth more.
1	11.	Does BPA have the right to upgrade or expand facilities on easements that were acquired years ago; are there test cases?
1	12.	Why is BPA surveying easements when the project is not approved yet?
1	13.	Are easements valid if originally owners were not aware of future corridor plans?
1	14.	Should discuss compensation for changes in easement use in final EIS.
1	15.	Has anyone considered rights of property owners?
1	16.	Request removal of logs and stumps from property if easement requires clearing of trees.

TAXES

Number of commentors: 5

Frequency		Summary of Comments
1	1.	Project should create benefits through local tax revenue.
1	2.	Why isn't a private utility that would be subject to MFSA and would pay property taxes building this line?
1	3.	Who pays taxes on property BPA acquires for easements?
1	4.	Will local government get less tax revenue from the Federal government building the line rather than a private utility?
1	5.	Does land lost to tax rolls due to project include the existing section of PP&L line?
1	6.	Object to BPA relieving PP&L of a tax burden which will be passed on to consumers.

1	7.	BPA should discuss land and taxes lost due to project, and the possibility of using discretionary monies to alleviate tax loss to local government.
1	8.	Will BPA pay the local government in lieu of taxes as allowed by the Northwest Power Bill?

PERMIT REQUIREMENTS AND LEGISLATION

Number of commentors: 5

Frequency		Summary of Comments
2	1.	May require a Section 10 Permit for river crossing south of Libby Dam on Kootenai River.
1	2.	Does BPA intend to comply with Montana's Major Facility Siting Act as required by Federal Land Management Policy Act (sic)?
1	3.	Should analyze estimated costs of services supplied to BPA from local government and consider reimbursement under Pacific N.W. Regional Power Planning Legislation.
1	4.	How does the Northwest Regional Power Planning legislation affect the Libby proposal?
1	5.	EIS and decisions do not meet intent of National Environmental Policy Act.
1	6.	Project requires a new land use grant for portion crossing NFS land, grant based on findings in EIS.
1	7.	May require a Section 404 Permit for all crossing sites in project.

PUBLIC INVOLVEMENT

Number of commentors: 13

Frequency		Summary of Comments
5	1.	Concerned over notification procedures for public meetings. 18/
2	2.	Concerned that only two copies of the draft EIS were sent to Libby.
1	3.	Suggest following plan outlined in project description to reduce bad public feelings.
1	4.	Public awareness of project cost and lack of authorization will produce resistance.

18/ People notified should consist of easement land holders, adjacent property owners, and past commentors.

1	5.	Concerned that local responses to impacts on community have no effect on project decisions.
1	6.	Concerned that public was not aware of issues affecting them.
1	7.	Need to rewrite EIS to convince public that comments are used in project decisions.
1	8.	Why don't people get a chance to vote on project?
1	9.	BPA did not respond to comments or send an EIS on request.
1	10.	Were more people expected at Sandpoint public meeting?
1	11.	Object to scheduling comment deadlines during Christmas holidays.
1	12.	Should notify easement holders of proposal and accept comments.

PREPARATION OF DRAFT SUPPLEMENT

Number of commentors: 11

Frequency		Summary of Comments
1	1.	Saw no reference to location or tower type in EIS.
1	2.	Conflicting cost figures for project in text.
1	3.	Section on soils presented well with text, maps, tabulations.
1	4.	Proposal should consider mitigating impacts as well as producing a better transmission line.
1	5.	Request clarification of Rereg. Dam information in two places in text.
1	6.	Clarify results of information in Table 7.
1	7.	Discrepancies in text relating to river crossings in areas of high erosion hazard.
1	8.	All components of power generation and related transmission should be included in EIS.
1	9.	Should quote document used to prepare Historic and Archaeologic Resources Section.
1	10.	Reference to National Park Service should be changed to Heritage Conservation and Recreation Service.
1	11.	Recommend three changes in completion date throughout text.
1	12.	Recommend eleven changes in reference to Libby Dam and generator capacity in text.
1	13.	Recommend change in text relating to construction of and generation from Rereg. Dam.
1	14.	Recommend change in text relating to ban on use of electric heat.

1	15.	EIS should contain detailed analysis of transmission needs based on various alternative generation situations 19/
1	16.	Concerned with resolving seven issues on page iv.
1	17.	Include glossary for technical and undefined geological terms.
1	18.	Conflicting statements on location of streams in relation to right-of-way.
1	19.	Recommend four specific areas of change in text relating to Archaeologic/Historic resource information.
1	20.	Recommend change in text related to Archaeologic/Historic resource eligibility.
1	21.	Conflicting statements on visual alteration.
1	22.	Appears decisions were based on need and reliability rather than environmental concerns.
1	23.	No consideration of wood poles in EIS, and certain statements indicate decision already made.
1	24.	Project decision was biased and predecided.

MISCELLANEOUS

Number of commentors: 15

Frequency		Summary of Comments
2	1.	Object to BPA presenting private keynote speaker at public meetings.
1	2.	Because DOE may be dissolved, question BPA's credibility.
1	3.	How does BPA feel about dissolving Dept. of Energy?
1	4.	Is previous study on the 4 plans of service still available?
1	5.	Is hydropower now outmoded?
1	6.	What is BPA doing along this line?
1	7.	Does clearance depend on amount of electricity on line?
1	8.	Hydropower is good for peak power and fast generating ability.
1	9.	Should address BPA policy regarding "2020 Study" in public forum and EIS.
1	10.	Will all seven corridors in "2020 Study" have one line or will the first corridor be saturated before the next is opened?
1	11.	At what level is corridor considered saturated?

19/ Because Rereg. Dam is not authorized and different generation capacities may exist.

1 12. Request present timetable for construction.
1 13. How close will the conductor come to the ground?
1 14. Concerned that the same situation is developing on the Kootenai River that occurred on the Clark Fork River; hope it can be avoided.
1 15. Why pursue development that is environmentally damaging?
1 16. Need to commit Montana's water before committed elsewhere.
1 17. Why did BPA give two different destinations for project power?
1 18. Government is irresponsible with environment, natural resources, and tax money.
1 19. Why should lives be disturbed for the sake of BPA?
1 20. Assume BPA is not interested in acquiring PP&L line.
1 21. An upgrade of PP&L's existing line would come under jurisdiction of DNRC.
1 22. Consider property owners and be honest.

CONTENT ANALYSIS METHOD

Public and agency comments on the Libby Draft Supplement were systematically analyzed by quantifying and categorizing their apparent content. Context units were designated and statements were summarized and categorized by subject.

The first step was the designation of context units: independent units of written or oral communication that differ in source from companion communications. An entire letter is a context unit. In the public meeting transcripts, an entire presentation (ending when another non-BPA speaker takes the floor) is a single context unit.

The next step was the designation of recording units: partial or complete statements that represent the core idea within the context units. Recording units were listed on the basis of the commentor's intent to: (1) seek clarification, or (2) impart information. That core idea was then summarized by the analyst into a single question or statement. These summaries were assigned to broad subject categories, and the frequency of comment (number of times it was made by different persons) was determined. The number of people who commented on each broad subject was also identified.

COMMENTS AND RESPONSES

C O M M E N T S A N D R E S P O N S E S

BPA responses to substantive comments on the EIS draft supplement are provided below. Where written inquiry or testimony was submitted, comments are reprinted verbatim. Oral comments which require a response are summarized, where necessary, for the sake of clarity. Similar comments made by several different people also are summarized. Oral comments were taken from full transcripts of public meetings held December 16, 1980, in Sandpoint, Idaho, and December 17, 1980, in Libby, Montana. Texts of all written comments are included in this EIS final supplement. When the text of the document was changed as a result of a comment, the response so indicates.

NEED FOR PROJECT

1. Comment: Numerous comments were made on the uncertain nature of both the Libby Reregulating Dam and the Kootenai Falls Hydroelectric Project. Because the availability of and schedules for generation from these proposals is uncertain, people questioned whether the proposed line was needed, whether a lesser capacity line should be built, or whether the transmission project could be delayed until the generation projects become more certain. (Ms. Boncz, Mr. and Mrs. Hennessy, U.S. Department of the Interior, Montana Department of Natural Resources and Conservation, Mr. Bitetti, Mr. Journey, Mr. Rhodes, Ms. Rhodes, Mr. Swenson, Mr. Goodman, Mr. Wood, Mr. Kilmartin, Mr. Barrett, Ms. Gross, Mr. Miguelucci, U.S. Forest Service)

Response: BPA has reviewed construction schedules in light of the uncertain nature of the generation projects. We have delayed the Sandpoint-Twin Lakes portion of the project until generation schedules are known. However, regardless of the generation addition schedules, we need to serve the existing customers in northwestern Montana and northern Idaho. To provide service to these customers, we are proceeding with the Libby-Sandpoint double-circuit line. Actually, without the Reregulating Dam generation, the line is needed sooner because that generation would have helped support the area loads.

2. Comment: If the line will not be needed until 1985 or later, why does the Bonneville Power Administration (BPA) propose to build it by 1983? (DNRC)

Response: Construction of the entire line is needed by 1984 to serve the northern Idaho loads and cut power losses. The additional generation will not be available until 1985 (or later), allowing delay on those parts of the project timed to coincide with new generation.

3. Comment: It is my feeling that construction of this double-circuit 230-kV line is grossly premature. Construction should be delayed at least until 1) a final decision is made on the corridor location for BPA's Townsend-Hot Springs-Bell 500-kV line...

The BPA 1980 Program EIS included BPA responses to comments on this project made by the US Forest Service. One USFS comment which highlights the prematurity of this project was flagrently ignored in BPA's responses, and I would like to see a response to it now. The comment, on page XIV-64, is "Decisions on corridors for the Hot Springs-Bell and Libby Integration will have to be made simultaneously or one decision will dictate the other decision." (Philip Barrett)

Response: The Bell-Hot Springs project has been held up by delays in Montana thermal generation projects. The Libby-Sandpoint line is a considerable distance from the potential Bell-Hot Springs corridors. Even if future additional lines in the Libby-Sandpoint right-of-way were a possibility, the existing 115-kV line would need to be rebuilt now. The Bell-Hot Springs schedule is not a factor in rebuilding the Libby-Sandpoint line.

4. Comment: Several comments were made regarding the operation of Libby without the Reregulating Dam. Several commentors asked that BPA reevaluate the alternatives with the assumption that Libby may be operated only as a baseload facility. (U. S. Department of the Interior, Mr. Bitetti, Mr. Goodman, Mr. Rhodes, Mr. Barrett, Ms. Gross, Mr. Miguelucci)

Response: Without a reregulating dam, the ability to peak all generators at Libby is limited, although the units may still be peaked for short periods of time. Generators must be dropped from operation, however, for transmission line outages. Without a reregulating dam, a 230-kV line to serve the growing loads in northern Idaho is needed within five years even with a rebuilt 115-kV circuit. There is less environmental impact and a considerable cost saving by building both lines now on existing right-of-way.

5. Comment: The assumption that more and more (power) will need to be transported across the Libby-Sandpoint line seems specious from two standpoints: where will it be used, and where will it be generated? (Tracy O'Reilly)

Response: Most of the power carried on the Libby-Albeni Falls line is used by area consumers, with little throughflow to other areas. It is not possible to say where a given user's power is being generated, as the Northwest grid is interconnected, with many generators supplying power at any time. The system is like a water reservoir filled from a number of streams and having several outlets.

6. Comment: The reliability justification should be supported by an explicit analysis of probabilities. Without information of this type, it is impossible to assess the benefits versus the costs of reliability, without which an assessment of reliability standards cannot be made. What is the probability of an outage? What is the probability of an outage at the time of peaking? If the 115-kV line is sectionalized and an outage occurs, can the line be desectionalized to restore service until the outage is repaired? If so, how long does it take to desectionalize? (DNRC)

Response: BPA has the responsibility to serve customers' peak load requirements. BPA also is charged with providing transmission facilities for Northwest power generation. The historic outage rate for 115-kV lines in the area is about 6-7 outages per 100 miles per year. The reliability criteria anticipate outages in this range. Line sectionalizing is usually completed within an hour. BPA plans to serve all customers should an outage occur during peak load. Sectionalizing is the remedy, not the problem (see paragraph 2 under NO ACTION). Desectionalizing would not be a benefit in this case.

7. Comment: When will the proposed line be needed, as evaluated by a benefit/cost analysis? If the minimum build alternative is undertaken, when would building the proposed line be justified by benefit/cost analysis? Although costs of the proposal and economic losses produced by alternatives are stated (pages 3, 4, 7), there is no comparison among them, and the cost of the minimum build alternative is not indicated except in terms of line losses. (DNRC)

Response: While a cost/benefit analysis customarily is made on generation projects, such analysis is not used on specific transmission projects because the industry has not been able to quantify the benefits of improved reliability in terms of dollars. Instead, utilities plan transmission additions based on meeting forecasted power needs at a level of reliability based on specific criteria. Since the criteria establishes the level of service to be provided, it also implicitly establishes acceptable costs for the benefits of such reliability. Our objective in planning the transmission system is to design the facilities to meet reliability criteria while minimizing costs and environmental impact.

The proposed facility, or a plan with equivalent transmission capacity, would be needed within five years. The additional line would cost about $30-40 million in today's costs.

8. Comment: ... how can BPA continue to move forward on this project when the Government Accounting Office of the Federal Government has shown that it will lose money on every dollar it puts into it? (Mr. DeMatteis)

Response: Although BPA's facilities would be able to integrate power from the Corps' project, local needs also are being served by BPA's project. BPA has the obligation to provide sufficient facilities to serve its customers. These costs are reflected in the rates we charge customers, and will not result in loss of government investment.

9. Comment: Peak load growth is overstated. The current West Group Forecast of peak load growth is 2.9% per annum for the decade, and 3.4% for the next five (5) years, rather than the 5.5% average claimed on page 10; thus, alternatives such as conservation could delay the need by two (2) to three (3) years rather than one (1) to two (2) years as indicated on pages 10-11. (DNRC)

Related Comment: The nearly unlimited growth of the use of electricity in this country in this century need not be construed as a mandate to supply to similar future growths. Al Smith, of Southern California Edison, compares a 6% annual growth rate of electricty demand during the 1960s with a 2.4% rate today and says it is a "dramatic reduction in the need for power plants" (Los Angeles Times, 27 December 1980). (Tracy O'Reilly)

Response: Different areas of the West are experiencing different rates of load growth. Some areas of the Northwest, such as northwestern Montana and northern Idaho, are experiencing considerably higher rates of growth than Southern California, for example. Existing electrical service to the northern Idaho loads is marginal; even with a reduced rate of growth, the needs are sufficient to justify the proposed transmission system additions.

10. Comment: I am uncomfortable with your load forecasts. When were they made? By whom? Are more recent figures available? Are other independent load forecasts available? What are the summer peak load forecasts? (It seems like you might be designing lines to handle winter loads during the summer.) (Philip Barrett)

Response: The forecasts that appear in the draft supplement were published in May 1980 and are the most recent forecasts available as of this writing. Load forecasts are made by the local utility serving the area. Projections are made after discussion with local government planning officials, review of new hook-up rates, and comparison with like areas. The load data is compiled by the Pacific Northwest Utilities Conference Committee. The proposed forecasts are then reviewed by central office staff and included in planning studies. The forecasts are reviewed annually and updated as needed. Although summer loads are lower than winter loads in this area, winter thermal ratings must be used in selecting the proper size for conductors and electrical equipment.

ALTERNATIVES TO THE PROPOSAL

11. Comment: This EIS presumes that there is no desireability in "buying time" before committing irreplacable Western Montana natural resources to this transmission line project. That presumption is reflected in wholly inadequate nonbuild and minimum build alternative analyses. Each of the situations outlined ... (various combinations of generation capacities involving Libby Rereg Dam, Libby Dam, and Kootenai Falls Dam) ... should contain a detailed site specific analysis (including likelihood of failure and severity of impact) of potential reliability and lost service risks involved in 1, 2, 5 and 10 year construction delays and how much those risks can be lowered with various minimum build alternatives. The prematurity of this project as planned gives us the luxury of possibly falling back on such options.

Finally, this EIS should indicate for each of the situations outlined above just how much money would be wasted if transmission lines are constructed according to the proposed plan. (Philip Barrett)

Related Comment: The minimum build alternative was not examined fully, especially in light of the dubious future of the rereg and Kootenai Falls dams. (Gloria Gross/Albert Miguelucci)

Response: The immediate need facing the customers served from the Libby-Albeni Falls 115-kV line is cutoff of electricity should a line section be out of service for any reason. The entire system needs to conserve scarce generation resources by reducing losses. A delay of the project would mean potentially more customers without electric service during outages, and purchase of expensive thermal power to make up the increased power losses. The proposed plan offers the minimum in total construction to serve the immediate and long-range needs of the area, and is the minimum cost plan considering all construction and power losses.

12. Comment: Page 6/para 2--A plan "for relieving overload situations" is listed as an item the minimum build alternative may require. What would such a plan entail? Would not such a plan cost less to develop and implement than construction of a new line? (Gloria Gross/Albert Miguelucci)

Response: The minimum build plan is a very short-term plan. Within four years after its completion, a 230-kV line would still be needed to reinforce the transmission system and a 230/115-kV transformer would be needed in the Sandpoint-Bonners Ferry area. A plan for relieving overloads would include such things as mandatory interruption of power to customers, adding shunt capacitors to raise voltage levels, and operating combustion turbines. The increased power losses and need to build a 230-kV line in four years make the minimum build plan more costly in the long term than the proposed plan.

13. Comment: The minimum build alternative was evaluated in terms of "no rereg" yet the proposed plan was not. Why will low voltage be detrimental to the reconductored line and not the 230 kV line? (Gloria Gross/Albert Miguelucci)

Response: A fundamental principle of electricity (Ohm's law) is that voltage drop on a power line increases with the square of the current. Raising the voltage from 115 to 230-kV lowers the current required to serve the same loads and thereby keeps the voltage level within allowable limits. The proposed plan is designed to accommodate no reregulating dam by constructing only those line sections needed to serve the local loads.

14. Comment: The minimum build alternative combined with conservation efforts look as viable as the proposed plan and more economical. They should be evaluated in combination as well as individually. (Gloria Gross/Albert Miguelucci)

Response: An aggressive conservation program can defer the need for new facilities, but cannot remove the need for facilities unless load growth becomes zero or less. The conservation benefits associated with this project through reduced power losses on the existing transmission line will themselves more than pay for the cost of the facilities. The proposed plan thus is still more economical.

15. Comment: The money for the proposed rebuild,...might be better spent on reconductoring the present line and funding education, efficiency, and cogeneration measures. (Tracy O'Reilly)

Response: BPA actively encourages energy conservation and renewable resource generation projects. BPA must still provide sufficient capacity to serve area loads. BPA is funding a number of alternative energy projects and will be increasing its obligations in the future.

16. Comment: Several commentors suggested that BPA and the Corps have not done a complete study of conservation actions that might be taken to solve peak power problems. (Mr. and Mrs. Hennessey, Ms. Boncz, Mr. Bitetti, Ms. O'Reilly, Ms. Rhodes, Ms. Gross, Mr. Miguelucci)

Response: BPA actively pursues conservation measures with its customers and expects conservation to reduce future load forecasts about 1.5% per year. However, the expected reduction in load forecasts will not be sufficient to balance expected growth and thus not sufficient to delay the need for the project.

17. Comment: As citizens who want the lowest possible rates for electricity, we object to expensive construction projects planned and to refusal to study conservation measures which might make those projects unnecessary. (Mr. & Mrs. John Hennessy)

Response: Bonneville's rates are determined by a Repayment Study which indicates the amount of revenues the agency requires to meet its financial obligations. A $30 million investment represents less than 1/10 of one percent of BPA's revenue requirements over the 50-year length of the repayment study. All ratepayers in the Bonneville service area share in those costs, and therefore the impact on each consumer is likely to be relatively minor. The actual rate that a consumer pays depends on a number of factors determined by the utility, including distribution and administrative costs, as well as the amount of power which the serving utility purchases from BPA.

See also response to Comment 14.

ALTERNATIVE ROUTES

18. Comment: ...concerns that should be addressed in the final EIS and the project plan...(include)...The need to resolve relocation of the right-of-way section near Vermiculite Mountain. The present right-of-way location crosses W.R. Grace Co. land. Unstable soil conditions and the desire of W.R. Grace Co. to use the present right-of-way as a spoil area have been cited as reasons for relocating the right-of-way. We feel that the existing wood pole structures could support an upgraded 115-kV line, and possibly the double circuit line, without causing reliability problems due to unstable soil. We are reluctant to commit additional NFS lands to a long term transmission line right-of-way use as a convenience to W.R. Grace Co. (U.S. Forest Service)

Response: BPA has been working with the Forest Service and W.R. Grace since the draft was published. BPA and the Forest Service now agree that the line should be relocated because the unstable soils would not support the double-circuit transmission line at a reasonable cost. W.R. Grace Company's development plans no longer call for immediate use of the existing right-of-way for a spoil area from their mining operation.

Although the final location for the reroute has not been chosen, two locations within 0.5 mile (0.8 km) of each other acceptable to BPA and the Forest Service are currently being analyzed.

19. Comment: The proposed corridor change over Vermiculite Mountain would be expensive both environmentally and financially, and every effort should be made to utilize the existing corridor. Determined negotiation with W. R. Grace and Company (Vermiculite Mine) might produce an alternative that would permit the power corridor to co-exist with mining operations. (DNRC).

Response: Soils along portions of the existing right-of-way near Vermiculite Mountain are unstable and not suited to tower sites that meet

BPA reliability criteria. BPA is negotiating with W. R. Grace Co. and the U.S. Forest Service for an alternative routing there.

See also response to previous comment.

20. Comment: At Kootenai Falls, DNRC feels that the alternative route should be used to reduce visual impact. If the alternative route is used, the abandoned right-of-way should be revegetated. (DNRC).

Response: The alternative route would have greater visual impact than the existing right-of-way. The present line is not readily visible from most viewing points near Kootenai Falls (see ESTHETICS). Only the conductors and one structure are briefly seen by travelers on Highway 2 as they pass the line's highway crossing south of the Kootenai Falls river crossing. The river crossing itself is screened from travelers' view by trees. The alternative route, on the other hand, would be readily visible to highway users because it crosses the river in an area where trees are sparse. No natural screening exists.

21. Comment: We would like to see the right-of-way avoid the Sheppard property near Kootenai Falls, that land has been acquired by the State of Montana as . . . mitigation lands for wildlife losses associated with Libby Dam, and we understand that at times prescribed burning techniques might be needed in that area, and . . . we think Bonneville doesn't allow burning under high voltage power lines. (McGregor Rhodes)

Response: There is presently an existing transmission right-of-way across the Sheppard property near Kootenai Falls. The proposed transmission line would replace the existing line and would require minimal clearing.

The U.S. Army Corps of Engineers owns the Sheppard property which will be deeded to the State of Montana to manage primarily bighorn sheep habitat. The Department of Fish, Wildlife, and Parks would like to prescribe burning to maintain forage. BPA does not burn on its right-of-way, but adjacent landowners and managers are not prevented from using such techniques for their purposes.

22. Comment: Has BPA considered routing the line around the residential area west of Sandpoint that is being developed? (Mr. Jackson)

Response: BPA's policy to upgrade or rebuild transmission facilities on existing right-of-way where practical was followed on this project. Exceptions were made: 1) near substations, where the double-circuit line is divided into two separate lines in order to bring one of the two lines into the station; 2) in exceptionally congested areas, such as along the

narrow PP&L right-of-way west of Libby; and 3) in the unstable soil conditions at Vermiculite Mountain. A new routing west of Sandpoint was not considered.

23. Comment: Agricultural fields in Section 17 and the NW 1/4 of Section 21, Township 33N, Range 34 West are crossed diagonally by the present line. A minor reroute to either avoid these fields or cross them at right angles would be preferable. (DNRC)

Response: BPA is following its policy of using existing right-of-way wherever possible. Avoiding the fields or crossing them at right angles requires more "bends" in the line. At each bend or angle point, special angle structures must be used which are more massive and more expensive than the standard structure. The benefits derived from a reroute in this area do not appear to outweigh the disadvantages.

24. Comment: ....the existing 115-kV corridor between Libby Dam and Sandpoint, if decommissioned, could easily revert to its original natural character within as short a time as a few generations. That option should have been discussed with citizens and addressed in this EIS. (Philip Barrett)

Response: BPA is not required by NEPA to consider alternatives that involve unreasonable cost. "Decommissioning" the existing line and establishing an entirely new corridor would require removing seven BPA substations and several tap points which provide for distribution of the electricity to customers along the line, in addition to removing the transmission line itself. Assuming electrical service could be maintained during this process, replacing all the substations and tap points and the line itself would make this alternative unreasonably expensive.

ALTERNATIVE STRUCTURE DESIGN

25. Comment: . . . in what document or in what decision mode did you make that determination that steel towers would be used rather than wood? (Gloria Gross)

Response: The final decision has not yet been made. Decision factors will be documented in the Record of Decision. See response to following comment.

26. Comment: The choice of support towers for this project will cause some of the major impacts. If the requirement for two 230-kV lines is valid, a more thorough discussion of the issues involved in tower selection is required.

Response: A discussion of the differences in environmental impacts between use of the wood pole and steel designs in specific locations appears under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION. The wood pole design was presented in the draft supplement as a possible mitigation measure. The public comments indicated that a number of people and agencies considered the wood design to be an appropriate alternative in certain areas. BPA environmental and engineering staff examined the line to determine areas where use of wood structures in order to reduce visual impact would also meet engineering requirements. The environmental tradeoffs between wood and steel are now more thoroughly presented in this document. All factors involved in the final decision on this and other mitigation measures and on the proposal itself will be discussed in the Record of Decision. These factors will include cost, reliability, and other engineering concerns in addition to environmental concerns.

The discussion of environmental impacts in the mitigation section does not include the potential benefits to the Libby economy that commentors suggested might be provided if BPA used local timber for the wood structures. Whether such a benefit might occur is uncertain, given the following conditions:

According to Federal procurement regulations, BPA must advertise for bids on products to obtain the maximum competition practical, considering the size of the procurement. The products provided must also meet BPA specifications. In the case of wood poles on this project, they would need to be at least 70 feet (21 m) long with a diameter at the top of about 9 inches (21 cm), and they must be fully pressure-treated. All wood poles purchased by BPA fall into the category of a "total small business set-aside." That is, all wood poles for BPA projects are bought from small businesses. Despite nation-wide advertising for bids on other projects, BPA has not received bids to provide wood poles from Idaho or Montana companies, although it would be to BPA's advantage to receive bids from local companies for projects in that area to avoid high transportation charges. It is possible that companies in this area cannot meet BPA specifications. In any case, if a company in this area were awarded the contract to supply the wood poles for this project, the benefits would not likely be significant to the area's long-term economic base. If the company were to continue to receive BPA contracts, some economic benefit to the area might accrue.

27. Comment: Several people preferred using wood structures rather than steel. (The Easleys, the Grahams, Mr. Klarich, the Harringtons and Ms. Estabrooks, Ms. O'Reilly)

Response: The wood-pole design is proposed as a visual mitigation measure along three line segments. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION and response to previous comment.)

28. Comment: There is no discussion of alternative tower designs or materials, although several alternatives are implied by Figure 2. If indeed steel towers are necessary, why must they be 120' tall? (Gloria Gross/Albert Miguelucci)

Response: Height of double-circuit towers is influenced by the distance between structures and the required distance between the ground and the bottom conductors at their lowest point of sag. This minimum clearance is determined by the National Electrical Safety Code. Assuming average spans of 1150 feet (350 m) between towers, the bottom conductors must be attached to the structure approximately 75 feet (23 m) above the ground in order to maintain the clearance. Design and code requirements determine the minimum spacing between conductors of each circuit, which, for the proposed design, is 18 feet (5.5 m). Once clearance between the lowest conductor and the ground is achieved, the second conductor will be 18 feet above the first, and the third conductor 18 feet above the second. Adding the tower's top makes the average structure 120 feet (37 m) tall.

Although steel towers are proposed for most of this line, an alternative, shorter wood pole design is proposed in some areas to mitigate visual impacts. (See discussion under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION and response to comments 25 and 26).

29. Comment: Has BPA considered undergrounding the transmission line? (Tracy O'Reilly)

Response: Undergrounding of a high voltage transmission line, is only undertaken only for compelling esthetic, environmental, or engineering reasons, because it costs from 3-10 times more than overhead construction. Construction of projects such as Libby are paid for by the region's ratepayers. BPA does not consider such additional expenditures justified on this project.

OTHER LOCATION COMMENTS

30. Comment: The draft impact statement does not address future plans for the proposed corridor nor does it analyze the project from a regional perspective. What is the ultimate capacity of this corridor to accommodate additional linear facilities? Does the possibility exist that additional lines will be proposed in this corridor at some future date? If so, what are BPA's long-range plans for this area? This is the type of information that the federal-state corridor planning study needs to evaluate. (DNRC) (Philip Barrett made a similar comment)

Response: The Final Facility Planning Supplement for this project investigated corridors in a 6000 square-mile area in northern Idaho and

northwestern Montana and concluded that, considering the needs in the area, costs, and environmental impacts, the proposed plan was the preferred alternative. The current supplement to that final EIS addresses the site-specific impacts of implementing the proposal. It is expected that the proposal will be a long-range solution to area service and power integration needs. It is difficult to predict how long the system will be adequate. However, it will have the capacity to integrate all currently known generation proposals, and if load growth continues at its present rate, the project would adequately serve the area well beyond the year 2000.

The ultimate capacity of this corridor is unknown. Technological advances could allow higher capacity lines to be built in corridors now considered too narrow or rugged to accommodate towers that would carry higher voltages. Other methods of transporting electricity, such as underground cables, could become feasible. It is always possible that BPA could propose additional facilities in this area; however, the only facility that the agency is considering in this area beyond the current proposal is a 230/115-kV transformer addition in the Sandpoint-Bonners Ferry area. There are no plans at this time for more transmission lines.

31. Comment: We live...approx 5 miles east of Clark Fork, we would like a map showing the route of the proposed 230 K.V. transmission line. The present 115 K.V. pole line follows the scenic Clark Fork River, we feel the erection of the 230 K.V. towers would spoil the scenic route and greatly reduce the number of tourists...whom we rely on for the economy of our small town. (Joan and Hugh Bailey)

Response: The proposed project does not follow the 115-kV line right-of-way along the Clark Fork River. The proposal follows the Kootenai River between Libby Dam and Bonners Ferry and Highway 2/95 between Bonners Ferry and Sandpoint.

IMPACTS

32. Comment: Several people expressed concern regarding the biological effects of transmission lines, particularly on humans. (Studies done in Minnesota, Oregon, and Colorado, were mentioned, as well as an article from The Readers' Digest.) (Mr. Butler, Mr. DeMatteis, Mr. Goodman, Mr. Kilmartin, Mrs. Edwards)

Response: The discussion in the text has been expanded to summarize conclusions from studies on this subject. See BIOLOGICAL EFFECTS.

Questions continue to be raised about the possible biological effects of electric fields, often due to the periodic appearance of articles on the subject in the popular press, such as "The Menace of Electric Smog"

(Ponte, 1980) that appeared in Readers' Digest. Such articles may contain technical inaccuracies, and emphasize only the relatively few studies that reported adverse effects. Statements made in such articles are seldom referenced, so it is difficult or impossible to determine the specific source for the statement. Usually, there is little or no mention of the fact that most of the electric field research found no adverse effects.

33. Comment: Our primary concerns are for stream crossings by the transmission line or access roads in areas of high hazard for erosion or mass wasting. The map in figure 7 shows that the transmission line crosses streams at several points in or adjacent to areas with high erosion hazard. This is contrary to the text on page 33 which says that crossings will not occur in such areas. These crossings include Pine Creek, Yaak River, and the Kootenai River above Moyei River and below O'Brien Creek. This discrepancy should be corrected. It would also be helpful if new or enlarged road crossings of streams were mapped. (U.S. Environmental Protection Agency) (DNRC made a similar comment)

Response: It is true that the right-of-way crosses all these streams; the wording on page 33 was unclear. The statement should read: "Although several areas with high erosion potential are crossed, tower sites will not be adjacent to streams, but located instead on benches as much as several hundred feet above water level. Because of the distance of potential tower sites from streams and because precipitation levels are relatively low, most sediment eroded from construction sites will be filtered and deposited before reaching surface water. Construction equipment either will use existing roads and bridges to cross the streams in high erosion hazard areas or will not cross them, so that water quality degradation resulting from heavy equipment fording streams will not occur."

Water quality and fisheries impacts from equipment fording streams in other areas is expected to be minor and short-term (see WILDLIFE).

34. Comment: At the Yaak River crossing, no equipment should be operated in the river or on the steep sides of the valley. (DNRC)

Response: There will be no road crossing of the Yaak River. The canyon will be spanned. Towers will be several hundred feet above the river level, so it will not be necessary to operate equipment in the river or on the valley sides.

35. Comment: Neither the proposed action nor alternatives presented in the draft appear to impact adversely on mineral deposits. In fact, one portion of the proposed transmission line rerouting will benefit vermiculite mining. However, impacts (adverse or beneficial) on minerals are never addressed despite several subheadings that indicate they will

be. For example, on page 30, under the section on "Environmental Consequences" is the subheading "Geology, Soils, and Minerals". Geology and soils are discussed, but the potential for impacts on metallic or nonmetallic mineral deposits is never discussed. Likewise, subsections entitled, "Geology, Soils, and Minerals," on pages 18, 30, which deal with various mitigation measures, fail to discuss mineral deposits or mining. After using these subheadings, the reader should not be left to assume that no comment means no impact. (U.S. Department of the Interior)

Response: As discussed in the Final Planning Supplement to the Fiscal Year 1980 Program EIS, metallic minerals are found in portions of the area. Although the right-of-way passes near mining districts on Vermiculite Mountain and near Troy, the proposed route will not adversely affect mining activities. See text changes under GEOLOGY, SOILS, AND MINERALS and MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.

36. Comment: Table 2 and Table 4 contain a number of technical and undefined geological terms. A glossary should be included, and terms more easily understood by the non-technical reader should be substituted when possible. (DNRC)

Response: A glossary of geological terms has been added to the text after the REFERENCES section.

37. Comment: Tower footings may be unstable in local areas where towers are placed on slopes of over 10^{o} which are underlain by glacial lake clay and silt. These sediments are common along the route and they are prone to small scale slumping. This slumping typically affects the substrate materials to a depth of 5 to 15 feet. Areas of potential slumping should be identified during centerline surveys and avoided to preclude future hazards. (DNRC)

Response: After the centerline is surveyed, the line is "sagged" to select tower type and location. This is followed by on-the-ground examination of each tower site to determine geological suitability. If the site is unsuitable, it will be relocated and the line resagged.

38. Comment: Are there any old transformers or capacitors containing PCB in the Libby Dam-Sandpoint Substation rebuild? (DNRC)

Response: There are seven substations along the transmission line from Sandpoint to Libby Dam. All of the seven substation transformers contain insulating fluid that under recently overturned EPA regulations classify as PCB-free. "PCB-free" was defined as less than 50 parts per million (ppm) PCB; "PCB-contaminated" was defined as between 50 and 500 ppm PCB. Bonners Ferry is the only substation in the Libby project that has PCB-contaminated capacitors. The regulations are being reviewed and may

change. Until EPA prepares new regulations and definitions for PCBs, BPA will comply with the provisions of the Interim Inspection Program and other applicable regulations on PCBs.

39. Comment: The possibility of accidents or spills of pesticides, petroleum products, and other hazardous waste should be pointed out. (DNRC)

Response: See text change under WATER RESOURCES.

40. Comment: We don't like the idea of the right-of-way being treated with chemical herbicides to control brush rather than the manual methods such as chain saws which would not introduce poison into the food chain. (McGregor Rhodes)

Response: Vegetation management on this right-of-way would probably involve a combination of techniques: specifically, hand cutting of brush and hand treatment of selected stumps with a herbicide to prevent respouting of hardwoods. In this area, herbicides are applied about once every 8-10 years. Interested parties may participate in development of the vegetation management program (including use of chemicals and other alternative techniques) through the environmental statement process. Contact Mr. John Kiley to be added to the mailing list for the vegetation management EIS, which is scheduled to be available in draft form in January 1982. BPA's Spokane Area Office may be contacted for more details on the vegetation management plans for a specific portion of the line (Room 561, U.S. Court House, W. 920 Riverside Avenue, Spokane, Washington 99201, Phone: 509-456-2518).

41. Comment: How extensive is your spraying program to control brush on the right-of-way? (Gloria Gross)

Response: BPA manages approximately 13,000 miles of transmission line right-of-way and 350 substations. A total of 83,371 acres requires regular vegetation management. Of this, 19,426 acres are scheduled for chemical treatment in Fiscal Year 1981. Other vegetation management techniques, such as mechanical or hand clearing or biological control, are used on a case-by-case basis. Please see the previous comment for the proposed vegetation management techniques for this line.

In addition, BPA is currently considering the development of a new vegetation management technique for which some experimental sites would be located on the Bonners Ferry-Troy transmission line right-of-way. This technique would involve the deliberate planting of low-growing shrubs and grasses to prevent establishment of taller-growing hazard vegetation. If plant competition can be used in this manner, use of chemicals could be reduced. However, this technique probably would take a minimum of 5 years to develop and evaluate.

42. Comment: Inclusion of the gray wolf and grizzly bear among the five species "most likely to be significantly affected by the project" raises the question of how this list of species was created. The likelihood of the project affecting gray wolf populations is near zero, while many other species, such as cavity nesters and big game, are much more likely to be affected. The potential for beneficial impacts to wildlife through enhanced management of the right-of-way should be addressed. (DNRC)

Response: The species discussed in this EIS supplement include those threatened and endangered species covered under the Endangered Species Act (grizzly bear, gray wolf, and bald eagle) that could occur in the project area; also included are species with specific or limited habitats that could be affected by the project. Species not considered subject to impact were not discussed in detail.

In the original project study area, which included 6,000 square miles in northern Idaho and northwestern Montana, several alternative plans contained routes that crossed grizzly bear and gray wolf habitat. Impacts to these species were discussed in the final facility planning supplement to BPA's 1979 Program EIS. The discussion on page 36 was included to remind readers that the plan of service discussed in this supplement seeks to avoid that habitat.

No significant impacts are anticipated to cavity nesting birds or big game, as much of the proposed transmission line will would use existing right-of-way and would not require large amounts of clearing. As pointed out in the draft, little construction activity would occur during the winter, so disturbance to wintering animals should be minimal. However, some disturbance to wildlife could be expected from construction activities during the non-winter months.

BPA presently does not manage transmission line rights-of-way for wildlife. However, the following measures could produce beneficial impacts to wildlife near the right-of-way:

1. Where appropriate, feather-cutting areas of new right-of-way and areas of existing right-of-way that need widening. On the edges of the right-of-way, feather-cutting or "scalloping" creates more edges, or transition zones, with their greater diversity of habitat and species.

2. Reseeding disturbed areas with palatable plant species, such as orchard grass, timothy, and brome.

3. Placing raptor nesting platforms on transmission towers at appropriate locations.

43. Comment: The value of Rainy Creek as a fishery needs to be pointed out in order to determine fisheries impacts. (DNRC)

Response: According to fisheries biologist Bruce May of the Montana Department of Fish, Wildlife and Parks (personal communication 1981), Rainy Creek is not considered an important fishery stream in the Kootenai River watershed. The creek does not support any spawning runs from the Kootenai river, and sediment from the mine has reduced resident fish populations below the mine. Above the mine, the creek does support a resident population of westslope cutthroat trout (Salmo clarki). Because the transmission line crosses the creek below the mine, impacts to the trout will not occur.

44. Comment: It is impossible to assess the impacts of road construction on fisheries without specific locations. The BPA should provide these locations and describe their impacts from hydrologic changes and sedimentation. (DNRC)

Response: It is not possible to give specific locations for access roads until final tower sites have been determined. As indicated in the draft supplement, much of the proposed transmission line will follow existing right-of-way and use existing access roads. No significant hydrologic changes should occur from the project, but a short-term increase in sedimentation may occur. (See revised text under WILDLIFE.

45. Comment: If access roads must cross streams, mitigation is necessary to prevent long-term impacts on aquatic life. Culverts in particular can block fish passage and cause hydrologic changes. (DNRC)

Response: See text changes under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION and WILDLIFE.

46. Comment: Short-term economic stimulus, which is considered a benefit in this EIS, is actually a detriment to a small community's economy. After the stimulus, Libby will be faced with a drop in retail employment as well as construction employment. Merchants will be forced to reduce overstocking, often at a loss. Some may even be forced to close. All this will cause a major drop in cash flow throughout the community. (Gloria Gross/Albert Miguelucci)

Response: As discussed in the ENVIRONMENTAL CONSEQUENCES section (page 43 of the draft), businesses would not be likely to expand operations in response to the economic stimulus because the stimulus would be small and seasonal. The adverse consequences identified by the commentor are therefore not expected.

47. Comment: The number and types of jobs for each alternative should be identified. (Gloria Gross/Albert Miguelucci)

Response: As indicated in the text (page 42 of the draft), an average of 53 employees would work on the project over the three-year construction

period, with a peak of 105 persons employed in the summer and fall of 1982. Of these, about 18 to 25 would be local workers for right-of-way clearing and clean-up and general labor. The remainder of the work force, averaging about 30 persons with a peak of 90, would be contracted to perform specialty transmission line construction work. Such jobs include tower erection, conductor pulling, and major earth work. Because the No Action, Conservation, and Minimum Build alternatives did not meet the needs as identified under PURPOSE OF AND NEED FOR ACTION, they were not evaluated in detail and no specific work force projections were prepared.

48. Comment: Two commentors wanted to know how much this project would reduce property values (Mrs. Edwards, Mr. Goodman). Two others thought the question of property value reductions due to the effects of the line were not adequately examined in the EIS (Ms. Gross, Mr. Miguelucci). Two felt that property values definitely would be decreased by the presence of the transmission line (Mr. Colin, Mr. DeMatteis). Several wanted to know how property owners would be compensated for this reduction (Mr. DeMatteis, Mr. Goodman, Mr. Wood, Mr. Barrett).

Response: The text has been expanded on this issue. See additions to URBAN AND RESIDENTIAL LAND USE.

49. Comment: What is the tax consequence to the affected governmental entities of having the federal government build these lines instead of a private utility? Will the BPA Administrator make that amount of payments in lieu of taxes as is his prerogative under the new Northwest Power Bill? (Philip Barrett; DNRC and Stu Swenson made similar comments.)

Response: BPA's proposed facility would occupy an existing transmission line right-of-way for most of its length. Seventeen miles of the existing transmission line are now owned by Pacific Power and Light Company. BPA proposes to purchase this line from PP&L and build the new line in its place. The estimated loss in property tax revenue would be about $9700 annually, based on the taxes PP&L paid in 1979.

The remainder of the 93 miles of transmission line corridor has been held by BPA as easements. Under an easement agreement, BPA is authorized to construct, operate and maintain transmission lines. Ownership of the land remains the same, and is thus still subject to local tax policies. Since the proposal involves replacing an existing transmission line, no change in property tax revenues is expected on this portion.

The Northwest Power Planning and Conservation Act authorizes payments by BPA to local governments under limited circumstances. Example: If a county must build a new facility such as a road or school as a direct consequence of a BPA action, BPA may help overcome the burden with

payments. BPA does not foresee the need for such local government expenditures as a result of this project. The Act does not authorize payments in lieu of taxes.

50. Comment: The proposed plan is consistently justified by the fact it will reduce social impacts by providing reliable service. However, under purposes on page 1, minimizing social impacts is not mentioned. On page iii/para 3/last sentence suggests socio-economic impacts are more important than environmental impacts. Such evaluation criteria and their relative weight should be more clearly identified. (Gloria Gross/Albert Miguelucci)

Response: The document does not attempt to jusify the proposed plan. The text merely describes impacts that are expected. The one specific sentence referred to (page iii/para 3/last sentence) is not written to suggest that socioeconomic impacts are more important than natural resource impacts; it states only that the proposed plan has more natural resource impacts but fewer socioeconomic effects than the alternatives, with no attempt to weight those categories. The conclusion is that, regardless of impacts, among the alternatives that were evaluated in this supplement, the proposal is the only plan that fully meets the needs. If an alternative does not meet the needs, it cannot be considered a reasonable alternative, worth detailed evaluation.

51. Comment: One of the "major" areas of environmental benefits of the proposed plan is a reduced number of structures in farmland. We question that. (Gloria Gross/Albert Miguelucci)

Response: See text changes in the COMPARISON OF ALTERNATIVES section. The word "major" has been deleted.

52. Comment: The EIS inadequately discusses increased visual impacts of the existing substations due to higher towers and increased right-of-way widths. The Libby and Troy substations are both visible from major travel routes. (Gloria Gross/Albert Miguelucci)

Response: Libby and Troy substations are presently visible from U.S. Highway 2. The existing visual impact of these substations as well as the other substations in the study area will not be changed by any of the actions required by this project.

53. Comment: The unnatural straight line effect of corridor clearings are not discussed. (Gloria Gross/Albert Migeulucci)

Response: The visual effect of linear clearing required for transmission corridors is one of the most highly noticeable impacts of transmission lines. This visual effect is heightened when the viewer position is above the transmission line or when the right-of-way extends over a

hillside. Sometimes, depending upon terrain and vegetative cover, it is possible to minimize this impact by routing the line through natural clearings or by spanning over the tops of some trees.

Because this transmission line will primarily use existing right-of-way, relatively little new clearing will be required. In those limited areas where widening of existing right-of-way is required, BPA will feather right-of-way edges and retain as much vegetation within the right-of-way as possible.

54. Comment: The possibility of red and white towers which may be required by the FAA at river crossings is not discussed. This is a serious oversight. (Gloria Gross/Albert Miguelucci)

Response: When the draft supplement was written, BPA's interpretation of the FAA's airway marking regulations indicated that special painting of the river crossing towers would not be required. Subsequent investigation, however, indicates that special painting would be required at the crossing of the Yaak River and at the Kootenai River, about 8 miles east of Bonners Ferry Substation. The text of the document has been revised (see ESTHETICS).

55. Comment: Access roads, cuts and fills are not discussed. The visual impacts from roads are permanent and more critical than vegetative manipulation. The severe road building conditions are addressed in the geology section, all the more reason they should be addressed under visual impacts. (Gloria Gross/Albert Miguelucci)

Response: The discussion under ESTHETICS of the visual impact of ground disturbance has been expanded. The GEOLOGY AND SOILS section discusses several locations where the potential for erosion and related impacts are high. These particular areas would not be readily visible and therefore were not discussed under ESTHETICS.

Road locations in certain areas have not yet been determined. Two places where roads are likely to be visible are near Bobtail Creek and along the Vermiculite Mountain reroute. A visual analysis will be conducted in coordination with the U.S. Forest Service to identify road locations that will create the least environmental impact possible. (See also response to comment 88 and MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

56. Comment: Impacts on the view from the Cabinet Mountains Wilderness area are not discussed. (Gloria Gross/Albert Miguelucci)

Response: See text change in the RECREATION section.

57. Comment: The extremely low visual absorption capability of the many ridgetops and the Kootenai River canyon is not discussed. (Gloria Gross/Albert Miguelucci)

Response: The visual study prepared for BPA indicates that the Kootenai River area, although highly scenic, can absorb visual impacts because screening is present (see ESTHETICS, paragraph 3). The second paragraph under the subtitle Libby Dam-Sandpoint Substation Rebuild discusses the high visibility of transmission corridors over hillsides in several identified locations.

58. Comment: The study, although done by a reputable firm is very general in nature and lacking in a few areas as it is presented in the draft statement. Exactly what type of transmission line was being evaluated? Their conclusions makes one question the size and location of the towers and line they were assessing. The study was obviously conducted during the summer and spring when the leaves were still on the trees. (Gloria Gross/Albert Miguelucci)

Response: The visual study prepared by BPA's contractor, Jones & Jones, was based on the use of a 230-kV single-circuit tower. This tower is approximately 80 feet high and requires a 125-foot cleared right-of-way. The 230-kV double-circuit towers now proposed will be taller (approximately 120 feet high) but will require a narrower cleared right-of-way (100 feet wide). Since the primary purpose of the Jones & Jones study was to facilitate location and comparison of route alternatives, the study was adequate to the purpose.

Specific impact discussion in the EIS is based almost entirely upon field investigation of the transmission corridor with projected use of 230-kV double-circuit towers. Although the field visits were during non-winter months, the increased contrast of a cleared right-of-way with adjacent areas during periods of snow cover is considered when making visual impact evaluations.

59. Comment: On page 48, fifteen places are listed which may have high visibility. However, the text states that topography and vegetation will minimize visibility. What percentage of the line will be hidden? (DNRC)

Response: The discussion on page 48 was not intended to indicate that all 15 locations would be subject to high visibility of the line. The discussion has been revised to indicate that there were 15 locations along the existing line where significant numbers of people could potentially see the line because of geographic proximity. An evaluation was made of potential impacts at each location. About 80 percent of the right-of-way is located where vegetative cover and/or topography will completely or partially screen the transmission line from view. Those locations where visual impacts were likely were discussed later in the ESTHETICS section.

60. Comment: The matrix is almost laughable...since when do two moderates and a high rating result in a lower overall impact?

Furthermore, the matrix only addresses river crossings, with driving being the number one form of recreation in Montana, the visual impacts along all major road corridors should be addressed. (Gloria Gross/Albert Miguelucci)

On page 46, areas with high potential for visual alteration are identified. These same areas in Table 7 are given low impact. Which of these situations is correct? (DNRC)

Response: In Table 7, the columns labeled "Potential for Visual Alteration," "Viewer Sensitivity," and "Viewer Frequency" use information provided to BPA as part of the visual study prepared for this project. The column labeled "Overall Impact" reflects the judgment of BPA personnel. The assessment of overall visual impact considered the visual sensitivity of each viewer position as well as the potential for reduction of visual impacts through mitigation. Mitigation measures such as the use of non-reflective conductor and wood structures or painting of steel towers, combined with retention of screening vegetation, will significantly reduce the visual impact of the transmission line at visually sensitive locations. In this way, the actual visual impact in some areas will be less than the potential for impact indicated in the visual study.

The visual impact discussion includes crossing of highway corridors as well as river crossings. Table 7 includes an evaluation of both types of crossings.

61. Comment: The visual impacts of the new 115-kV line to be built to service the proposed rereg dam are not discussed. (Gloria Gross/Albert Miguelucci)

Response: Construction of the Reregulating Dam is uncertain; work on all facilities related to the completion of the dam, therefore, was deferred until that issue is resolved. These facilities include the proposed 115-kV tap line connecting the Reregulating Dam with the 230-kV transmission line, a proposed substation near Rathdrum, and the proposed Sandpoint-to-Rathdrum 230-kV line. Because no specific locations have been proposed, impacts of these facilities were addressed in a general way in the Libby Integration and Northwest Montana/North Idaho Support Final Facility Planning Phase supplement to BPA's Proposed Fiscal Year 1980 Program Environmental Statement. They will be discussed in more detail in an EIS supplement when decisions on these facilities can be made.

62. Comment: On page 50, the draft notes that dispersed recreation activities are widespread but states, "Because the project involves only a rebuild of an existing line in this area, new impacts will be low." The proposed lines differ greatly from the existing ones in terms of visual intrusion. This impact on floaters and fishermen should be addressed. (DNRC)

Response: The text of the recreation section has been revised to include specific reference to potential impacts to a number of recreation activities. The reader is also advised to consult the ESTHETICS section for discussion of visual impacts.

63. Comment: Page 50 contains the following sentence: "If artifacts are found and prove to be more than 2000 years old, sites within the area could be eligible for the National Register." This is incorrect. By National Register of Historic Places (NRHP) criteria (36 CFR 60.6), properties generally need to be 50 years old or older to be eligible. (DNRC)

Response: The referenced sentence appears on page 52. The 2000 year figure is misplaced; that sentence is deleted from the text of the final document. BPA recognizes the potential importance of the sites at McArthur Lake, and will follow the stipulation outlined in 36 CFR 1202 (Procedures for Nomination to the National Register of Historic Places). It is true that historic resources need be only 50 years old or older to be eligible. However, in compliance with P.L. 96-95, Section 3 (1)... "No item shall be treated as an archeological resource unless such item is at least 100 years of age." The resources referred to at McArthur Lake are archeological resources.

64. Comment: The assessment of impacts on cultural resources merits further clarification. The report discusses the direct adverse effects of the project, but it neglects to clearly discuss the indirect effects of the project which may occur at a later time, such as erosion and increased vandalism. Some provision should be made for monitoring these indirect effects. (DNRC)

Response: BPA attempts to manage archeological resources so that they will last as long as possible. Attempts will be made to forecast future impacts on sites if patterns of land use are modified as a result of construction. While it may be possible to forecast impacts of a project reliably in specific terms, impacts vary with the significance of the resources. Proposals for mitigating impacts of construction activities will be evaluated by the Advisory Council and the State Historic Preservation Officer in accordance with 36 CFR 800.

Details of mitigation measures undertaken by BPA to preserve archeological resources are included under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.

65. Comment: The basic document used to prepare the section on Historic and Archeological Resources has not been cited in the text (e.g., Choquette and Holstein, 1980), yet O'Brien, who is not a professional historian or archeologist, has been cited. Documentation additions are required to insure that this section was prepared based on professional input. (DNRC)

Response: See text change in the Historical/Archeological Resources section. As indicated in the paragraph immediately following the subtitle Libby Dam-Sandpoint Substation Rebuild, the Choquette-Holstine report forms the basis for subsequent discussion of impacts to specific cultural resources in the area. The contractor's report is cited in the AFFECTED ENVIRONMENT section and in MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION.

66. Comment: Page 51. The Heritage Conservation and Recreation Service should be used instead of the National Park Service in the first sentence. (U.S. Department of the Interior)

Response: After May 31, 1981, the Heritage Conservation and Recreation Service will be abolished and its responsibilities again assigned to the National Park Service.

MITIGATION MEASURES

67. Comment: Several commentors recommended that specific mitigation measures be included in the proposed action. These measures included helicopter construction and other erosion control measures, use of dark-colored towers and non-specular conductors, alternative tower designs, alternative routes, and construction shutdowns. (DNRC; Gloria Gross and Albert Miguelucci; Idaho Department of Fish and Game; U.S. Forest Service; U.S. Environmental Protection Agency; U.S. Department of the Interior.)

Response: These issues are discussed in the two revised mitigation sections: MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION and MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION.

68. Comments: We do not have any major concerns with the preferred alternative for constructing the double circuit 230/115 KV line within the existing right-of-way across National Forest System (NFS) lands. We do have some concerns that should be addressed in the final EIS and the project plan. They are:

a. Resolution of the seven issues outlined on page IV of the Draft Supplement. (U.S. Forest Service) (DNRC made a similar comment)

Response: The seven issues referred to have been resolved in the following manner:

1) BPA and the Forest Service have reached agreement in principle on the relocation at Vermiculite Mountain. See response to comment 18.

2) BPA and the Forest Service have agreed on the relocation from Libby PP&L Substation to Bobtail Ridge. See figure 8 in the text.

3) Use of the double-circuit wood design at the Kootenai Falls crossing, as proposed, will create less potential for bald eagle collisions with the line than would the double-circuit steel towers. See discussion under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.

4) Construction schedules have been modified to minimize impacts to wildlife. Most measures recommended in the draft supplement are now included as part of the proposal. See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Wildlife.

5) Painted towers will be used between Libby Dam Substation and Lower Alexander Creek. Non-specular conductor will be used between Libby Dam and Bonners Ferry Substations and in the two segments between Sandpoint and Bonners Ferry that will use the wood pole structures (about 13 miles). See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Esthetics

6) BPA proposes to use helicopter construction from near Troy Substation to the Kootenai Falls river crossing. The wood pole construction along the Kootenai River between the Kootenai Falls crossing and Libby will be done using ground access. The exact locations of the ground access construction and helicopter construction will be identified in the project plan prepared by BPA and the Forest Service prior to construction.

7) The reroute at Kootenai Falls has been eliminated. Use of wood structures in that area makes significant adverse effects on cultural resources unlikely and therefore makes the relocation, with its greater visual impacts, unnecessary. See discussion under MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION.

69. Comment: Statements pertaining to mitigation in the draft impact statement are confusing, particularly because there is no clear indication of what mitigation the BPA intends to carry out. Apparently the only mitigation which will be done is mentioned in the section entitled "Mitigation Measures Included in the Proposed Action." Why was the section entitled "Mitigation Measures not Included in the Proposed Action" included in the text? The BPA states that these latter measures are still being considered but that issues remain to be resolved. Several of these measures deserve serious consideration, such as helicopter construction, alternative tower design, and timing of construction. How will these issues be resolved, by whom, and with what provision for review? Mitigation of anticipated impacts is one of the

basic purposes for writing EIS's concerning the siting of transmission lines. Resolution of the mitigation issues raised above should be considered in the final supplement. (DNRC)

Response: As noted on page 20 of the draft, BPA decisions on mitigation measures are not finalized. BPA's intent in providing a discussion on "Mitigation Measures Not Included in the Proposed Action" was to identify measures that would impose difficult construction schedule constraints or which would be particularly costly. In addition, this section allowed tradeoffs between measures that mitigate one impact but create others to be discussed in one place. The Council on Environmental Quality's regulations implementing NEPA require that both proposed and other possible mitigation measures be discussed in the section on ALTERNATIVES INCLUDING THE PROPOSED ACTION (1502.14f). Unless otherwise stated, all measures described under MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION were still being considered when the draft was written (see page 20 of the draft). Many of these are now proposed, as are others suggested during the public review period. Please see revised mitigation sections.

BPA's final mitigation plan and monitoring program will be detailed in the Record of Decision on this project.

70. Comment: How will environmental costs be balanced against economic costs? Environmental concerns seem to be treated as an after-thought while the fundamental decisions being made are being based on need and reliability. (DNRC)

Response: BPA's decisions on mitigation measures will attempt to balance cost, engineering, and environmental objectives. An evaluation of public comments received on the draft EIS will also be made. Final decisions will be documented in a Record of Decision, which will follow the final EIS.

71. Comment: What is the "standard BPA mitigation procedure" for restoring TV and CB radio reception to its ordinary level? Has a study been made of present levels to determine the effects of the line? If so, this baseline information should be discussed.

What is "BPA policy" as stated on page 29 for mitigating effects of transmission lines on tele-communication or railroad signal lines? (DNRC)

Response: Some cases of television interference have been reported, and corrected, along BPA 500-kV lines. However, no radio or television problems have been reported from the normal operation of BPA 230-kV lines. All reports of interference from BPA facilities are investigated. Most problems are found to be caused by hot water heater thermostats, aquarium heaters, doorbell ringers, electric fence chargers, electrical motors, and poor reception equipment.

In a standard investigation, interference detection equipment is used to measure radiated electrical interference at a multitude of discrete frequencies to determine if radiated interference is present. Where this is verified, directional antennas are used to locate the source.

Transmission line interference may be caused by defective equipment or by corona. Replacement of faulty components such as insulators shot by vandals eliminates defective equipment interference. Defective parts are found more often on distribution lines than transmission lines, and so are interference sources.

The second type of line interference (corona) is a characteristic of the line design and operational voltage. The corona effects of this line have been studied. In FCC-designated Grade A and B reception areas (e.g. channel 2 TV signal strength of 224 microvolts per meter or greater), line interference is well below a level which would degrade an otherwise acceptable signal-to-noise ratio. Signals too weak for designation as FCC Grade A or B are considered inadequate for normal reception, but even so, interference to such signals would be mitigated provided that:

	Radio	TV
1. At least a marginal signal-to-noise ratio pre-existed	15:1	100:1
2. At least a marginal signal was present	100uV/m	35uV off existing antenna

Mitigation is ordinarily accomplished by locating the receiving antenna in a better spot, replacing the antenna with one having higher gain or directivity, changing the lead-in to coaxial cable, utilizing wide band pre-amplifiers at the head end, or some combination of the above. No corona interference complaints from any of BPA's 230-kV lines have been received.

The proposed transmission line near McArthur Lake might affect either buried or aerial wire communication facilities, such as those operated by the telephone or railroad company. Individuals should report any such trouble to the local utility. Should a telecommunication or railroad company determine that operation of BPA transmission facilities may be causing a problem, that the problem would be investigated and mitigated, according to BPA policy, in cooperation with the affected company. It is BPA's policy to:

1. Determine if reported problems are caused by our facilities;

2. Mitigate those problems in an economical, reliable, safe, and compatible manner.

A variety of standard methods is available, including changes to our facilities and modifications to the communication network itself. This is done in cooperation with the affected company so that a satisfactory solution for all concerned parties can be obtained.

72. Comment: Will roads be located and designed with benefit of slope stability analysis? (DNRC)

Response: Yes. Slope stabilization is a basic consideration of access road location. If the road locater anticipates a problem with slope stability, a BPA geologist may analyze the local conditions, consult detailed geological soils maps and surveys available from the U.S. Forest Service and other agencies, such as the Montana Highway Department, and recommend remedies. BPA also consults with land managing agencies to determine mutually acceptable road locations and designs.

73. Comment: Will all temporary roads be scarified, reseeded and closed? (DNRC)

Response: Roads not required for operation and maintenance of the line will be scarified, reseeded, and closed.

74. Comment: What other specific road stabilization measures besides "waterbarring" will be employed (i.e., gabions, retaining walls, etc.)? (DNRC)

Response: Most roads are seeded with native ryegrass and other grass seed on the cut-and-fill slopes as well as on the road itself. Use of ryegrass may be limited in Boundary County. BPA will contact the Boundary County Extension Agent before using the seed in that county.

Water bars are also used on most roads, with the amount of separation between bars dependent on local soil conditions, weather, and percent of grade. Under more severe conditions, intercepting dips might be used. Gabions and retaining walls are not generally used because BPA attempts to build roads so that such measures will not be necessary. If a road fails repeatedly despite such precautions, BPA may find a new road location or take special measures to ensure the road's stability.

75. Comment: What specific mitigation measures will be used to minimize impacts of road construction in the vicinity of Rainy Creek? (DNRC)

Response: The Rainy Creek drainage area already has an extensive road system, including BPA roads. Until line and tower locations have been determined, specific road needs and mitigation measures cannot be identified. In general, slopes on the north and east side of the creek, though steep, are not as susceptible to erosion as those on the south and west side, as evidenced by washing of existing roads. Road grades will

need to be reduced from BPA's accepted maximum and water bars added. As is normal BPA practice, local ryegrass and other grass seed will be used for seeding the roads. BPA also is consulting with the Forest Service in this area to develop appropriate locations and mitigation.

76. Comment: What criteria will be used to determine when stabilization will be required? (DNRC)

Response: BPA road locaters use personal judgement in applying standard BPA road-building guidelines. If a problem is encountered, BPA geologists and specialists from Federal and State agencies and local landowners may be consulted.

77. Comment: After construction, many access roads could be abandoned because few points on the right-of-way lie more than one-half mile from existing roads. Aerial maintenance surveys should be relied upon rather than extensive permanent access roads. (DNRC)

Response: BPA relies upon routine aerial surveys to patrol transmission lines. Access roads are not intended to duplicate this patrol, but to provide access to structures for routine maintenance activities, emergency repairs, and annual on-the-ground working inspections of the line (e.g., checking for loose tower bolts or erosion control of structure footings). These roads are not intended as permanent public access. BPA will work with landowners and managers to maintain these roads for their intended purpose through use of gates, or seasonal or permanent closures.

78. Comment: The potential exists for significant and long term degradation of Rainy Creek from erosion. Extensive mitigation measures will be required to prevent this occurrence. (DNRC)

Response: Rainy Creek has already been adversely affected by residues from tailings, spoils, and tailing ponds at the vermiculite mine. No significant fish resources are found in the stream where the transmission line crosses it below the mine. In any case, construction activities are not expected to affect the stream because the line will span it, the canyon is steep enough that much of the vegetation on the right-of-way can be retained without affecting operation of the line, and the existing access road system near the creek can be used.

79. Comment: We also recommend an aggressive erosion control program in all areas, especially areas of moderate to high hazard. This should include not only waterbarring and seeding, but also, where needed, drainage ditches, cross drains, energy dissipators on outfall structures, and a commitment to reseeding disturbed soils prior to the onset of fall

rains and to further reseeding as needed to guarantee reestablishment of vegetation cover. These measures should be included in the mitigation plan to be part of the final EIS. (U.S. Environmental Protection Agency)

Response: BPA's standard erosion control measures are discussed in the response to Comments 73 and 74 and under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION. Special measures will be applied where necessary in areas particularly susceptible to erosion and will be coordinated with local landowners and managers. Some of those measures may include those you suggest, depending on final road and tower locations and local conditions. Details of erosion control and other mitigation measures on U.S. Forest Service land will be presented in the project plan prepared by BPA and the Forest Service prior to construction. All proposed mitigation and any necessary monitoring and enforcement programs will be discussed in the Record of Decision, as required by Council on Environmental Quality regulations (40 CFR Sec. 1502.2).

80. Comment: It appears that water quality or aquatic habitat impacts from erosion or mass wasting could be significant impacts. These impacts should be mitigated to the greatest extent possible. For this reason we encourage the use of helicopters for the area between Quartz Creek and Troy, as suggested on page 20. This would minimize the amount of ground disturbance, and could be timed to avoid impacts to bighorn sheep. (U.S. Department of the Interior)

Response: Impacts to water quality and aquatic habitats are expected to be minor and short-term (see ENVIRONMENTAL CONSEQUENCES - WILDLIFE). Proposed measures, such as helicopter construction, to reduce impacts to streams and aquatic life are outlined under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Geology, Soils, and Minerals and Wildlife.

81. Comment: ...concerns that should be addressed in the final EIS and the project plan...(include)...Rehabilitation and revegetation of areas disturbed during construction. (U.S. Forest Service)

Response: Rehabilitation and revegetation of certain specific areas is proposed under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION. These areas include the Pack River floodplain, McArthur Lake area, the bighorn sheep lambing area near Kootenai Falls, and right-of-way and access roads at Vermiculite Mountain. It is standard BPA policy to seed access roads (see response to comments 73 and 74). The Project Construction Plan and the Right-of-Way Maintenance Plan to be prepared by the Forest Service and BPA before construction will delineate other areas requiring mitigation and technical mitigation details.

82. Comments: The Kettle Lake (pothole) area in sections 26, 27, and 35, Township 33N, Range 34 West, is a geological, vegetative, and

wildlife area that is environmentally sensitive. Consideration should be given to measures such as avoiding tower placement in kettles, leaving shrubs and small trees in the right-of-way, feathering the margins of the right-of-way, and handstringing the conductors through this area. (DNRC)

Response: Because towers normally are sited on high points, kettles probably will be spanned. BPA proposes to feather right-of-way margins wherever new clearing is required. This area is not expected to require clearing other than possibly for danger trees. Vegetation will be left in the right-of-way so long as it does not present an electrical hazard or prevent access to the line for maintenance purposes.

As standard construction practice, the conductor is attached to a stringing sheave or traveller by hand or from a helicopter; then the conductor is pulled through under tension over distances of about 2 miles (3 km). A machine at one end of the 2-mile length pulls the conductor, which for this line would weigh about 1.4 pounds per foot; a one-mile length would weigh about 7550 pounds (3425 kg).

83. Comment: Will matting and other special measures be used in wet areas? (DNRC)

Response: Yes. Measures to reduce rutting of the soil and destruction of wetland vegetation were included as proposed mitigation in the draft supplement and remain in the final.

84. Comment: Pages 21-22. The use of two single-circuit lines at the Kootenai Falls crossing to reduce hazards to bald eagles is not included in the proposed action because it would involve increased disturbance to the proposed Kootenai Falls Historic and Archeologic District. It would appear that the Kootenai Falls Alternative Route (Figure 4) would avoid the proposed District and so the single-circuit lines could be used along this route. (U.S. Department of the Interior)

Response: At the time that the draft was written, use of two single-circuit lines at the Kootenai Falls crossing was still being considered. Following the public comment period, another alternative, using double-circuit wood structures at that crossing, was developed to mitigate visual impacts. This design would not adversely affect the bald eagle and would have less potential for affecting cultural resources than either the double- or single-circuit steel structures.

The route near Kootenai Falls is a poor alternative visually. It crosses the river in a sparsely vegetated area, intruding into the views of the river afforded highway and river users, whereas the existing crossing is screened from the highway and from most places near the falls. Use of the double-circuit wood structures at the existing crossing seems to offer the best protection to eagles and the best solution to the visual

and cultural resource problems in this area. Discussion of this mitigation measure appears under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION - Esthetics.

85. Comment: We also recommended that the section dealing with environmental consequences to wildlife be modified. That section should show that certain mitigation measures considered in evaluating impacts were not recommended for inclusion in the proposed action. For the most part, these measures involve restricting line construction times so that disturbance in a particular area does not occur during an important period in a species life history. There is no discussion, however, in the FEISDS of the impacts which would occur if the construction schedules were not adapted to the species needs outlined on page 19 of the draft supplement. In that the proposed action does not mandate restrictions on construction, except for bald eagles, potential impacts to other species should be discussed. (U.S. Department of the Interior)

Response: Nearly all mitigation measures for wildlife recommended in the draft supplement are included in the proposed action in the final document. Exceptions are discussed under MITIGATION NOT INCLUDED IN THE PROPOSED ACTION. The ENVIRONMENTAL CONSEQUENCES section indicates impacts to wildlife that will occur if mitigation is not adopted and how impacts will be reduced if it is.

86. Comment: This commentor asked about mitigation measures for impacts upon wildlife and suggested that the area around Quartz Creek be considered for acquisition as a wildlife area. (Mr. Challinor)

Response: Mitigation measures for wildlife are discussed under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION. It is not normal practice for BPA to purchase land for wildlife as a mitigation measure.

87. Comment: Does BPA propose to reseed bighorn sheep habitat to palatable grasses? If so, how will the management plan for the area developed by the Montana Department of Fish, Wildlife and Parks be affected? (DNRC)

Response: BPA does plan to reseed disturbed areas in the bighorn sheep habitat with palatable grasses. According to Gerald Brown, a wildlife biologist with the Montana Department of Fish, Wildlife and Parks, this would be compatible with their management plan for the area (Brown, G., Wildlife Biologist, Montana Department of Fish, Wildlife and Parks; Selby, Montana; March 5, 1981, personal communication with J. R. Meyer, Wildlife Biologist, Bonneville Power Administration, Portland, OR.) See text change under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.

88. Comment: .....concerns that should be addressed in the final EIS and the project plan ....(include).....

Meeting the visual quality objectives for National Forest System lands.

(1) Visual analysis of tower sites along some sections of the line to define type and location of tower structure.

(2) Access road location and use of these roads or no road construction.

(3) Right-of-way clearing and feathering where additional right-of-way is required. (U.S. Forest Service)

Response: A visual analysis of tower sites on alternative routes at Vermiculite Mountain, involving BPA location engineers and Forest Service landscape architects, is being made and will be a factor in the decision. When tower sites are identified and access road needs determined in this area, further analysis will be done to identify roads with the least visual impact. Details of tower and road locations will be in the project plan and the Record of Decision.

BPA also proposes to feather the right-of-way wherever clearing is required and to retain as much vegetation within the right-of-way as possible. (See MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.)

89. Comment: The report states that the project's impact on recreation at Kootenai Falls will be significant, but does not indicate proposed mitigative measures. Such measures should be identified in the final EIS. (DNRC)

Response: Mitigation measures, including the use of special non-reflective conductor and wood poles, are discussed under MITIGATION MEASURES INCLUDED IN THE PROPOSED ACTION.

90. Comment: The opening sentence in the second paragraph on page 51 is misleading. Mitigation and/or avoidance measures are devised after the State Historical Preservation Office (SHPO) and the Keeper of the Register have determined the properties are eligible for the National Register.

The SHPO should necessarily be involved in devising mitigational preservation plans if sites are eligible. (DNRC)

Response: Determinations of eligibility are made by the Director, Office of Archeology and Historic Preservation, on behalf of the Secretary of

the Interior. BPA is required to request a determination of eligibility for cultural resources encountered in the project area during the intensive survey. The opinion of the State Historic Preservation Officer is also requested. If cultural resources are deemed eligible for the National Register of Historic Places, mitigation measures will be developed by BPA, the SHPO, and the Executive Director of the Advisory Council on Historic Preservation. However, BPA must propose at least one such measure at the beginning of consultation. In accordance with 36 CFR 800.5, this three-party consultation process will develop measures to be taken to avoid or mitigate adverse effects. This process ends with the execution of a unanimous three-party Memorandum of Agreement. See text change under HISTORIC AND ARCHEOLOGIC RESOURCES.

91. Comment: Statements on pages 19 and 51, "if avoidance is not possible, the articles will be salvaged" are both presumptuous and incorrect. The statement suggests that the BPA has already devised a mitigation plan and ignored the consultation process with the SHPO and Advisory Council on Historic Preservation (ACHP). Also, excavation programs are used to scientifically sample (not salvage) the scientific information (not artifacts) the site contains. (DNRC)

Response: See response to previous comment.

If the keeper of the National Register determines a property is eligible, further consultation will take place between BPA, the SHPO, and the Advisory Council on Historic Preservation to determine whether data recovery would be appropriate. If data recovery is deemed necessary, it will be designed as outlined in 36 CFR 66. See text change under HISTORIC/ARCHEOLOGIC RESOURCES.

92. Comment: The surveyors have marked a spot about 50 feet north and a little east of the existing power pole. This will move it from the side of my driveway, where it is relatively out of the way, to almost directly in front of the house and right in the middle of my hay field. For the inconvenience it will cause, moving it that little distance seems rediculous to me. If it has to be lined up with the next pole, as was the surveyor's explanation, why can't it be moved a few feet to the east and left on the edge of the driveway where it would be less of a detriment? (Jane Elswick)

Response: Tower sites can be moved to a more favorable location provided that the move does not seriously affect the required clearances or design of the line in this area. The landowner will be contacted.

EASEMENT CONCERNS

93. Comment: I don't think that the fact that you have an easement, entitles you to come on my property whenever you like with no notification . . . It would have been nice to have been informed that this was going to happen. (Jane Elswick)

Response: A letter was sent to Mrs. Elswick on June 9, 1980, stating that the 115-kV line would be removed and a double-circuit steel tower transmission line would be built in its place. The letter also stated that BPA had entered into a contract with Washington State University to conduct archeological investigations, and that, in order to collect some specimens, small test pits would need to be dug at random sites.

The easement gives BPA the right to enter and erect, operate, maintain, repair, rebuild, and patrol one or more transmission lines. The surveyors normally contact the landowners if they can find someone at home.

94. Comment: One of the easements across a portion of our ranch, as I interpret it, doesn't give BPA the right to build a new line. (Jim Wood)

Response: We are assuming that Jim Wood refers to the property encumbered by BPA easement S-BF-42, acquired June 9, 1950, from Everett and Della F. Ratcliff. The easement in question does give BPA the right to "enter and erect, operate, maintain, repair, rebuild, and patrol..." A BPA field representative will meet with Mr. Wood to help clarify this matter.

95. Comment: Are the easements along this proposed route that the BPA and PPL presently occupy valid if, when originally granted, the grantors were not made aware that a major transmission corridor might one day cross their land or if they were not compensated as such? (Philip Barrett)

Response: The easements Bonneville obtained for its original transmission line give BPA the right to "enter and erect, operate, maintain, repair, rebuild, and patrol..." We believe that these rights are adequate to accommodate the proposed rebuild. We also believe that PP&L acquired sufficient rights on their easements to allow us to rebuild that line.

96. Comment: Why are easements being surveyed when there has not been a final approval on the project yet? (Mr. DeMatteis)

Response: Certain survey activities are necessary for design purposes; however, no funds will be committed for acquiring right-of-way easements until after the final EIS has been filed and a Record of Decision has been made.

97. Comment: I spent the last four or five years cleaning up the stumps and logs from the clearing when they went through my property years ago the first time, and I would like to hope that I don't have to do that again when they come through this time if they clear any more trees. (Mr. Birkhimer)

Response: No additional easement will be required for upgrading of the 115-kV line across the Bronx Cutoff Road (Mr. Birkhimer's property). There is a possibility of danger tree clearing across this area, which will be determined by structure design. If danger trees are to be cleared from the right-of-way, arrangements can be made, on request of the landowner, for stump removal.

98. Comment: The Department was surprised to learn of Bonneville Power Administration's plans for this facility since R. B. Lisbakken, Vice President of PP&L, stated in a letter to Mr. Moy, Administrator, Facility Siting Division, "Pacific has had no negotiations with BPA concerning the acquisition of Pacific's line, although BPA has indicated they may wish to make use of Pacific's right-of-way. Because BPA has not pursued negotiations for Pacific's transmission line, we assume they have no interest in its use." (DNRC)

Response: BPA is now negotiating with Pacific Power and Light Company to acquire the PP&L line.

PUBLIC INVOLVEMENT

99. Comment: BPA sent only two copies of the draft final EIS to Libby. The first time copies were available to the interested citizens of Libby was the evening of December the 17th. Considering that the statement was published in October with a response deadline of the end of December, it appears the BPA was not interested in any responses from Libby. (Gloria Gross/Albert Miguelucci)

Response: Public involvement is a crucial and valued part of the EIS process. BPA solicits comments from any person or organization interested or affected by a project and considers them throughout the total planning process. Environmental documents are circulated to any Federal agency with jurisdiction by law or special expertise on the impacts involved, to appropriate Federal, State, and local agencies that develop or enforce environmental standards, and to any person, organization, or agency participating in the scoping process or

expressing an interest in the project. In addition, public notices of availability and announcements for public meetings are placed with the Federal Register, local and regional newspapers, and TV or radio stations.

Copies of the EIS Supplement are being sent to additional persons in the Libby area who have requested the document. Landowners along the existing right-of-way are also notified of the availability of the EIS supplement.

100. Comment: Scheduling comment deadlines during the Christmas holidays is a deplorable practice that ought to be discontinued . . . If anything has been learned by the BPA in the Townsend-Hot Springs-Bell project it should be that receipt of adequate public input . . . requires adoption of notification procedures heretofore thought to be extraordinary . . . Hence BPA's failure to directly notify easement holders along this proposed corridor is reprehensible. Such interagency inconsistency must be remedied by immediately notifying those affected easement holders of this proposed action and accepting their comments for addition to this EIS. (Philip Barrett)

Response: CEQ Regulations (40 CFR 1506.6) require that agencies (a) make diligent effort to involve the public in preparing and implementing their NEPA procedures and (b) provide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents. BPA has fully complied with this requirement. Landowners with BPA easements were contacted during the reconnaissance phase of planning. Each landowner received a notification explaining the project and telling him that a preliminary archeologic survey would be conducted. Further contact with landowners where new access roads would be constructed has also been made.

BPA also has provided opportunities for landowners to comment orally and/or in writing on the project. Notices of public meetings appeared in local papers. All comments made during the public review period will be incorporated into the final EIS. The comment deadline was extended for those who requested it. BPA also accepts comments from the public any time during the NEPA process period and works with the individuals affected to mitigate adverse impacts as practicable.

See also response to previous comment.

LEGISLATION AND PERMIT REQUIREMENTS

101. Comment: Does the Northwest Regional Power Planning Bill affect this proposal? If so, how? (DNRC)

Response: Bonneville has been required since 1974 to integrate and transmit electric power from existing or additional Federal or non-Federal generating units under the Federal Columbia River Transmission System Act.

BPA's past policy has been to develop transmission plans to integrate Federal and non-Federal hydro, thermal, and renewable generation as soon as the generation sites were known, and to build the integrating facilities, unless, in the case of non-Federal generation, the owners planned to provide them.

BPA presently plans its system in accordance with BPA Reliability Criteria and Standards for Transmission Planning and with the Reliability Criteria of the Western Systems Coordinating Council. State, local government, and other Federal agency requirements are taken into consideration. No change in this policy is expected as a result of passage of the Act.

While the extent of future BPA involvement in regional transmission planning is not explicitly stated in the Act, it is expected that the Act will enable BPA to fulfill more completely its role in regional planning.

The Pacific Northwest Electric Power Planning and Conservation Act (PNEPPCA) permits Bonneville to purchase the output of cost-effective non-Federal generating resources. This proposal, in addition to providing Northwest Montana/North Idaho support, serves to integrate into the FCRPS the additional generation being added by the US Army Corps of Engineers at Libby Dam. As a Federal project, Libby is not affected by PNEPPCA.

102. Comment: Presuming that the BPA would have to acquire some additional right-of-way from the US Forest Service for this line, does the BPA intend to comply with Montana's Major Facility Siting Act as required by Section 505 of the Federal Land Management Policy Act? (Philip Barrett)

Response: BPA, as a Federal agency, is exempt from the procedural aspects imposed by State law. BPA will, however, comply with such laws as much as is practicable. To this end, BPA will consult and coordinate with appropriate Montana State personnel.

The EIS review and comment procedure provides one vehicle for State involvement in BPA's decision making process. Mitigation recommendations of the Montana Department of Natural Resources have been noted, and many of these measures will be implemented. Since BPA's proposal involves the use of an existing transmission line right-of-way, it is expected that the interests and resources of the State of Montana will be amply protected.

103. Comment: An upgrade of Pacific Power and Light's existing line which presently passes by the Kootenai Falls project area would be considered either as an associated facility of the Kootenai Falls project or as a facility under the Montana Major Facility Siting Act and would come under the jurisdiction of DNRC. (DNRC)

Response: BPA use of PP&L right-of-way is based on considerations of environmental impact and cost for that route vs. new right-of-way. Potential generation was not a factor in the route selection. As a Federal agency, BPA is not subject to the requirements of State law.

EIS PREPARATION

104. Comment: From the information provided in the subject document, it would appear that this project is a part of a larger project which involves a reregulating dam. An environmental analysis which considers only a portion of the project cannot surface cumulative impacts which may result from construction of the entire proposal. It would appear that a more meaningful project appraisal could be done if all project components, including those necessary for power generation as well as transmission, were considered in one EIS. (U.S. Department of the Interior)

Response: BPA's Final Planning Supplement to the Fiscal Year 1980 Program EIS describes the considerations under which the proposal was developed. BPA studies indicate that transmission expansion is required irrespective of additional generation at Libby Dam or Kootenai Falls. As such, BPA's proposal has individual utility apart from these related projects, and is not an interdependent part of a larger action. It is true that BPA was aware of these projects and has developed a plan by which both immediate as well as long-range needs would be satisfied.

105. Comment: Page 11/para 4--an invalid statement. Additional units in Libby Dam will not be regularly operated without the rereg dam. (Gloria Gross/Albert Migeulucci)

Response: The statement does not say the additional units will be regularly operated. Assumptions regarding operation of the additional units are outlined on page 2.

106. Comment: Several text changes to increase clarity and to revise dates were requested. (U.S. Army Corps of Engineers)

Response: The requested text changes were made. These appear on the following pages: ii, 2, 5, 8, 9, 10, 11, 16.

107. Comment: Page 2, third paragraph. Change as follows: "Construction of the reregulating dam and generators is subject to project authorization. Based on restrictions on river fluctuations in effect now, the added units at the main Libby Dam cannot be used for peaking without the reregulating dam unless comparatively high water releases occur at Libby Dam. According to the Corps of Engineers, the added units can be used to (1) produce secondary energy and power; (2) serve as reserve units during repair and recurring maintenance of units one through four, thereby avoiding down time; and (3) increase system flexibility. Transmission plans will be adequate to integrate the additional generation from the Libby dams and the Northern Lights project as well as the serve area loads." (U.S. Army Corps of Engineers) (U.S. Department of the Interior made a similar comment requesting clarification of project authorization.)

Response: Changes have been made as requested

108. Comment: An Army Corps permit may be required under Section 10 of the River and Harbor Act of 3 March 1899 for the proposed crossing south of Libby Dam if the crossing is not licensed under the Federal Water Power Act of 1920. (U.S. Army Corps of Engineers)

Response: This information has been acknowledged in a text change under WATER RESOURCES.

109. Comment: Corps permit may be required at any of the river crossing sites under Section 404 of the Clean Water Act if fill material, including poured concrete, is placed waterward of the ordinary high waterline or in adjacent wetlands. (U.S. Army Corps of Engineers)

Response: The text has been changed under WATER RESOURCES to acknowledge this information and to identify places where a permit may be required.

COMMENT LETTERS

COMMENT LETTERS

Page	Individual/Organization	Date Received
1	State of Idaho, Department of Water Resources	November 21, 1980
2	Federal Aviation Administration, Department of Transportation	November 21, 1980
3	Marina Chandler Sutton	December 1, 1980
4	Mr. and Mrs. James R. Graham	December 18, 1980
5	Idaho State Clearinghouse	December 22, 1980
8	Donald C. Easley	December 22, 1980
9	Philip M. Barrett	December 23, 1980
10	Montana Historical Society	December 24, 1980
11	Jane Elswick	December 24, 1980
13	Marilea L. Boncz	December 24, 1980
15	Robert Klarich	December 29, 1980
18	Joan and Hugh Bailey	December 30, 1980
19	Dan Estebon	December 30, 1980
20	Barbara Kingsland	December 30, 1980
21	U.S. Environmental Protection Agency, Region X	December 31, 1980
23	Mr. and Mrs. John R. Hennessy	December 31, 1980
24	U.S. Department of the Interior, Office of the Secretary, Pacific Northwest Region	December 31, 1980
28	John P. Butler	January 2, 1981
29	State of Montana, Department of Natural Resources and Conservation	January 2, 1981
37	George Carbide	January 2, 1981
38	Mr. and Mrs. Dale Harrington and Lillian Estabrooks	January 2, 1981

39	Rand D. Bitetti	January 2, 1981
42	ASARCO Incorporated, T. M. Rollins	January 2, 1981
43	Tracy O'Reilly	January 2, 1981
46	Department of the Army, Corps of Engineers, Seattle District	January 5, 1981
49	Lance Schelvan	January 5, 1981
50	LaVelle Gornich	January 5, 1981
51	Gloria Gross and Alfred Miguelucci	January 6, 1981
56	Philip M. Barrett	January 19, 1981
61	Normont Development Co., Stuart W. Swenson	January 20, 1981
62	U. S. Department of Agriculture, Forest Service, Region 1	January 22, 1981
64	State of Montana, Department of Natural Resources and Conservation	January 26, 1981
71*	U.S. Department of the Interior, Bureau of Indian Affairs, Billings Area	February 2, 1981
73*	Larry and Ruthanne Dolzal	March 19, 1981
74*	Peter Charles Wagstaff, representing Powerline Alternative Alliance	March 30, 1981

*Late letter.

State of Idaho
DEPARTMENT OF WATER RESOURCES
STATE OFFICE, 450 W. State Street, Boise, Idaho

JOHN V. EVANS
Governor

C. STEPHEN ALLRED
Director

Mailing address:
Statehouse
Boise, Idaho 83720
(208) 334-4440

November 18, 1980

Environmental Manager
Bonneville Power Administration
P. O. Box 3621-SJ
Portland, OR 97208

Dear Sir:

The Department has reviewed and has no comments on the draft supplement to the final EIS for Northwest Montana/North Idaho Support and Libby Integration.

Sincerely,

Frank B. Sherman

FRANK B. SHERMAN, Supervisor
Environmetal & Geothermal Sec.

FBS:cjs

cc: Idaho State Clearinghouse
(SAI # 01105067)

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
NORTHWEST REGION
FAA BUILDING KING COUNTY INT'L AIRPORT
SEATTLE, WASHINGTON 98108

November 19, 1980

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
P.O. Box 3621-SJ
Portland, Oregon 97208

Dear Mr. Kiley:

We have completed our review of your draft facility location supplement "Northwest Montana/North Idaho" and find that your reconstruction/relocation of certain power lines will not impact any nearby airports.

Thank you for the opportunity to review this document.

Sincerely,

J. Wade Bryant

for George L. Buley
Chief, Planning and
Programming Branch, ANW-610

HANDPAINTED PORCELAIN • PORCELAIN JEWELERY • ANTIQUE CLOCK REVERSE GLASS PAINTING, GOLD LEAFING
GLASS LAMPS • OILS • GIFTS

Sutton's Art Barn

MARINA CHANDLER SUTTON

POST OFFICE BOX 125-LACLEDE, IDAHO 83841-TELEPHONE NO. (208) 263 - 4607

11-28-80

Environmental Manager
Bonneville Power Administration
P.O. Box 3621-SJ
Portland, Oregon 97208

Gentlemen:

I received the Northwest Montana/North Idaho Support and Libby Integration report. It is very interesting and well done.

Being I do not own any of the property involved, I approve. May I say, if you do go ahead with this plan, please do so to the letter. So many people start projects but before project is finished there are so many changes made the end product has no relation to the original draft. This fact has made some ill feelings toward government and business.

Please, consider the property owners and be honest with them. I know as I have had problems with government agencies.

Sincerely,

Marina Chandler Sutton

Marina Chandler Sutton

Dec. 16, 1980

Dear Sirs,

We are land owners in Bonners Ferry near the substation. Your power transmission lines cross a portion of our property. It is our opinion that your proposed steel towers will not be in harmony with the look of the property. We farm the ground underneath the lines and wood poles would not only look better, but be easier to maneuver around. If the wood poles were used they would not be seen from our house, but the much taller towers will. Our environment is dry up here and the poles should last a long time. We hope you will consider our request, as we are the ones who have to live with the sight of the power lines - you don't.

Sincerely,
Mr. & Mrs. James R. Graham
Rt. 1 - Box 459
Bonners Ferry, ID. 83805

HANDPAINTED PORCELAIN • PORCELAIN JEWELERY • ANTIQUE CLOCK REVERSE GLASS PAINTING, GOLD LEAFING
GLASS LAMPS • OILS • GIFTS

Sutton's Art Barn

MARINA CHANDLER SUTTON

POST OFFICE BOX 125-LACLEDE, IDAHO 83841-TELEPHONE NO. (208) 263 - 4607

11-28-80

Environmental Manager
Bonneville Power Administration
P.O. Box 3621-SJ
Portland, Oregon 97208

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Sincerely,
Mr. & Mrs. James R. Graham
Rt. 1 - Box 459
Bonners Ferry, ID. 83805

John V. Evans, *Governor*
Daniel T. Emborg, *Administrator*

State Capitol Building
Boise, Idaho 83720

DIVISION OF ECONOMIC AND COMMUNITY AFFAIRS

December 19, 1980

Office of the Administrator
U. S. Department of Energy
Bonneville Power Administration
P. O. Box 3621
Portland, Oregon 97208

Dear Sir:

The Idaho State Clearinghouse has completed its review of your Draft Supplement Final Environmental Impact Statement - Bonneville Power Administration Proposed Fiscal Year 1980 Program, Facility Location Supplement - Northwest Montana/North Idaho Support and Libby Integration, SAI #01105067.

We distributed copies of your Draft Supplement to the following agencies for their review and comment:

Panhandle Area Council
Clearwater Economic Development Association
Department of Fish and Game
Department of Water Resources
Department of Lands
Department of Agriculture
Department of Parks and Recreation
Ida-Ore Regional Planning and Development Association
Southeast Idaho Council of Governments

The Department of Fish and Game indicated support for most of the project with reservations concerning the timing schedule. Please see attachment for complete details. Clearwater Economic Development association indicated a no comment towards the project. The remaining agencies did not comment.

If you have any questions, please do not hesitate to contact us.

Sincerely,

Gloria Mabbutt by Jane Wade

Gloria Mabbutt, Coordinator
Idaho State Clearinghouse

GM:lw

Enclosures

IDAHO
A Land For All Seasons

Clearwater Economic Development Association
P.O. BOX 8636
MOSCOW, IDAHO 83843
PHONE
(208) 882-3470

REGION II CLEARINGHOUSE COMMENTS ON
APPLICATION FOR FEDERAL AID

PROJECT TITLE: Draft Supplement Final Environmental Impact Statement

STATE APPLICATION IDENTIFIED (SAI) NO. 01105067

Date Project received by Regional Clearinghouse 11/14/80 Cleared 12/8/80

Clearwater Economic Development Association has reviewed the above project and has taken the following action:

REGIONAL CLEARINGHOUSE:

☐ Support the project

☐ Project needs attention

☑ No comment

LOCAL UNITS: The following local governmental units and interest groups have been contacted for assistance in reviewing this project:

DISTRIBUTED TO:

CEDA Board of Directors

COMMENTS RECEIVED (Attached):

None

Reviewer's Signature _____ Date 12/9/80

FORM II

STATE OF IDAHO

DEPARTMENT OF FISH AND GAME

REGION 1
2320 GOVERNMENT WAY
COEUR d'ALENE, IDAHO 83814

December 11, 1980

State Clearinghouse
Division of Budget, Policy Planning
and Coordination
Statehouse
Boise, ID 83720

Reference: SAI #01105067
Bonneville Power Administration

Dear Sir:

In general, we don't have a great deal of problems with the proposed power-line since it does follow an existing corridor for much of the route.

However, We are concerned that BPA will not commit to a construction timing schedule through the McArthur Wildlife Management Area that would avoid a conflict with nesting geese (Page 19 of Draft Supplement to Final EIS).

If such commitment cannot be made to assure that construction will occur at a time that is not a critical period for nesting geese, we would urge that BPA use the alternate route around the McArthur Wildlife Management Area. Such route being described in Pages 20 and 21 of Draft Supplement as mitigating measures.

Sincerely,

David S. Neider

David S. Neider, Regional Supervisor
Region 1

cc Bureau of Fisheries
Bureau of Program Coordination
Bureau of Wildlife

Bonners Ferry Idaho
Dec 16, 1930

Emmett Smith Mourgon
Dear Sir

It has come to my attention that a powerful vein of gold is going to take the place of the one that already through my property. The rays of these veins are so dreadful. They may give you cancer. The kind nasty sores that make you sick. They will take so much better than the stuff you sell. So Sorry, your place as what you could do to change the situation. Thanking for your help.

yours truly
Mr. + Mrs. Donald Easley
Evelyn Easley

DONALD C. EASLEY
RT. 1 BOX 461
BONNERS FERRY, IDA
83805

December 14, 1980

Mr. Ronald H. Wilkerson
Spokane Area Manager
Bonneville Power Administration
Federal Bldg.
W. 920 Riverside
Spokane, Washington 99201

Dear Mr. Wilkerson:

A notice in this morning's Missoulian first made me aware that the BPA is involved in any transmission line projects in western Montana that might relate to your Townsend-Bell project. I am surprised that this project was not mentioned in either of the workshops I attended on the Hot Springs-Bell EIS revision.

I would appreciate your sending me a copy of the Draft EIS for the Northwest Montana/North Idaho Support and Libby Integration project.

Since I have planned to be away during the Christmas holidays and will need to discuss a number of very important issues which parallel those involved in the Hot Springs-Bell project with the Montana Dept. of Natural Resources and Conservation and others, I request and urge you to extend the deadline for receipt of comments on the Libby project Draft EIS to Feb. 15, 1981.

I hope this will not greatly inconvienence you, but we in western Montana must be very careful when it comes to the establishment of new major transmission line corridors.

Thank you for your consideration.

Sincerely yours,

Philip M. Barnett
1537 S. 7th W.
Missoula, Montana 59801

MONTANA HISTORICAL SOCIETY

HISTORIC PRESERVATION OFFICE

225 NORTH ROBERTS STREET • (406) 449-4584 • HELENA, MONTANA 59601

December 19, 1980

Mr. John Kiley, Environmental Manager
Bonneville Power Administration
P.O. Box 3621-SJ
Portland, OR 97208

Dear Mr. Kiley:

Re: Northwest Montana/North Idaho Support and Libby Integration, Final E. I. S. draft Supplement Cultural Resource Overview report by Choquette and Holstine

Thank you for the opportunity to review the above-named document. The Bonneville Power Administration should be commended for their thorough job of planning phase compliance. Because there are so many sensitive archaeological and historical areas that the proposed Powerline may effect, it is very important to identify possible conflict areas prior to establishing the final powerline route, so that these resources may be given adequate consideration in terms of the overall impact of the proposed project.

We look forward to reviewing the final EO 11593 survey report for this project so that we can work with you on eligibility determinations for those sites which will be impacted by proposed construction activities If we can be of further assistance please do not hesitate to call.

Sincerely,

Marcella Sherfy

Marcella Sherfy
Deputy SHPO

SAS/MS/det

Box 405, Rt. #3
Sandpoint, Idaho, 83864
Dec. 17, 1980

Bonneville Power Administration

Spokane Area Manager
Room 561, U.S. Court House
W 920 Riverside Avenue
Spokane, Washington, 99201

Dear Sir:

I am writing in regard to the up-grade of your power line between Sandpoint and Libby, Montana. I live on 10 acres north of Sandpoint on highway 95--just north of the Bronx Substation on the West side of the highway. I have one of your power poles on the south edge of my driveway, about midway between the highway and my house--a total distance of about 1/8 mile. The driveway and power pole are a part of a 4 acre hay field between the house and highway 95.

I have several comments on the projected re-positioning and replacement of that power pole.

1. I was made aware, at the time I purchased this land and home 10 years ago, that an easement had been granted to you for the placement of that power pole. I must take exception to the way in which this project has been handled, however. I don't think that the fact that you have an easement, entitles you to come on my property whenever you like with no notification. I have four children that are my responsibility and I am, among other things, concerned for their safety and mine. I don't like people tramping around on my property for no apparent reason. It would have been nice to have been informed that this was going to happen.

2. The surveyors have marked a spot about 50 feet north and a little east of the existing power pole. This will move it from the side of my driveway, where it is relatively out of the way, to almost directly in front of the house and right in the middle of my hay field. For the inconvenience it will cause, moving it that little distance seems rediculous to me. If it has to be lined

up with the next pole, as was the surveyor's explanation, why can't it be moved a few feet to the east and left on the edge of the driveway where it would be less of a detriment?

3. Because I had not been informed, I am appalled to read in tonight's paper that the 55 foot pole is going to be replaced by a 120 foot hight steel tower!!--and quite likely in the middle of my front field!! I'm sorry I missed the 12-16-80 meeting. The most valuable part of my 10 acres is that 5 acre front piece with the house on it. It has good highway frontage, good access, and good hay that we count on for our animals. Certainly, I was aware of the easement you purchased in the 1950's, at the time I bought the property 10 years ago. I'm also aware that you compensated those land owners at that time. That was at a time, however, when this land was not worth anywhere near its potential worth today--in both dollar value, and location desirability.

I am not against the power line--in fact, I have co-existed with it for 10 years. But I do not look forward positively to a huge steel tower in the middle of our front field, that will cut the productivity of that field, obstruct our view, and depreciate our property. I have to eventually or immediately stand any financial loss that might occur--you don't. And I don't like that prospect.

Sincerely yours,

Jane Elswicks

Jane Elswick

12/19/80

Spokane Area Manager
Bonneville Power Administration
West 920 Riverside Ave.
Spokane, Wa. 99201

Dear Sir,

I am writing in regard to the line B.P.A. is planning to build above Sandpoint with the ultimate plan of it going thru Hoodoo Valley. I protest this action as the line in question is being built on the assumption that the dam will go in at Libby, Mt. This is a very expensive project to be built on simply assumption + eventually the cost will be passed to us-consumers. In a time when every citizen is being asked to conserve in various areas I feel we should in turn point out to the big businesses, government - such as B.P.A. that they also should conserve. The money that is being planned for this project could be put to better use in some way I'm sure with less destruction to peoples way of life and north Idaho's beauty. We don't want more power if that's the price we must pay! We'd rather cut down and conserve in numerous ways if that's what it takes to preserve our way of life in this area than have an abundance!

For the record I was born and

raised in Hoodoo Valley on one of the farms you hope to place your power towers on — the William Hornick farm. I'm now raising my children in Hoodoo Valley and I plan on bringing them up and having them see this country as I have for the past twenty-five years. Also my parents are now retired after many years of hard work + clearing most of the land by hand. I see no reason for their lives to now be disturbed for the sake of B.P.A. or any other big business / government agency. I hope this proposed plan is stopped before too much is lost.

Thank you,
Marilu A. Bonez
Rt. 1 Box 159-B
Priest River, Idaho
83856

Star Route
Moyie Springs, ID 83849
December 22, 1980

Environmental Manager
Bonneville Power Administration
P.O. Box 3621-SS
Portland, OR 97208

Dear Mr. Kiley:

I have read and reread your E.I.S. concerning upgrading the Libby to Sandpoint 115 KV transmission line. In addition, I attended an open house concerning this matter on December 15th. After considering the information for some time now, I must conclude that the E.I.S. (and hence your decision making process) does not fully meet the intent of the National Environmental Policy Act of 1969. Specifically, the alternatives presented do not encompass all possible solutions to the proposal of upgrading the Libby to Sandpoint transmission line.

You briefly mention on pages 2 and 22 of the Draft E.I.S. an alternative double circuit design using wood poles which you may

consider. Page iv of the same document states, "The major decision to be made is whether or not to rebuild the line as proposed." Rebuild as proposed means to use steel towers 120 feet tall, an esthetically displeasing structure. The lack of adequate consideration of wood structures and your statement on page iv indicates that you had already concluded that you will be implementing the proposal you are trying to justify in the E.I.S.

I discussed the wooden pole structures with members of the B.P.A. at the Bonneville Ferry open house. I was informed that they regretted the inclusion of the wooden pole structure because wooden poles do not meet current standards with regard to maintenance. It later occured to me that the wooden poles of the 60 foot tall structures could be replaced by metal pipe of sufficient thickness and diameter. They could even be painted to camouflage their appearance.

Thus far, the scant attention to alternatives which would significantly reduce the visual impact of your proposal is disheartening. I would hope you would try to produce the best proposal, not only in terms of producing a better transmission line but one which mitigates impacts as much as possible.

When a final E.I.S is completed I wish to receive a copy.

Sincerely

Robert Klarich

STAR RTE.
Box 121
CLARK FORK.
IDAHO 83811
12-18-1990

Dear Sir.

Would you please send me a copy of the draft E I S.

We live on Highway 200 approx 5 miles east of Clark Fork, we would like a map showing the route of the proposed 230 K V. Transmission line. The present 115 K V pole line follows the scenic Clark Fork River, we feel the erection of the 230 K V towers would spoil the scenic route and greatly reduce the number of tourists who travel just to view the beauty of our area. and whom we rely on for the economy of our small town.

Thank you

Yours Sincerely

Joan and Hugh

D Bailey

Dear Sirs,

I am very much opposed to the Libby Dam - Sandpoint Power-line which is being proposed [illegible] Dan Estebon

Dan Estebon (sp?)

Received 12-30-80 from our Spokane Area office with no date and no address.

BPA 16 Rev. Apr. 1965
U.S. DEPARTMENT OF ENERGY
ROUTE TO

Date 12-29-80

ADDRESS (Symbol, area or field location)

Bill Freeland - SJ

☑ Action
☐ Approval ☐ Per request or conversation ☐
☐ Comments ☐ Information ☐ Return ☐ File

REMARKS

Fold here for return

FROM	ADDRESS
Ted Sednour	ORE

BONNEVILLE POWER ADMINISTRATION, PORTLAND, OREGON

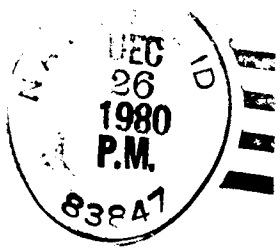
To Whom It May Concern -

I'm a property owner along the border at which your power poles lie.

I would like it to be known that I definitely favor the smallest possible pole height as they are not pleasant to look at no matter what size.

If the metal is appealing because of low maintenance, why not make the smaller version of wooden 3 poled based in metal?

Sincerely
Barbara Kingsland
Naples, Idaho



Barbara Kingsland
Star Route
Naples, Idaho 83847

U.S. ENVIRONMENTAL PROTECTION AGENCY

REGION X

1200 SIXTH AVENUE

SEATTLE, WASHINGTON 98101

REPLY TO ATTN OF: M/S 443

9 DEC 1980

John Kiley, Environmental Manager
Bonneville Power Administration
P. O. Box 3621 - SJ
Portland, Oregon 97208

RE: Draft Facility Location Supplement-NW Montana/N. Idaho Support and Libby Integration

Dear Mr. Kiley:

The Environmental Protection Agency (EPA) has completed a brief review of the subject draft EIS supplement. Our comments concern the environmental impacts of the preferred project rather than the need for the project.

Our primary concerns are for stream crossings by the transmission line or access roads in areas of high hazard for erosion or mass wasting. The map in Figure 7 shows that the transmission line crosses streams at several points in or adjacent to areas with high erosion hazard. This is contrary to the text on page 33 which says that crossings will not occur in such areas. These crossings include Pine Creek, Yaak River, and the Kootenai River above Moyei River and below O'Brien Creek. This discrepancy should be corrected. It would also be helpful if new or enlarged road crossings of streams were mapped.

It appears that water quality or aquatic habitat impacts from erosion or mass wasting could be significant impacts. These impacts should be mitigated to the greatest extent possible. For this reason we encourage the use of helicopters for the area between Quartz Creek and Troy, as suggested on page 20. This would minimize the amount of ground disturbance, and could be timed to avoid impacts to bighorn sheep.

We also recommend an aggressive erosion control program in all areas, especially areas of moderate to high hazard. This should include not only waterbarring and reseeding, but also, where needed, drainage ditches, cross drains, energy dissipators on outfall structures, and a commitment to reseeding disturbed soils prior to the onset of fall rains and to further reseeding as needed to guarantee reestablishment of vegetative cover. These measures should be included in the mitigation plan to be part of the final EIS.

The Environmental Protection Agency has rated this draft statement LO-1 (LO - Lack of Objections; 1 - Adequate Information). This rating will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act, as amended.

Thank you for the opportunity to review this environmental statement. If you have questions or would like to discuss these comments, please feel free to contact me or Craig Partridge of my staff at (206) 442-1285 or (FTS) 399-1285.

Sincerely yours,

for Wilson

Elizabeth Corbyn, Chief
Environmental Evaluation Branch

cc: Gene Taylor, R-8 Montana Office

1103 Dakota Ave.
Libby, Montana 59923
December 26, 1980

Bonneville Power Administration
Department of Energy
Washington, D. C. 20545

Bonneville Power Administration
P.O. Box 3621 - SJ
Portland, Oregon 97208

Re: N. Montana/N Idaho Support
and Libby Integration EIS

Gentlemen:

In commenting on the draft supplement EIS we wish to protest your lack of study of the various methods used in flattening peaks of power demand. Your negative evaluation of conservation as an alternative to upgrading this power line is therefore to be expected.

The draft quotes the Corps of Engineers as concluding that conservation and load management will be needed in addition to, not instead of, the new generation at Libby. You further state that because additional units are currently being installed at Libby Dam with completion scheduled for 1983 "conservation actions which would forestall the need for increasing transmission power unlikely."

As citizens who want the lowest possible rates for electricity, we object to expensive construction projects planned and to refusal to study conservation measures which might make those projects unnecessary. You admit that conservation is the cheapest alternative, but then again "assume" that its implementation may reduce peak demand about 7.5% by 1985. Since present demands are already under those that were projected, your figures are surely low.

If the General Accounting Office report is correct in its cost-benefit figures on the Libby re-reg dam, it should not be built and your line should not be upgraded in anticipation of the dam construction.

Yours truly,

Mr. & Mrs. John R. Hennessy

United States Department of the Interior

OFFICE OF THE SECRETARY

PACIFIC NORTHWEST REGION
500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232

OFFICIAL FILE COPY
No. Date JAN 26 1981
Referred To:
Action Taken
☐ ANS. ☐ NO REPLY
By Date

January 22, 1981

ER 80/1347

Mr. Sterling Munro, Administrator
Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Munro:

In reference to this Department's letter dated December 29, 1980 (copy attached), concerning the Draft Facility Location Supplement to the Final Environmental Impact Statement for Northwest Montana/North Idaho Support and Libby Integration, Lincoln County, Montana and Bonner County, Idaho. In that letter, I stated that a possible problem existed regarding the Kootenai Tribe and lands of religious and cultural significance. There has been no further statement from the Tribe regarding impacts to their lands. In order to eliminate any potential conflict, I would suggest that your staff contact Patrick Lefthand, Elmo, Montana 59915, regarding clarification of this point.

Sincerely yours,

Charles S. Polityka
Regional Environmental Officer

Attachment

United States Department of the Interior

OFFICE OF THE SECRETARY

PACIFIC NORTHWEST REGION
500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232

December 29, 1980

ER 80/1347

Sterling Munro, Administrator
Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208

Dear Mr. Munro:

The Department of the Interior has reviewed the Draft Facility Location Supplement for Northwest Montana/North Idaho Support and Libby Integration, Lincoln County, Montana and Bonner County, Idaho and offer the following comments.

General Comments

To a large extent, justification for the proposed project is based on the need to integrate power from the four additional generators to be installed in Libby Dam. As is pointed out in the Corps of Engineers (COE) NEPA compliance documents for the Libby project and in the subject document, the planned operation of the additional generators is almost totally dependent upon the construction or a reregulating dam. Construction of such a dam has not been authorized by Congress. Given this situation, we feel it is necessary to consider in the FEISDS the plan of operations and its attendant impacts which would allow for power generation from the additional Libby generators without a reregulating dam. Such a scenario is discussed only briefly in the COE Final EIS for the Libby Project and in Supplement I of that EIS. Those discussions indicated that the additional generators could not be operated as planned without violating the flow criteria for the Kootenai River.

From the information provided in the subject document, it would appear that this project is a part of a larger project which involves a reregulating dam. An environmental analysis which considers only a portion of the project cannot surface cumulative impacts which may result from construction of the entire proposal. It would appear that a more meaningful project appraisal could be done if all project components, including those necessary for power generation as well as transmission, were considered in one EIS.

We suggest that Section II, Alternatives Including the Proposed Action, be rewritten to reflect the current situation with regard to the rere-

gulating dam. All the alternatives in the FEISDS are compared assuming that Libby Dam will be operating as a peaking facility which would require a reregulating dam. Again, since that dam is not authorized, we feel the alternatives should also be evaluated assuming that Libby Dam will be operated as a baseload facility.

We also recommend that the section dealing with environmental consequences to wildlife be modified. That section should show that certain mitigation measures considered in evaluating impacts were not recommended for inclusion in the proposed action. For the most part, these measures involve restricting line construction times so that disturbance in a particular area does not occur during an important period in a species life history. There is no discussion, however, in the FEISDS of the impacts which would occur if the construction schedules were not adapted to the species needs outlined on page 19 of the draft supplement. In that the proposed action does not mandate restrictions on construction, except for bald eagles, potential impacts to other species should be discussed.

Neither the proposed action nor alternatives presented in the draft appear to impact adversely on mineral deposits. In fact, one portion of the proposed transmission line rerouting will benefit vermiculite mining. However, impacts (adverse or beneficial) on minerals are never addressed despite several subheadings that indicate they will be. For example, on page 30, under the section on "Environmental Consequences" is the subheading "Geology, Soils, and Minerals". Geology and soils are discussed, but the potential for impacts on metallic or nonmetallic mineral deposits is never discussed. Likewise, subsections entitled, "Geology, Soils, and Minerals," on pages 18, 30, which deal with various mitigation measures, fail to discuss mineral deposits or mining. After using these subheadings, the reader should not be left to assume that no comment means no impact.

Incidently, the section on soils appears to be very well presented in text, maps, and tabulations.

Specific Comments

Page 2. The statement regarding completion of the reregulating dam should be qualified to reflect that the dam is not authorized.

Pages 21-22. The use of two single-circuit lines at the Kootenai Falls crossing to reduce hazards to bald eagles is not included in the proposed action because it would involve increased disturbance to the proposed Kootenai Falls Historic and Archeologic District. It would appear that the Kootenai Falls Atlernative Route (Figure 4) would avoid the proposed District and so the single-circuit lines could be used along this route.

Page 22. We strongly recommend that reseeding of disturbed bighorn sheep habitat be included as part of the proposed action as there appears to be no reason for not doing so.

Page 51. The Heritage Conservation and Recreation Service should be used instead of the National Park Service in the first sentence.

Pages 51-52. The potential archeological and historical sites are described. The Kootenai Tribe at Bonners Ferry, Idaho, should be kept informed on any undertakings that might involve these sites.

The Kootenai Tribe is currently investigating the possibility that this project may impact lands of religious and cultural significance. That investigation should be completed by mid-January, and depending on its outcome, we may wish to augment these comments. You should hear from us no later than January 20, 1981.

Thank you for the opportunity to comment on this draft document.

Sincerely,

Charles S. Polityka
Regional Environmental Officer

Dec. 28, 1980

Sirs;

I wish to protest the erection of the steel towers through Paradise Valley, east of Bonners Ferry, Idaho.

My land is directly under the wires of the existing right of way. Not only is this aesthetically ugly considering the nature of the area, we find it detrimental to land use and the wires have depreciated the value of our land. The larger area the towers would take up would exaggerate these obvious problems.

Also, there are questions (unanswered) of the long term effects of electro-magnetic radiation of living systems. I worry about these questions since the wires will be 200 feet from my home and family. I question I refer to come presently from studies in Minnesota and Oregon.

When the wooden poles were installed through our (and our neighbors) land, they were a great point of consternation; 230 KV lines supported by 120' steel towers are unacceptable.

Sincerely,

John P Butler
1318 1st St., #4
Cheney, Wa. 99004

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

THOMAS L. JUDGE, GOVERNOR

STATE OF MONTANA

(406) 449-3712

32 SOUTH ELM WING

HELENA, MONTANA 59601

December 29, 1980

Bill Freeland
Project Manager
Libby Project
Bonneville Power Administration
Portland, Oregon 97208

Dear Mr. Freeland:

I am writing in regard to the "Draft Supplemental Final Environmental Impact Statement for Bonneville Power Administration's Proposed Fiscal Year 1980 Program, Facility Location Supplement" known as the Libby Integration Project. In order that the Department may more adequately analyze the Draft Statement, I am requesting a 30-day extension of the comment period. I have attached some of the preliminary comments for your review. As you can see, we have not addressed environmental concerns in these comments. We will have comments on the environmental concerns in our analysis compiled during the extension period.

Based on preliminary analysis, the Department feels that the proposal may be premature in light of uncertainties surrounding other projects such as the Kootenai Falls and Libby Re-regulating Dam Projects. An upgrade of Pacific Power and Light's existing line which presently passes by the Kootenai Falls project area would be considered either as an associated facility of the Kootenai Falls project or as a facility under the Montana Major Facility Siting Act and would come under the jurisdiction of DNRC. The Department was surprised to learn of Bonneville Power Administration's plans for this facility since R. B. Lisbakken, Vice-president of PP&L, stated in a letter to Mr. Moy, Administrator, Facility Siting Division, "Pacific has had no negotiations with BPA concerning the acquisition of Pacific's line, although BPA has indicated they may wish to make use of Pacific's right-of-way. Because BPA has not pursued negotiations for Pacific's transmission line, we assume they have no interest in its use."

The Department has outlined, in the attachment, areas of concern to us. An analysis of environmental concerns will be

forthcoming early in the extension period we have requested. Some of our concerns listed in our previous comments to BPA on this facility have been addressed in the DEIS while others have not (see attached letter dated November 1, 1977).

Please notify us immediately in writing of your decision on the extension of the comment period. We appreciate the opportunity to contribute our comments to the Draft Statement.

Sincerely,

TED J. DONEY
DIRECTOR

TJD/bw
Attachments
cc: Randy Moy
Gordon Brandenburger
Gerald Mueller
Senator Max Baucus
Representative Pat Williams

COMMENTS

ON

THE NORTHWEST MONTANA/NORTH IDAHO SUPPORT

&

LIBBY INTEGRATION FACILITY LOCATION SUPPLEMENT

OCTOBER 1980

Need for the Facility

Peak load growth is overstated. The current West Group Forecast of peak load growth is 2.9% per annum for the decade, and 3.4% for the next five (5) years, rather than the 5.5% average claimed on page 10; thus, alternatives such as conservation could delay the need by two (?) to three (3) years rather than one (1) to two (2) years as indicated on pages 10-11.

When will the proposed line be needed, as evaluated by a benefit/cost analysis? If the minimum build alternative is undertaken, when would building the proposed line be justified by benefit/cost analysis? Although costs of the proposal and economic losses produced by alternatives are stated (pages 3, 4, 7), there is no comparison among them, and the cost of the minimum build alternative is not indicated except in terms of line losses.

If the line will not be needed until 1985 or later, why does the Bonneville Power Administration (BPA) propose to build it by 1983?

A need for line capacity is assumed for the proposed Kootenai Falls Dam, which has not been approved by either federal or state agencies. Assuming a need for transmission capacity and for upgrading transmission facilities presupposes the decision that will be made on the Kootenai Falls Dam proposal.

There are other unanswered questions regarding the need for the facility at this time, e.g. when will the Libby re-reg dam be built — or will it be built? If not, what is the likelihood that the Libby Dam will be operated at 980 MW? It is stated on page 2 that the additional units at Libby cannot be used for peaking without the re-reg dam. This has been confirmed this week by contacts with the Corps of Engineers. It is also stated that the re-reg dam is scheduled for completion in 1986. Congress has not authorized or provided funds for the re-reg dam, however. How long might the delay in approval of funding delay the re-reg dam construction? Even under the no action alternative, Libby Dam can be used for peaking in winter (page 4), and with an outage of one of the 230 kV lines, the generation from Libby Dam without the re-reg dam (483 MW) can be handled with the current system (page 5). Peaking actually appears to be restricted by the limits on flow through the Libby Dam imposed by lack of the re-reg dam, not by the current electrical system configuration. If this is not an accurate assessment of the situation, BPA should explain why it is not.

Reliability

The reliability justification should be supported by an explicit analysis of probabilities. Without information of this type, it is impossible to assess the benefits versus the costs of reliability, without which an assessment of reliability standards cannot be made. What is the probability of an outage? What is the probability of an outage at the time of peaking? If the 115 kV line is sectionalized and an outage occurs, can the line be desectionalized to restore service until the outage is repaired? If so, how long does it take to desectionalize?

Apart from these need and reliability questions, the following issues are of concern to the Department of Natural Resources and Conservation (DNRC).

1. If the line is built as proposed, how does BPA propose to resolve issues not addressed in the draft? For example:
   a. the location of a four-mile rerouting of the line near Vermiculite Mountain;
   b. minor relocations or expansions of the right-of-way between the towns of Libby and Troy;
   c. whether to build two single-circuit lines at the Kootenai Falls and Troy crossings of the Kootenai River to reduce the potential for bald eagle collisions with the line;

d. development of a workable construction schedule that allows service to customers to be maintained and at the same time avoids disturbing osprey, Canada geese, and bighorn sheep during nesting and lambing periods;

e. whether to use special conductors, painted towers or wood towers to reduce visibility of the line in some areas;

f. whether to use helicopter construction for part of the line west of Libby to minimize erosion problems created by access roads;

g. whether to relocate the river crossing at Kootenai Falls to avoid a proposed archaeological district on the north shore.

2. Why are some mitigation measures included in the proposed action and others not included? (The Table of Contents lists II. D., "Mitigation Measures Included in the Proposed Action" and II. E., "Mitigation Measures Not Included in the Proposed Action")? Are the measures listed in II. E. being dropped from consideration or will they be reviewed further? If further review is necessary, how will it be accomplished?

3. How will environmental costs be balanced against economic costs? Environmental concerns seem to be treated as an after-thought while the fundamental decisions being made are being based on need and reliability.

4. The draft answers the question of need and reliability without the re-reg dam on the basis of handling peaking power from Libby Dam, which cannot occur without the re-reg dam. How is the uncertainty of funding for the re-regulating dam factored into the need and reliability determinations? The issue of need and reliability should be discussed in terms of the present transmission situation -- without the re-reg dam, without Libby peaking capability (flow restrictions), and without the proposed Kootenai Falls capacity since the status of all of these projects if not resolved.

5. Does the Northwest Regional Power Planning legislation affect the proposal? If so, how?

Thomas L. Judge, Governor

MONTANA DEPARTMENT OF NATURAL RESOURCES & CONSERVATION

MEMBER OF THE 83480

DNRC

John C. Orth, Director

November 1, 1977

Bonneville Power Administration
Kalispell District Office
P.O. Box 758
Kalispell, Montana 59901

RE: Comments on the Libby Integration and Northwest Montana/North Idaho Support-Draft Facility Planning Supplement

Dear Sirs:

The Bonneville Power Administration is to be complimented for publishing the Draft Facility Planning Supplement on the Libby Integration Project and for holding meetings to receive public comments. Some of the Energy Planning Division staff and I attended the meeting in Libby on October 12, and, based upon that meeting and the Draft Facility Planning Supplement, we offer the following comments.

Although BPA has set forth several different transmission system and routing alternatives for public review and comment at an early planning stage, an important decision concerning the need for the facility has apparently already been made, and without public input. The Draft Facility Planning Supplement explains the need for the Libby Integration Project as follows:

> When the new generation is added at Libby, an outage on one of the 230 kV lines will overload the remaining 230 kV line and the 115 kV line from Libby. There is not enough transmission capacity now to carry the new generation from Libby into the grid system; for without a third 230 kV line, generators at Libby would automatically disconnect from the system during line outages. Loads on the 115 kV system could also be dropped. (p. 2)

At the public meeting when asked why additional transmission lines should be built, the BPA representative essentially repeated this explanation. He stated further that building transmission lines to satisfy a single contingency, i.e. the loss of one transmission line, is standard utility practice. Whether this utility practice should be followed in this case was not a question addressed by BPA either in the Planning Supplement or in the public meeting.

The Draft Supplement does briefly discuss the "no construction" alternative in two short paragraphs on page 47. However, these paragraphs basically describe the actions necessary to keep existing lines from overloading if the additional generation is built at Libby and a 230 kV line outage occurs. They also state that if no new lines are constructed line losses on existing transmission lines would be higher and that the money which would be spent to con-

struct, operate, and maintain the additional lines would be saved.

This discussion is not sufficient for the public or BPA to rationally decide if applying the single contingency design standard is worth it in this case. It certainly does not constitute the cost-benefit analysis of need required by the National Environmental Policy Act. Although the BPA is only at an early stage of its consideration of the proposed line, it should begin to consider and report to the public a more detailed analysis of the benefits and costs associated with construction of the proposed facility and alternatives. Reporting in detail on impacts of alternative routings without a similarly detailed discussion of the issues surrounding need implies to the public the BPA has predecided the need issue.

Because of the difficulty of quantifying the benefits and costs associated with a projected increase in transmission system reliability, conducting a benefit-cost analysis will be a complex task. The benefits of the proposed Libby integration project would appear to include: reduced probability of loss of generation from the Libby dam; reduced probability of inconvenience, capital losses, and productivity losses to electricity consumers; and reduced transmission system line losses. The costs would include the construction, operation, and maintenance dollar costs and the adverse natural and cultural environmental impacts resulting from the construction and operation of the new lines.

The amount of the benefits which will ensue from the proposed project will depend directly upon the number, duration, and timing of outages on the existing 230 kV transmission lines and upon the amount of load on the Libby generators at the time of the outage. According to the Draft supplement the capacity of the existing transmission system will be insufficient to withstand loss of a 230 kV line when the four additional generation units are added at Libby. However, the Draft Supplement also states that the additional units will be peaking units which will not run continuously. Thus the loss of a 230 kv line even after the new Libby units are added may not always result in insufficient transmission capacity, loss of Libby generation, and loss of power to electrical consumers. The BPA should begin the benefit cost analysis by examining the historical outage statistics for the existing lines to construct a distribution of the number and duration of outages. This distribution could then be compared to the projected distribution of generation loads at Libby after the four additional units are added. This comparison would allow BPA to estimate how often loss of a 230kV line would mean insufficient transmission capacity, and the amount, duration, and timing of the electrical energy which would be lost if the proposed Libby integration project was not constructed. This information could in turn be used as a basis from which to estimate productivity and capital losses to electrical customers.

These comments are not intended as a "cookbook recipe" for a reliability benefit-cost analysis. They are intended to stimulate thought concerning some of the issues surrounding the need for this project. Although increased transmission system reliability is desirable, it carries with it very real economic

and environmental costs. Reliance upon utility industry design standards to justify need may hide these costs but does not aid the public in understanding the relative merits of the options available.

Two other concerns were raised during the public meeting and should be addressed by the BPA. The first is the absence of any cost estimates for the various alternatives. Obviously, the BPA cannot precisely estimate the costs of the proposed transmission lines before the lines are designed and before specific alternative routes are identified. However, the BPA should provide at least order of magnitude cost estimates so that the public can get some appreciation of the relative project costs. Surely BPA can estimate if the project will cost on the order of 10 or 100 million dollars. The BPA should also be able to estimate the relative costs of the transmission alternatives identified in the Draft Supplement. By estimating the line lengths of the different voltage lines and the different substation requirements, BPA should be able to at least rank and provide some idea of the cost variability among the different alternatives.

The second concern raised at the meeting was the possibility of upgrading existing transmission lines so that no new lines and separate rights-of-way would be required. The pros, cons, and technical feasibilities of upgrading should be discussed, including the need for and expense of new transformers and the timing and duration of any outages to existing electricity customers necessary to rebuild the lines.

Some more specific comments of statements in the Draft Supplement follow:
1) On page 1 in the footnote to Table 1 the ASARCO mining load is listed as 9.5 MW. A preliminary copy of Northern Lights, Inc. application to this Department for a 115 kV transmission line to serve the ASARCO mine projects the ASARCO load to be "...approximately 18 MW..."

2) Page 2 lists the capacity of the proposed Kootenai Falls project as 160 MW. The application for a preliminary permit from the Federal Power Commission filed by Northern Lights, Inc. lists the installed capacity as 140 MW. No mention is made of a third 20 MW turbine.

3) Page 3 states that "Alternative Plan A assumes that the proposed Hot Springs-Bell line is built on one of the alternative routes that pass by the Noxon area." Will the Libby Integration Project influence the choice of routes for the Bell-Hot Springs line? Since Plan A will be the least costly alternative to construct, will this plan be listed as a justification for routes in the Noxon area?

I again commend the BPA for interacting with the public at an early stage in the Libby interconnection project and appreciate this opportunity to comment on it.

Sincerely,

Bob Anderson

Bob Anderson, Administrator
Energy Planning Division, DNRC

BA/psg

BPC [illegible]

12/30/80

I will oppose any construction of electrical towers, made of steel, through my land in Pleasant Valley, Idaho. They would be bad news in every way conceivable way I can imagine.

George Carbide

George Carbide
Box 373
Bonners Ferry, ID

Dec. 30 - 86

Dear Sir,

We want you to know we are opposed to the steel towers you are planning to put on the power line, at least so close to our dwellings. The wooden structures seem O.K. as we are used to them.

Sincerely
Mr. & Mrs. Dale Harrington
and Lillian Estabrooke
Rt. 1 Box 455
Bowmen Ferry, Rd.
83865

Rt 1 Box 135
Priest River, Idaho 83856

Spokane Area Manager
Bonneville Power Administration
W. 920 Riverside
Spokane, Wash. 99201

Dear Sir;

I protest the proposed powerline construction from Libby Dam to Sandpoint. This project is on a scale which will provide the capacity for the transmission of power from two highly uncertain hydro projects; namely the 'Laurd' project and Kootenai Falls Dam. At the recent BPA public meeting held in Sandpoint on Dec. 16, those present were told that upgrading the existing 115 line in itself, would probably rectify current and expected line loss problems until about 1984-85, without any additional generation coming on line. BPA should at the very least defer this project because current and projected needs do not justify this project. The Laurd project is highly uncertain. The re-reg dam is still under injunction and has no authorization from

Congress. The additional generators, when completed will essentially be inoperable without the re-reg dam. Any attempt to operate the additional generators for peak situations would violate the fluctuation criteria established by the ACOE in a matter of minutes. Construction of the Kootenai Falls Dam has initially been delayed by failure to prepare a proper EIS. If one assumes no additional delays will occur, completion is still years away. BPA and the ACOE have yet to complete thorough study of alternate means for solving the peak power problems of this area, by implementing conservation measures and other means. I suggest that BPA address the immediate needs of the area and provide additional transmission facilities on a schedule which more realistically coincides with the proposed, and highly uncertain, generation projects. We cannot afford to squander taxpayer dollars based on a hunch that a certain scenario will exist in

years to come. BPA previously deferred the Sandpoint to Rathdrum portion of this line for reasons, in part, I have just listed. The current segment should be scrutinized in light of the same reasoning. The justification for this segment is currently so thin, that it strains credibility at any level. The public, will eventually become aware of this costly, misguided attempt, in mass, and they will not stand for it!

Sincerely,
Rand D. Bitetti

ASARCO

Troy Project
J. P. Bingham
Project Manager

December 22, 1980

Spokane Area Manager
Bonneville Power Administration
Room 561, U.S. Courthouse
W 920 Riverside Avenue
Spokane, Wa. 99201

Dear Sir:

My name is Ted Rollins. I am here to represent ASARCO Incorporated, Troy Project at this public hearing.

ASARCO recently completed construction of a 115 K.V. transmission line from the Troy substation to mine site. Most (86%) of our 101 employees are local area residents. When the Troy Project becomes operational in October of 1981, we expect the percentage of local residents in our 300 person work force to be about as it is now if not higher.

ASARCO feels that upgrading the transmission line from Libby Dam to Sandpoint, Idaho as proposed by Bonneville Power Administration is a sound and timely proposal which will be in the best interest of our employees and ourselves.

ASARCO strongly endorses this plan to construct a larger transmission line which will provide more adequate and dependable electrical service in the future to the local users.

Very truly yours,

T. M. Rollins
Personnel Agent

TMR/km

ASARCO Incorporated Box 868 Troy, Montana 59935 (406) 295-5882

OFFICIAL FILE COPY	
No.	Date JAN - 2 1981
Referred To:	
Action Taken: ☐ ANS. ☐ NO REPLY. By	Date

Tracy O'Reilly
Star Route
Moyie Springs
Idaho 83845

31 December 1980

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland Oregon 97208

Sirs:

Regretably the BPA did not take record of the public hearing held in Bonners Ferry, Idaho, earlier this month and, therefore, it is hoped this letter can be considered though it arrives after the cut-off date.

Regarding the proposed upgrade of the transmission line between Libby, Montana, and Sandpoint, Idaho, as detailed in the Northwest Montana / North Idaho Support and Libby Integration draft E.I.S., October 1980:

Why not put it underground? or, give greater consideration to the

wood-pole design adequate to carry 230 kV. (pg. 2, E.I.S)? Aesthetics play direct and indirect roles in an area's economies. The metal design is ugly. Wood is a local resource, as is labor, and to consider the hiring locally of only 18 of the eventual total 105 workers (page 42, E.I.S.) is further disregard of the communities.

The nearly unlimited growth of the use of electricity in this country in this century need not be construed as a mandate to supply to similar future growths. Al Smith, of Southern California Edison, compares a 6% annual growth rate of electricity demand during the 1960's with a 2.4% rate today, and says it is a "dramatic reduction in the implication of need for power plants," (Los Angeles Times, 27 December 1980).

Granting present usage, and wastage, it would seem B.P.A.'s responsibility, as a public agency, to assess use as well as need in the lights of reality, and not only to distribute power but also information, helping to match appropriate sources and uses.

Appropriate as it relates to energy sources and uses must mean safe, efficient, and aesthetic. It might include solar, wind,

water, tidal, wave, geothermal, magnetic, and others for sources, and energy efficiency, cogeneration, as well as conservation.

The assumption that more and more will need to be transported accross the Libby-Sandpoint line seems specious from two standpoints: where will it be used, and where will it be generated? Rather than a large user, industry can be a cogenerator; rather than large generating plants supplying a region there can be small and various types installations supplying individuals and communities. The money for the proposed rebuild, currently forecast as $30,500,000 in the E.I.S. (p. 16), might be better spent on reconductoring the present line, and funding education, efficiency, and cogeneration measures.

Discussion of relocating the line underground was not included in the E.I.S; this would be the most pleasing aesthetically.

Thank you,

Tracy O'Reilly

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX C-3755
SEATTLE, WASHINGTON 98124

31 DEC 1980

NPSEN-PL-ER

John Kiley, Environmental Manager
Bonneville Power Administration
Post Office Box 3621 - SJ
Portland, Oregon 97208

Dear Mr. Kiley:

We have reviewed the draft supplement to the final environmental impact statement, Bonneville Power Administration, Proposed Fiscal Year 1980 Program, Facility Location Supplement, Northwest Montana/North Idaho Support and Libby Integration. With respect to the U.S. Army Corps of Engineers' areas of responsibility for flood control, navigation, hydropower, and regulatory functions, we have comments which are attached as inclosure 1.

Thank you for the opportunity to comment on this supplement. If you have any questions, please contact Dr. Steven F. Dice, telephone (206) 764-3624, of my staff.

Sincerely,

LEON K. MORASKI
Colonel, Corps of Engineers
District Engineer

1 Incl
As stated

NPSEN-PL-ER 23 December 1980

COMMENTS: Draft Supplement to the Final Environmental Impact Statement, Bonneville Power Administration, Proposed Fiscal Year 1980 Program, Facility Location Supplement, Northwest Montana/North Idaho Support and Libby Integration

1. An Army Corps permit may be required under Section 10 of the River and Harbor Act of 3 March 1899 for the proposed crossing south of Libby Dam if the crossing is not licensed under the Federal Water Power Act of 1920. A Corps permit may be required at any of the river crossing sites under Section 404 of the Clean Water Act if fill material, including poured concrete, is placed waterward of the ordinary high waterline or in adjacent wetlands. Additional information can be obtained from the Seattle District Regulatory Functions Branch, telephone (206) 764-3495.

2. Page ii, line 5. Delete 1983; add May 1984.

3. Page 2, second paragraph:

a. Line 2. Delete October 1983; add May 1984.

b. Line 6. Change as follows: "Four generators with a total capacity of 90,740 KW will be installed . . . ."

c. Line 8. After "Kootenai River" insert "at Kootenai Falls . . . ."

4. Page 2, third paragraph. Change as follows: "Construction of the reregulating dam and generators is subject to project authorization. Based on restrictions on river fluctuations in effect now, the added units at the main Libby Dam cannot be used for peaking without the reregulating dam unless comparatively high water releases occur at Libby Dam. According to the Corps of Engineers, the added units can be used to (1) produce secondary energy and power; (2) serve as reserve units during repair and recurring maintenance of units one through four, thereby avoiding down time; and (3) increase system flexibility. Transmission plans will be adequate to integrate the additional generation from the Libby dams and the Northern Lights project as well as the serve area loads."

5. Page 4, fifth paragraph:

a. Line 10. After "Libby" insert "Dam . . . ."

b. Last line. Delete "winter . . . ."

6. Page 5, first incomplete paragraph:

a. Line 1. After "capability" insert "at Libby Dam . . . ."

b. Lines 1 and 2. Delete "and the summer peaking capability to two units (242 MW)." Add ". . during the winter and to two units (242 MW) during the summer."

c. Line 7. After "Libby" insert "Dam . . . ."

7. Page 7:

a. First complete paragraph, line 6; change "10,500,00" to "10,500,000 kWh."

b. Fourth complete paragraph, line 1. After "Libby" insert "Dam . . . ."

8. Page 8:

a. Fourth paragraph, line 8. Delete "1983" and add "1984."

b. Fifth paragraph, line 2. After "Libby" insert "Dam . . . ."

9. Page 10, first incomplete paragraph, penultimate line. After "area" insert " . . . but this ban was later overturned in court."

10. Page 11, first complete paragraph, line 3. After "Libby" insert "Dam, . . ."

11. Page 16, second complete paragraph, line 1. After "system" insert "power . . . ."

12. Page 50, section titled Historic and Archeologic Resources. Esthetic value of prehistoric sites is not a basis for National Register eligibility and, consequently, is of little concern regarding this transmission line.

Spokane Area Manager
Bonneville Power Administration
Room 561 U.S. courthouse,
W. 920 Riverside Ave.
Spokane Wa. 99201

After reading the "Draft Supplement" for the Libby Integration" I felt it was the most biased attempt at portraying a decision (a decision obviously made prior to the document) I had ever seen. The statement is so blatant in its bias I feel sure it must have been written by a totally naive person(s) and reviewed by some one who felt it best used as a prospectus for publics interested in buying shares in the project.

After attending the "public meeting" in Libby, where the "key-note address" was given by the Northern Lights P.R. man I realize my error - you folks aren't naive at all - you're just a bunch of "good old boys" who are no longer able to distinguish the difference between Public Agencys and private, profit motivated corporations and consortiums.

Based on the rather harsh accusations above, I really see no basis for going into depth or detail on what I see lacking and wrong with the supplement. I'm afraid you'd have to start all over again to convince myself and a lot of people like me that you are indeed soliciting public comment - that the issues of location poles/towers etc. and the underlying question of need are still open to question, and that Mr. Rainey is not a federal employee - but you folks are.

Sincerely

Lance Scheirman
RR 2 box 446 Libby MT. 59923

Rt 1 Box 156
Priest River Id 83856
December 30, 1980

Bonneville Power Administration
W. 920 Riverside
Spokane, Wa. 99201

Sirs:

In regard to your proposed improvement of powerlines between Libby Montana and Sandpoint Id.

Considering the present economic conditions of the U.S. Government, I believe its time for conservation of the existing energy. The upgrading of your present facilities seems reasonable but any expansive preparation to include use of the uncertain future of the reregulation dam being allowed at Libby is wasteful in my opinion.

As to my right to speak to this issue I am a thirty-six year resident of Northern Idaho and for many years a proponent of publicly financed programs, such as R.E.A.

I now believe "big government" has become irresponsible in their trust of environment, natural resources and tax monies. I will so express myself personally through elected representatives, local, State and national.

Yours truly
Estelle Garnick

Spokane Area Manager, BPA
Room 561 U.S. Courthouse
W. 920 Riverside Ave.
Spokane, WA 99201

December 30,1980
Libby, Montana

re: N.W. Montana/N.Idaho Support and Libby Integration
Draft E.I.S.-Public Comment

To whom it may concern:

The overriding question is why this line is being constructed before the re-regulation dam and the Kootenai Falls dam are authorized. One can understand a certain amount of pre-planning but pre-construction is an economic boondoggle.

The following comments are addressed specifically to the Draft Final E.I.S.. For clarity the commemnts are itemized under several headings.

Discussion of Alternatives

-The minimum build alternative was not examined fully, especially in light of the dubous future of the rereg and Kootenai Falls dams.

-The minimum build alternative was evaluated in terms of "no rereg" yet the proposed plan was not. Why will low voltage be detrimental to the reconductorted line and not the 230kv line?

-The minimum build alternative combined with conservation efforts look as viable as the proposed plan and more economical. They should be evaluated in combination as well as indvidually.

-Page 11/para 4--an invalid statement. Additional units in Libby Dam will not be regularly operated without the rareg dam.

-Page 7/para 2&3--unclear and do not serve to substantiate anything.

-Annual increases in the cost of maintenance are mentioned under each alternative except the proposed plan.

-The number and types of jobs for each alternative should be identified.

Items Not Addressed

-There is no discussion of alternative tower designs or materials, although several alternatives are implied by Fig. 2. If indeed steel towers are necessary, why must they be 120' tall?

-The proposed plan is consistently justified by the fact it will reduce social impacts by providing reliable service. However, under purposes on page 1, minimizing social impacts is not mentioned. On page iii/para 3/last sentence suggests socio-economic impacts are more important then environmental impacts. Such evaluation criteria and their relative weight should be more clearly identified.

-Page 6/para 2--A plan "for relieving overload situations" is listed as an item the minimum build alternative may require. What would such a plan entail? Would not such a plan cost less to develop and implement than construction of a new line?

-The devaluation of private land due to visual and physical impacts and restricted use of the right-of-way is not assessed.

General Comments

-BPA questions the economic returns of conservation yet during November 1980, as a result of conservation, extra power was available for resale from the Libby Dam. This fact was broadcasted during the first week of December on the Libby radio station.

-BPA's conservation efforts have amounted to a mere fraction of the effort and dollars spent in planning this powerline, and they have been directed at residences! Industrial electric conservation would result in much greater savings!

-Short term economic stimulus, which is considered a benefit in this E.I.S., is actually a detriment to a small community's economy. After the stimulus, Libby will be faced with a drop in retail employment as well as construction employment. Merchants will be forced to reduce overstocking, often at a loss. Some may even be forced to close. All this will cause a major drop in cash flow throughout the community.

-BPA sent only two copies of the draft final E.I.S. to Libby. The first time copies were available to the interested citizens of Libby was the evening of December the 17th. Considering that the statement was published in October with a response deadline of the end of December, it appears the BPA was not interested in any responses from Libby. WE requested a copy in writing in June 1980. A copy of that letter is enclosed. It has never been answered despite a follow-up request in October of 1980.

-One of the "major" areas of environmental benefits of the proposed plan is a reduced number of structures in farmland. We question that. Only 7.5% of the study area is in irrigated farmland and no irrigated farmlands occur in the corridor. Those are your figures not ours (see pages 15 and 24). It appears you were grasping for a comment under the benefit heading.

Visual Impacts

This section of the E.I.S. is very poor in content and coverage. One of the authors of this letter is a professional landscape architest specializing in the assessment of visual impacts and thusly feels compelled to point out the following major deficiencies.

-The increased visual impacts of the existing substations due to higher towers and increased right-of-way widths. The Libby and Troy substations are both visible from major travel routes.

-The unnatural straight line effect of corridor clearings are not discussed.

-The possibility of red and white towers which may be required by the FAA at river crossings is not discussed. This is a serious oversight.

-Access roads, cuts and fills are not discussed. The visual impacts from roads are permenant and more critical than vegetative manipulation. The severe road building conditions are addressed in the geology section, all the more reason they should be addressed under visual impacts.

-The visual impacts of the new 115kv line to be built to service the proposed reregulation dam are not discussed.

-Impacts on the view from the Cabinet Mountains Wilderness Area are not discussed.

-The extremely low visual absorption capability of the many ridgetops and the Kootenai River canyon is not discussed.

The study, although done by a reputable firm, is very general in nature and lacking in a few areas as it is presented in the draft statement. Exactly what type of transmission line was being evaluated? Their conclusions makes one question the size and location of the towers and line they were assessing. The study was obviously conducted during the summer and spring when the leaves were still on the trees.

The matrix is almost laughable...since when do two moderates and a high rating result in a low overall impact? Furthermore the matrix only addresses river crossings, with driving being the number one form of recreation in Montana, the visual impacts along all major road corridors should be addressed.

We feel very strongly that the mitigative measures involving the use of non-specular wire and dark colored towers should be implemented throughout the length of the corridor if the proposed plan is implemented. Most critically, the height of the towers regardless of material or design should not exceed the height of the existing towers.

These comments are made as a sincere effort to save taxpayers and electric customers money and to reduce the detrimental effects on our environment.

Sincerely,

Gloria Gross

Alfred Miguelucci

Gloria Gross
Alfred Miguelucci
Rt. #2 Box 462
Libby, Montana

P.S. We resent the BPA, a federal agency, presenting a private consortium, Northern Lights, Inc., as a keynote speaker at the public meeting in Libby. The Northern Lights representative was in favor of the proposed project because his company stands to significantly gain economically from its completion. His comments should have been made during the public comment period. That kind of procedure should be against the law if it isn't already.

Copy of attached letter

Mr. Timothy Murray
Dept. of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208

24 June 1980

ref: ETMC Sandpoint-Libby

Dear Mr. Murray,

We have recently purchased the former Ervin and Linda Volkman property on River Road in Libby Montana. As you are aware, BPA's 115-kV wood-pole transmission line abutts our property line on the east side for 660'. The Volkman's have just forwarded to us Charles Wait's letter of 9 June regarding the imminent archaeological reconnaisance along the existing right-of-way.

His letter generates a number of concerns and questions. First and foremost, why are the increased voltage lines necessary? If the reregulation dam and the Kootenai Falls dam were not constructed, would this line be essential? What if only one of these proposed dams were built? If this line is not dependent on these additional dams, why wasn't a larger line installed at the outset?

Secondly, what route alternatives are you considering, both in the Libby area and beyond? Surely BPA is not relying upon the original alternate route selections investigated in the original Environmental Assessment. This proposed line has a much larger impact and routes should be reevaluated accordingly.

Our third area of concern is for the visual aspects of this project. We would like to know; the design of the towers, the height, the clearing width, the distance between towers, what color the towers will be and if nonspecular line will be used. On a larger scale, how are the visual impacts on Libby, the Cabinet Mts. Wilderness, Highway 2, Highway 37, and the various popular recreation areas being assessed? Are the lines going through or abutting any proposed wilderness areas?

What type of community information and involvement is occurring? How are you coordinating with the landowners--individual, corporate, and public?

Regarding soil and water resources...what mitigative measures are used to protect surface water quality during construction? What erosion control measures are taken, especially at stream crossings? How are soil compaction problems being mitigated? Is BPA required to follow state and federal soil and water quality regulations?

The existing line is extremely close to our house and barn. How loud will the hum of the new lines be? How large is the area of electrically charged air surrounding the lines? Have you any information on the potential health hazards to humans, livestock and crops living in close proximity to the lines? How will the lines affect radio and television reception? Is the fire danger increased when these lines pass over structures, especially wooden buildings with shake roofs? Do metal roofs attract statically charged air?

In Mr. Wait's letter regarding the archaelogical recon pits, (and I quote) "Such excavation will be limited to no more than two pits...per area." Please define the term "area", as it pertains to our property location. Will these pits require access by heavy machinery for clearing? Will they be hand-dug? Will they be backfilled immediately or left open to be a hazard to small children, pets and wildlife? Please notify us of the results of the archaeological investigation and keep us informed of the project progress.

Would you please send us a draft and final copy of the EA as they are completed?

We would appreciate a rapid response either by phone or mail, whichever is most convenient. Before closing, we feel compelled to reiterate...are these proposed lines necessary if the reregulation dam and the Kootenai Falls dam are not constructed??

Sincerely,

Alfred Miguelucci & Gloria Gross

Alfred Miguelucci and Gloria Gross
P.O. Box 1237
Libby, MT 59923
406-293-9191

January 12, 1981

Mr. Ronald H. Wilkerson
Spokane Area Manager
Bonneville Power Administration
Federal Building
W. 920 Riverside
Spokane, Washington 99201

Dear Mr. Wilkerson:

These are my comments on the BPA's Draft Supplement EIS for the Northwest Montana/North Idaho Support and Libby Integration project. My comments reflect the views of the Clark Fork Basin Protective Association, an organization of which I am a member.

PREMATURITY

It is my feeling that construction of this double circuit 230-kV line is grossly premature. Construction should be delayed at least until 1) a final decision is made on the corridor location for BPA's Townsend-Hot Springs-Bell 500-kV line, 2) the Kootenai Falls Dam project receives its siting permits from Montana's Board of Natural Resources and Conservation and 3) the Libby Kereg Dam is authorized and receives appropriations from Congress. Without such delay, the BPA is risking the construction of what could be one of the most expensive 115-kV systems in existence.

The BPA 19 C Program EIS included BPA responses to comments on this project made by the US Forest Service. One USFS comment which highlights the prematurity of this project was flagrently ignored in BPA's responses, and I would like to see a response to it now. The comment, on page XIV-4, is "Decisions on corridors for the Hot Springs-Bell and Libby Integration will have to be made simultaneously or one decision will dictate the other decision."

The potential for integrating this facility with the Townsend-HotSprings-Bell facility, the central issue favoring delaying construction as BPA has proposed, will be addressed in the following section.

It is conceivable that the Kootenai Falls Dam may never be built, in which case this project as proposed would create excess transmission capacity and waste tax dollars. I can't imagine a private utility taking such a risk and am appalled that a federal agency could. Whereas planning for such a potentiality is appropriate, beginning construction anytime before permitting certainly is not.

The Montana Department of Natural Resources and Conservation is currently preparing an EIS on the Kootenai Falls Dam site. Whether that dam is built or not, any further planning on this project should integrate information generated in that study.

The Libby Rereg Dam has not been authorized by Congress and apparently will not be built. Everyone seems to agree that without the Rereg Dam Libby Dam can not be operated as a peaking facility and will not produce significantly more power than it does now. Since this is the present reality, why has the BPA continued to plan for transmission capacity for both the 88 MW from the Rereg Dam and a full 966 MW from Libby Dam, ignoring other potential generation situations and consequent transmission needs? This EIS is grossly inadequate unless it contains separate analyses of the following alternative generation situations: 1) the Rereg Dam is built with 88 MW of output, Libby Dam is operated as a peaking facility with a 966 MW capacity and Kootenai Falls Dam is built with 144 MW capacity, 2) the Rereg Dam is not built, Libby Dam is not operated as a peaking facility and Kootenai Falls Dam is built with 144 MW capacity, 3) the Rereg Dam is built with 88 MW capacity, Libby Dam is operated as a peaking facility with 966 MW capacity and Kootenai Falls Dam is not built and 4) the Rereg Dam is not built, Libby Dam is not operated as a peaking facility and Kootenai Falls Dam is not built.

Each of the above situations should reevaluate the possibilities of integrating with the Townsend-Hot Springs-Bell project, as will be discussed further later.

This EIS presumes that there is no desireability in "buying time" before committing irreplacable Western Montana natural resources to this transmission line project. That presumption is reflected in wholly inadequate nonbuild and minimum build alternative analyses. Each of the situations outlined above should contain a detailed site specific analysis (including likelihood of failure and severity of impact) of potential reliability and lost service risks involved in 1, 2, 5 and 10 year construction delays and how much those risks can be lowered with various minimum build alternatives. The prematurity of this project as planned gives us the luxury of possibly falling back on such options.

Finally, this EIS should indicate for each of the situations outlined above just how much money would be wasted if transmission lines are constructed according to the proposed plan.

CORRIDOR ANALYSIS

The construction of a double circuit 230-kV transmission line as proposed would constitute the establishment of a new major transmission corridor. I would like to see us avoid repeating the Clark Fork River experience on the Kootenai River, a situation that clearly could be developing. This EIS evaluates the impacts of construction of a transmission line, but it abjectly fails to evaluate the impacts of the establishment of a new major transmission corridor.

It appears from comments on the BPA 1980 Program EIS that most people favor following existing corridors. I suggest that such a public input may be unduly influenced by people's failure to fully comprehend that more lines will probably eventually be built in that corridor. Such comments may not reflect the reality that according to BPA policy a major corridor such as

would be established under the proposed plan is a prime target for future expansion. Such Draft EIS statements as "Dispersed recreational activities are widespread between Libby Dam and Sandpoint; however, because the project involves only a rebuild of an existing line in this area, new impacts will be low." (p. 50) are highly misleading, if not fraudulent. I see no evidence in the record that BPA has directly, openly discussed with concerned citizens its future intentions for this corridor.

It seems to me that the existing 115-kV corridor between Libby Dam and Sandpoint, if decommissioned, could easily revert to its original natural character within as short a time as a few generations. That option should have been discussed with citizens and addressed in this EIS. A decommissioning option would give a lot of environmental impact "bonus points" to corridor alternatives other than the existing corridor. This is especially attractive when a line was going to be replaced anyway. The decommissioning option and its beneficial impacts need to be evaluated for all the plans considered in the BPA 1980 Program EIS. Deciding to vastly upgrade a transmission line in a corridor with existing easements without seriously considering the option of decommissioning that corridor suggests that the BPA is making long range resource committments based on the short term expediency of already holding transmission line easements.

There is a crying need in Western Montana to complete a regional study of utility corridor needs and alternatives before any new major transmission corridors are established. A BPA report which I believe is called the "2020 Study" indicated a need for seven east to west corridors through Western Montana. BPA policy on several basic questions regarding these corridors needs to be discussed in a public forum and definitely should be addressed in this EIS. Will we open all seven corridors with a first line or will we saturate the first corridor before we open the second? At what level will we consider a corridor saturated? Are corridors best located in our river valleys where esthetic, recreational, archeological and agricultural values are highest and the most direct impacts to people can be expected, especially in valley constrictions? (Conflicts over the BPA's Townsend-Hot Springs-Bell project between Townsend and Missoula and the Clark Fork River experience in the vicinity of Thompson Falls certainly suggests that the answer to that question is false, but this proposed plan runs right down the Kootenai River.) Would this corridor between Libby Dam and Sandpoint be considered one of the seven corridors forecast in the "2020 Study"? What is the ultimate carrying capacity of this corridor? How many lines could we expect in this ~~line~~ corridor in the future? Has this corridor been discussed as one in which to run transmission lines from the proposed Alberta Export Power Project?

A resolution of the broader regional corridor issues is of critical importance in determining if the Libby Integration project should be integrated with BPA's Townsend-Hot Springs-Bell project. Considering that the Libby Integration project is grossly premature, the contention in this EIS that such integration is not possible due to a later completion schedule for the other project is reprehensible. Even if it weren't premature, it

would be inexcuseable for us not to consider delaying resource commitments with the good possibility of vastly reducing the total impacts of the establishment of two new major transmission corridors by paralleling an existing 230-kV line. The 1980 Program EIS did not adequately address this alternative. It seems to me that the only way BPA could avoid finding that integration would have less than ½ the environmental impacts of establishing separate major corridors is by failing to analyze them jointly. The total environmental impacts of any nonintegrated corridor alternative for either Townsend-Hot Springs-Bell or Libby Integration must directly reflect by simple addition the impacts of the other nonintegrated corridor. In other words, the impact total for the proposed plan contained in this EIS is really merely a subtotal, and the subtotal impact of nonintegrated Townsend-Hot Springs-Bell alternatives must be added to it to obtain the true total environmental impact of this proposed plan.

With the end of integration of these projects in mind, a study should be conducted to find route alternatives for relocating the Libby-Noxon corridor outside of occupied grizzly bear habitat in the vicinity of Silver Butte.

GEOLOGIC HAZARDS

This EIS analysis of geologic hazards should not be limited to impacts relative to access roads. It also should deal with potential problems related to tower location.

In the Libby Dam-Sandpoint corridor you will encounter two widespread potential hazards that could render this corridor unuseable. They are alluvial fans (formed by episodic discharges of very high energy in shifting channels) at the valley margins and poorly consolidated Pleistocene sediments that have a potential for massive slumping. The BPA built corridor on the Washington side of the Columbia River has towers for more than one line on several active alluvial fans and at the toes of recent major slumps. I consider such situations dangerous.

Since this proposed plan establishes a major transmission corridor, full evaluation of these geologic hazards requires a detailed analysis on a site specific basis of how many lines could come down at one time in this corridor without causing a catastrophic failure in the Pacific Northwest electricity distribution system. Unacceptable risks might preclude the establishment of a corridor in this location. This analysis should appear in this EIS, possibly in the section concerning the saturation level of this corridor.

GENERAL COMMENTS AND QUESTIONS

I am surprised that this project was not mentioned in either of the workshops I attended on the Hot Springs-Bell EIS revision, since the projects obviously are related.

Scheduling comment deadlines during the Christmas holidays is a deplorable practice that ought to be discontinued. I don't know if that date was specifically chosen to limit public response, but it certainly could.

If anything has been learned by the BPA in the Townsend-Hot Springs-Bell project it should be that receipt of adequate public input on a transmission line project requires adoption of notification procedures heretofore thought to be extraordinary. BPA's decision to notify owners of the land crossed by the centerline of the Hot Springs-Bell segment alternative corridors is consistent with that finding. Hence the BPA's failure to directly notify easement holders along this proposed corridor is reprehensible. Such intraagency inconsistency must be remedied by immediately notifying those affected easement holders of this proposed action and accepting their comments for addition to this DIS.

Are the easements along this proposed route that the BPA and PPL presently occupy valid if, when originally granted, the grantors were not made aware that a major transmission corridor might one day cross their land or if they were not compensated as such?

Presuming that the BPA would have to acquire some additional right of way from the US Forest Service for this line, does the BPA intend to comply with Montana's Major Facility Siting Act as required by Section 505 of the Federal Land Management Policy Act?

Presuming that the Noxon Dam will never be built and no significant increase in output from Libby Dam will occur, why isn't a private utility that would be subject to MFSA and would pay property taxes constructing this line?

What is the tax consequence to the affected governmental entities of having the federal government build these lines instead of a private utility? Will the BPA Administrator make that amount of payments in lieu of taxes as is his prerogative under the new Northwest Power Bill?

Will landowners adjacent to the right of way be compensated for property value losses resulting from this project?

Finally, I am uncomfortable with your load forecasts. When were they made? By whom? Are more recent figures available? Are other independent load forecasts available? What are the summer peak load forecasts? (It seems like you might be designing lines to handle winter loads during the summer.)

Thank you for granting me an extension on the deadline for submitting comments on this DIS. I hope you will find the comments useful in your analysis.

Sincerely yours,

Philip M. Barrett
1537 S. 7th W.
Missoula, Montana 59801

cc: Senator Max Baucus
Representative Pat Williams
Montana Dept. of Natural Resources and Conservation
Mr. Sam Reynolds, Editor, The Missoulian

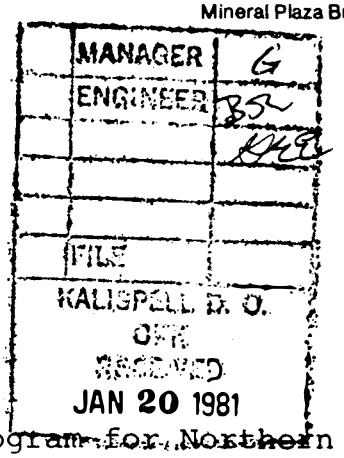
NORMONT DEVELOPMENT CO.

Box T
Libby, Montana 59923

Stuart Swenson, President
Linda Pival, Secretary-Treasurer

Office 406-293-4342
Mineral Plaza Building, Suite 1

December 23, 1980



B.P.A. Office
Box 758
Kalispell, Montana 59901

Dear Sirs:

The B.P.A. hearing turned into a sales program for Northern Lights. A Northern Lights representative started the program and was allowed to talk for some 15 minutes at the start of the presentation and other speakers were given 5 minutes. Northern Lights also had the "NEED" organization present in force.

The hearing was to consider the impact of B.P.A. transmission lines on the Kootenai Valley. Constructive comments about the B.P.A. transmission line were few. Most of the testimony was illogical, emotional and did not relate to the project.

The government now owns 85% of our County. I don't believe that B.P.A. should be allowed to buy P.P.& L. transmission lines and place more tax burden on the people of Lincoln County.

These hearings are losing credibility because they are a set up and controlled by the power interests. One member of the Libby Rod & Gun Club was speaking and a "NEED" member shut out the lights. This type of situation could become very explosive. The power interests are dividing this community and very successfully. B.P.A.'s Gordon Brandenburger and Ervil Rainey of Northern Lights seem to view the Northwest power bill as a blank check for all out power development with no consideration for conservation.

Very truly yours,

Stuart W. Swenson

SWS/jb
cc: Rep. Pat Williams
Senator Max Baucus
Senator John Melcher
Governor-Elect Ted Schwinden

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
P. O. Box 7669
Missoula, MT 59807

1990

JAN 19 1990

John Kiley, Environmental Manager
Bonneville Power Administration
P. O. Box 3621
Portland, OR 97208

Dear Mr. Kiley:

Following is our response to the Draft Supplement BPA F.Y. 1980 Program EIS for the Northwest/North Idaho Support and Libby Integration Project. Specific comments are:

1. The document leaves the impression that the preferred alternative (construction of a double circuit 230/115 KV line from Libby Dam to Sandpoint, Idaho) is predicated upon completion of the Libby Reregulation Dam Project and full use of the additional generation at Libby Dam. If this is the case and the BPA selects the preferred alternative, we suggest that implementation of the decision be deferred until the LAURD Project is authorized.

2. Conversations with BPA representatives indicate there will be a need for the 230 KV line after 1985 in the Sandpoint and Bonners Ferry areas, and possibly Libby in the 1990's, regardless of the fate of the reregulation dam or the proposed Kootenai Falls Project. If this is fact, the final EIS should reflect this information.

3. We do not have any major concerns with the preferred alternative for constructing the double circuit 230/115 KV line within the existing right-of-way across National Forest System (NFS) lands. We do have some concerns that should be addressed in the final EIS and the project plan. They are:

a. Resolution of the seven issues outlined on page IV of the Draft Supplement.

b. Meeting the visual quality objectives for National Forest System lands.

(1) Visual analysis of tower sites along some sections of the line to define type and location of tower structure.

(2) Access road location and use of these roads or no road construction.

(3) Right-of-way clearing and feathering where additional right-of-way is required.

c. Scheduling of work on portions of the line to cause the least disruption for wildlife use; specifically, bald eagles, sheep, and wintering big game.

d. The need to resolve relocation of the right-of-way section near Vermiculite Mountain. The present right-of-way location crosses W.R. Grace Co. land. Unstable soil conditions and the desire of W.R. Grace Co. to use the present right-of-way as a spoil area have been cited as reasons for relocating the right-of-way. We feel that the existing wood pole structures could support an upgraded 115 KV line, and possibly the double circuit line, without causing reliability problems due to unstable soil. We are reluctant to commit additional NFS lands to a long term transmission line right-of-way use as a convenience to W.R. Grace Co.

e. Rehabilitation and revegetation of areas disturbed during construction.

Construction or reconstruction of the transmission line between Libby Dam and Sandpoint, Idaho, requires a new land use grant for the portion on NFS lands. The basis for this grant must be substantiated by the environmental impact statement and reflected in a Record of Decision signed by the Regional Forester.

Thank you for the opportunity to comment.

Sincerely,

for TOM COSTON
Regional Forester

cc: RF
Koot NF
WO - Environmental Coordinator
PP&B - (2)

DEPARTMENT OF NATURAL RESOURCES
AND CONSERVATION

STATE OF MONTANA

January 23, 1981

Mr. Bill Freeland
Project Manager
Libby Project
Bonneville Power Administration
Portland, OR 97208

Dear Mr. Freeland:

This letter and the attached comments constitute the Department of Natural Resources and Conservation's (DNRC) response to the "Draft Supplemental Final Environmental Impact Statement for Bonneville Power Administration's Proposed Fiscal Year 1980 Program, Facility Location Supplement." As in the past, the Department requests that BPA address the need in detail in the final EIS.

In addition to the attached specific comments, there are several fundamental considerations which merit additional discussion. These issues are corridor use and routing, tower design, and mitigation.

The proposed corridor for the Libby Integration Project passes through a highly scenic and environmentally sensitive portion of Montana. The BPA's efforts to use the existing right-of-way in most areas are commendable. However, the proposed corridor change over Vermiculite Mountain would be expensive both environmentally and financially, and every effort should be made to utilize the existing corridor. Determined negotiation with W.R. Grace and Company (Vermiculite Mine) might produce an alternative that would permit the power corridor to co-exist with mining operations. At Kootenai Falls, DNRC feels that the alternative route should be used to reduce visual impact. If the alternative route is used, the abandoned right-of-way should be revegetated.

The draft impact statement does not address future plans for the proposed corridor nor does it analyze the project from a regional perspective. What is the ultimate capacity of this corridor to accommodate additional linear facilities? Does the possibility exist that additional lines will be proposed in this corridor at some future date? If so, what are BPA's long-range plans for this area? This is the type of information that the federal-state corridor planning study needs to evaluate.

The choice of support towers for this project will cause some of the major impacts. If the requirement for two 230 kV lines is valid, a more thorough discussion of the issues involved in tower selection is required. For example, a cost comparison between steel and wood pole design should be presented. Timber is one of the chief products of the Libby area and wood pole construction might be a cheaper alternative which would also have a beneficial effect on the area's economy. Wood poles would create less visual intrusion than the taller steel towers. If the spacing for new wood poles is the same as the existing line, then less new access may be required. On the other hand, wood poles may require more maintenance; they are more susceptible to fire damage; and wood design may be limited by rugged terrain. These points should be analyzed and resolved prior to determining tower design. One of the chief justifications presented in the draft statement for the use of steel towers is that the narrower right-of-way will mean less clearing of brush which screens the existing line from view. However, the existing line would no longer be there and the new steel towers would most likely be in view because they will stand above the existing forest canopy. It is DNRC's position that double circuit wood poled (or single circuit, if possible) should be utilized wherever possible. At the Kootenai Falls and Troy river crossings wood pole construction would lessen the risk of wire collisions by waterfowl and bald eagles.

Statements pertaining to mitigation in the draft impact statement are confusing, particularly because there is no clear indication of what mitigation the BPA intends to carry out. Apparently the only mitigation which will be done is mentioned in the section entitled "Mitigation Measures Included in the Proposed Action." Why was the section entitled "Mitigation Measures not Included in the Proposed Action" included in the text? The BPA states that these latter measures are still being considered but that issues remain to be resolved. Several of these measures deserve serious consideration, such as helicopter construction, alternative tower design, and timing of construction. How will these issues be resolved, by whom, and with what provision for review? Mitigation of anticipated impacts is one of the basic purposes for writing EIS's concerning the siting of transmission lines. Resolution of the mitigation issues raised above should be considered in the final supplement.

We hope that this discussion and the attached comments are helpful. Thank you for allowing us time to adequately comment on your statement.

Sincerely,

LEO BERRY, JR.
DIRECTOR

LB/bw
Attachment

COMMENTS
ON
THE NORTHWEST MONTANA/NORTH IDAHO SUPPORT
&
LIBBY INTEGRATION FACILITY LOCATION SUPPLEMENT

October 1980

Noise and Electrical Effects

What is the "standard BPA mitigation procedure" for restoring TV and CB radio reception to its ordinary level? Has a study been made of present levels to determine the effects of the line? If so, this baseline information should be discussed.

What is "BPA policy" as stated on page 29 for mitigating effects of transmission lines on tele-communication or railroad signal lines?

Are there any old transformers or capacitors containing PCB in the Libby Dam - Sandpoint substation rebuild?

Geology, Soils, and Minerals

The Kettle Lake (pothole) area in sections 26, 27, and 35, Township 33N, Range 34 West, is a geological, vegetative, and wildlife area that is environmentally sensitive. Consideration should be given to measures such as avoiding tower placement in kettles, leaving shrubs and small trees in the right-of-way, feathering the margins of the right-of-way, and handstringing the conductors through this area.

At the Yaak River crossing, no equipment should be operated in the river or on the steep sides of the valley.

Helicopter erection of towers along the steep side slopes in the Kootenai Canyon between Libby and Troy would limit the impact of construction.

Tower footings may be unstable in local areas where towers are placed on slopes of over 10^{0} which are underlain by glacial lake clay and silt. These sediments are common along the route and they are prone to small scale slumping. This slumping typically affects the substrate materials to a depth of 5 to 15 feet. Areas of potential slumping should be identified during centerline surveys and avoided to preclude future hazards.

Table 2 and Table 4 contain a number of technical and undefined geological terms. A glossary should be included, and terms more easily understood by the non-technical reader should be substituted when possible.

After construction, many access roads could be abandoned because few points on the right-of-way lie more than one-half mile from existing roads. Aerial maintenance surveys should be relied upon rather than extensive permanent access roads.

A more detailed discussion of the mitigation measures proposed to minimize the impacts of roads and right-of-way construction is required. For example:

- Will roads be located and designed with benefit of slope stability analysis?
- Will all temporary access roads be scarified, reseeded and closed?
- What other specific road stabilization measures besides "waterbarring" will be employed (i.e., gabions, retaining walls, etc.)?

What specific mitigation measures will be used to minimize impacts of road construction in the vicinity of Rainy Creek?

What criteria will be used to determine when stabilization will be required?

Will matting and other special measures be used in wet areas?

Water Resources

The potential exists for significant and long term degradation of Rainy Creek from erosion. Extensive mitigation measures will be required to prevent this occurrence.

The possibility of accidents or spills of pesticides, petroleum products, and other hazardous waste should be pointed out.

Our work on the proposed Kootenai Falls Dam found that the Kootenai River has been declared navigable. Therefore, this project may require a permit under the River and Harbor Act of 1899 (Section 10, 33 U.S.C. 103).

Fisheries

It is impossible to assess the impacts of road construction on fisheries without specific locations. The BPA should provide these locations and describe their impacts from hydrologic changes and sedimentation.

If access roads must cross streams, mitigation is necessary to prevent long term impacts on aquatic life. Culverts in particular can block fish passage and cause hydrologic changes.

The value of Rainy Creek as a fishery needs to be pointed out in order to determine fisheries impacts.

Figure 7 does not appear to support the statement on page 33 that "streams are located away from the right-of-way."

Wildlife

Inclusion of the gray wolf and grizzly bear among the five species "most likely to be significantly affected by the project" raises the question of how this list of species was created. The likelihood of the project affecting gray wolf populations is near zero, while many other species, such as cavity nesters and big game, are much more likely to be affected. The potential for beneficial impacts to wildlife through enhanced management of the right-of-way should be addressed.

Prohibiting construction between November 1 and mid-March is a positive step for bald eagle mitigation. Although other timing restrictions are mentioned, there is no statement saying which construction timing restrictions will be applied. What specific timing restrictions on construction is the BPA considering?

What specific steps will be taken to "work with federal and state wildlife biologists...to assure the least possible disturbance" as stated on page 19?

Does BPA propose to reseed bighorn sheep habitat to palatable grasses? If so, how will the management plan for the area developed by the Montana Department of Fish, Wildlife and Parks be affected? DNRC would like the opportunity to review and comment on the BPA's right-of-way management plan for this project.

It seems that "other species" (page 35) which will be affected should be discussed at least in general terms. Such species are totally ignored in the draft EIS.

Although electrocution will probably not be a problem, collision with wires may be, especially due to the "stacked" design of the 230 kV double towers proposed to be used at river crossings. Mitigation of this impact will require a flat configuration at river crossings such as obtained when using wood pole designs.

Although cottonwood trees are mentioned as perch trees for bald eagles, other trees are also used. Therefore, BPA should move the right-of-way upslope from the river and fell only "danger" trees in all forested areas. BPA should specify where cottonwoods will be removed.

Land Use

Agricultural fields in Section 17 and the NW¼ of Section 21, Township 33N, Range 34 West are crossed diagonally by the present line. A minor reroute to either avoid these fields or cross them at right angles would be preferable.

Demographic and Economic Considerations

Under the auspices of the Pacific Northwest regional power planning legislation, BPA has the discretion to make payments to state and local governments based on services those governments provide to BPA. Some analysis should be done to estimate what these services might be and how much they would cost.

BPA points out that there would be some land lost to the tax roles as a result of the project. Does this include the existing section of the Pacific Power and Light Company line in the proposed corridor? Such losses should be spelled out in terms of how much land and taxes would be lost. Also, BPA should discuss the possibility of utilizing discretionary monies to alleviate this tax loss to local government.

A cost analysis of wood versus steel tower design is essential to determine the impacts on employment and the economy of the area.

Aesthetics/Visual Resources

Feathering the edge of the right-of-way would reduce visual degradation by reducing the linearity of the clearcut.

Steel towers are twice as high as wood poles. This height would place the towers well above the canopy cover of the surrounding forest and make them more visually intrusive. Simple vertical wood poles more directly reflect the geometry of woodland in form and would be much less intrusive.

On page 46, areas with high potential for visual alteration are identified. These same areas in Figure 11 are given low impact. Which of these situations is correct?

On page 48, fifteen places are listed which may have high visibility. However, the text states that topography and vegetation will minimize visibility. What percentage of the line will be hidden?

Recreation

The report states that the project's impact on recreation at Kootenai Falls will be significant, but does not indicate proposed mitigative measures. Such measures should be identified in the final EIS.

On page 50, the draft notes that dispersed recreation activities are widespread but states, "Because the project involves only a rebuild of an existing line in this area, new impacts will be low." The proposed lines differ greatly from the existing ones in terms of visual intrusion. This impact on floaters and fishermen should be addressed.

Historic and Archaeologic Resources

BPA is to be commended for conducting a cultural resource overview of the proposed right-of-way as part of the initial planning process. However, portions of the draft indicate a poor understanding of historic preservation regulations and procedures. The following points are examples:

- The opening sentence in the second paragraph on page 51 is misleading. Mitigation and/or avoidance measures are devised after the State Historical Preservation Office (SHPO) and the Keeper of the Register have determined the properties are eligible for the National Register.

- The SHPO should necessarily be involved in devising mitigational preservation plans if sites are eligible.

- Page 50 contains the following sentence: "If artifacts are found and prove to be more than 2000 years old, sites within the area could be eligible for the National Register." This is incorrect. By National Register of Historic Places (NRHP) criteria (36 CFR60.6), properties generally need to be 50 years old or older to be eligible.

- Statements on pages 19 and 51, "if avoidance is not possible, the articles will be salvaged" are both presumptuous and incorrect. The statement suggests that the BPA has already devised a mitigation plan and ignored the consultation process with SHPO and Advisory Council on Historic Preservation (ACHP). Also, excavation programs are used to scientifically sample (not salvage) the scientific information (not artifacts) the site contains."

The assessment of impacts on cultural resources merits further clarification. The report discusses the direct adverse effects of the project, but it neglects to clearly discuss the indirect effects of the project which may occur at a later time, such as erosion and increased vandalism. Some provision should be made for monitoring these indirect effects.

The basic document used to prepare the section on Historic and Archaeological Resources has not been cited in the text (e.g., Choquette and Hotstein, 1980), yet O'Brien, who is not a professional historian or archaeologist, has been cited. Documentation additions are required to insure that this section was prepared based on professional input.

NITED STATES GOVERNMENT

memorandum

DATE: JAN 2 0 1981

REPLY TO ATTN OF: Rights Protection, Environmental Quality

SUBJECT: Review of Draft Facility Location Supplement for Northwest Montana/North Idaho Support and Libby Integration, Lincoln County, Montana and Bonner County, ID (ER 80/1347)

TO: Administrator
Bonneville Power Administration, Department of Energy

LATE LETTER

From: Area Director, Billings Area

Enclosed for your information and action is a copy of a letter from the Superintendent, Flathead Agency, which states that completion of the project will produce an adverse impact to areas of cultural significance to the Seven Kootenai Bands.

We urge your immediate consultation with Mr. Patrick Left Hand, Elmo, Montana regarding this proposal.

Acting Area Director

Enclosure

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

O : Billings Area Director
Attention: Environmental Quality

DATE: January 20, 1981
In Reply Refer To:
Rights Protection

ROM : Acting Superintendent, Flathead Agency

BJECT: Review of Draft Facility Location Supplement for Northwest Montana/ North Idaho Support and Libby Integration, Lincoln County, MT and Bonner County, ID (ER 80/1347)

A review of Draft Facility Location Supplement for Northwest Montana/ North Idaho Support and Libby Intergration, Lincoln County, MT and Bonner County, ID (ER 80/1347) has been made. The proposed project is located in an area culturally significant to the Seven Kootenai Bands. Completion of this project will produce an adverse impact. Contact should be made with the Elmo Band Kootenai Cultural Committee to determine the extent of adverse impact. It is recommended that the contact person for the Band be Patrick Lefthand, Elmo, Montana, as he has reviewed the draft supplement.

Acting Superintendent

cc: Evelyn Stevenson, Tribal Attorney, Pablo, Montana
Confederated Salish and Kootenai Tribes, Pablo, Montana
Patrick Lefthand, Elmo, Montana
Department of Interior, Regional Environmental Office,
500 N.E. Multnomah Street, Suite 1692,
Portland, Oregon 97232

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	ENGINEER	
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OKK
RECEIVED
MAR 16 1981

BOX 251
TROY, MONTANA 59935
MARCH 10, 1981

LATE LETTER

ONNEVILLE POWER ADMINISTRATION
ISPELL DISTRICT OFFICE
O. BOX 758
ISPELL, MT. 59901

EAR B.P.A. FOLKS,

IN REGARD TO THE B.P.A.'s PROPOSAL TO REBUILD THEIR TRANSMISSION , WE HAVE SOME CONCERN. WE LIVE IN A HIGHLY SCENIC PORTION OF MONTANA, VALUE THE BEAUTY OF OUR SURROUNDINGS, ALOT. BY THIS PROJECT BRINGING IN E STEEL TOWERS, IT WILL GREATLY ALTER THE NATURAL BEAUTY OF OUR COUNTRYSIDE. URGE YOU TO CONSIDER USING WOOD POLES, INSTEAD OF STEEL TOWERS, SINCE WILL HELP THE TIMBER INDUSTRY, AND OUR AREA'S ECONOMY. WOOD POLES LD CREATE MUCH LESS VISUAL INTRUSION, IN THE FOREST.

HAVE YOU STUDIED INTO LOAD MANAGEMENT, TO INCREASE THE EFFIENCY OF THE STING LINES, INSTEAD OF PROPOSING TO REBUILD THEM?

IN REGARD TO B.P.A.'s MAINTENANCE POLICIES, HAVE YOU CONSIDERED AREIAL NTENANCE, INSTEAD OF KEEPING UP ACCESS ROADS? IS THERE A COST/BENEFIT DY AVAILABLE FOR "AREIAL VS. ACCESS ROAD, MAINTENANCE? WE ARE AWARE T THERE IS A SPRAYING PLAN FOR THIS SUMMER AND SPRING, TO CLEAR BRUSH ACCESS ROADS. THIS PLAN INCLUDES OUR FOREST, AND THERE ARE MANY IMPACTS T THIS SPRAYING COULD HAVE ON GAME, AND MANY BIRD SPECIES. ARE YOU ADVISING OINING PROPERTY OWNERS OF YOUR PLAN TO SPRAY? WE WOULD FAVOR THE EMENTATION OF SOME ALTERNATE MEANS OF MAINTAINING THE ACCESS ROADS.

THANK YOU FOR CONSIDERING THESE IDEAS.

SINCERELY,

Larry and Ruthanne Dolgal

Peter Charles Wagstaff
Attorney at Law
501 Indiana Avenue
Coeur d'Alene, Idaho 83814

Post Office Box 909

(208) 667-0661

March 26, 1981

LATE LETTER

CERTIFIED MAIL #P11 5116757
RETURN RECEIPT REQUESTED

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
P.O. Box 3621 - SJ
Portland, Oregon 97208

Dear Mr. Kiley:

I represent the Powerline Alternative Alliance (PAA) comprised of persons living near Sandpoint, Idaho. I have taken over representation of that group from Charles D. Herrington, Esq. We would like this letter, and the other comments which have previously been made by members of the PAA, to be noted in the Final Environmental Impact Statement regarding the Facility Location Supplement, Northwest Montana/North Idaho Support and Libby Integration.

We have reviewed the draft supplement of the FEIS, and have the following comments we would like to present.:

1. To begin with, we submit that the issuance of the Draft Facility Location Supplement (DFLS) at this time is unreasonable and unwarranted. The Bonneville Power Administration (BPA) basically admits that the transmission project for reconstruction of the line from Libby to Sandpoint will be unnecessary if the Libby Reregulating Dam is not built and operated. DFLS p. ii. The future construction of reregulating dam is greatly in doubt after the issuance of the injunction by the U.S. District Court for the District of Montana against further construction on the Reregulating Dam. The report on Montana's Libby Dam Project by the General Accounting Office (GAO) of the United States Congress stated quite clearly that:

> "The U.S. Army Corps of Engineers has not shown that its proposed project to add more generators to the Libby Dam and a reregulating dam downstream is economically justified or the best alternative for meeting Pacific-Northwest electricity peaking needs... Neither the Corps nor the Bonneville Power Administration has adequately studied other ways of meeting forecasted peak power shortages. Combustion turbines, cogeneration, power exchanges, load management, and peak pricing options should be evaluated before the proposed project proceeds."

The four additional generators which the Corps is adding to the Libby Dam will be only used for peaking power and thus are ineffective without the construction of the reregulating dam. It makes little sense to issue the DFLS at this time when the construction of the reregulation dam is in doubt. If such construction were ever to occur, it could not be completed for many years. The environmental situation might have greatly changed until that time, and therefore it is unreasonable to issue a Final Environmental Impact Statement at this time for a project which may never be undertaken, or if pursued, will not be completed for many years. There is no other purpose in reconstructing the transmission line from Libby to Sandpoint, and therefore the decision implicit in the DFLS should not be issued at this time.

This is further underscored by the Department of Energy's own NEPA Guidelines. 45 F.R. 20694 (3-28-80). An EIS should be commenced "...as close to the time that DOE begins development of or is presented with a proposal..." Sec. B (2)(1)(2). The development and proposal for increased generation are both now in abeyance, and the DFLS should not be issued.

The BPA has greatly underestimated the dynamics of conservation in restricting the growth of electrical consumption in the future years. The DFLS ignores the effect of accelerating conservation efforts in the future years. DFLS p. 8-11. The Idaho Public Utilities Commission, including cases in which the undersigned has been involved, has recently taken landmark action in cases involving Idaho utilities which require, inter alia, that utilities charge $50 per kilowatt of demand for new hookups of residential space heating, that marginal cost pricing be included as a pricing technique, that insulators for electric water heaters be provided free of charge by the utilities, that declining block rates be eliminated in many commercial schedules, and that inverted rates be instituted for residential customers. In rate proceedings involving the Washington Water Power Company, Wendell J. Satre, has presented figures for expected future electrical growth which have slowly crept down through the past years. In the last case, he placed the estimate at 3% in future years. IPUC case U-1008-144. The DFLS fails to take these dynamics into account.

2. The DFLS is further deficient in that the BPA, in the scoping process for the DFLS, is failing to examine the cumulative impact of the entire integration system that is contemplated. The BPA will essentially be involved in five (5) particular projects:

a. Libby Dam Expansion by four (4) generators (Corps authority)
b. The Kootenai Reregulating Dam construction (Corps authority)
c. The Kootenai Falls Dam construction (FERC authority)
d. The transmission corridor from Libby to Sandpoint (BPA authority)
e. The transmission corridor construction from Sandpoint to Rathdrum (BPA authority)

The federal agencies are segmenting these various construction projects in terms of their actual location and implementation. Such segmentation is outlawed under the National Environmental Policy Act (NEPA). The cumulative impacts of these projects by the major energy actions together must be considered. 40 CFR Section 1508.25. There is no indication in the DFLS that any formal consultation was made with the Corps of Engineers and FERC regarding the construction of the Libby-Sandpoint Transmission Corridor Construction. The DFLS is illegally deficient in that manner, and should be reissued as part of a comprehensive Environmental Impact Statement for the entire contemplated project.

3. The DFLS presents an inadequate range of alternatives. Essentially the only alternatives which are considered are the "no-action" and the "proposed action". Two other alternatives are briefly considered as "minimum build" and "conservation". Yet these last two alternatives are incredibly dismissed prior to determining their environmental impact. DFLS p. 13.

Thus, the only two alternatives which are considered are those at either end of the spectrum of possible development; no action, or all out development. This polarization of alternatives has frequently been declared in federal case law as illegal and unreasonable. BPA's action clearly violates the requirement of the CEA guidelines for "...sharply defining the issues and providing a clear basis for choice among options..." 40 C.F.R. Section 1502.14. The term "minimum build" even has a pejorative image to it to reveal the BPA's intense interest in developing a transmission corridor at all costs, even if such a corridor would never be utilized or necessary. It is further difficult to understand why the Corps dismissed a conservation alternative and did not attempt to incorporate conservation methods within the proposed alternative.

The polarization of the two alternatives for which environmental impacts were considered is unreasonable. There should have been other alternatives presented permitting rerouting of the transmission corridor in other parts of the region, together with alternative forms of towers and methods of camouflaging the towers from view. The alternative of burying the power lines was in-

adequately explored, particularly since other forms of utilities, such as natural gas lines, are increasingly being placed underground.

Further the BPA should have considered other alternatives which lay between the "no-action" and proposed action alternatives in terms of extent of development, and which also constituted a more development-oriented activity than even the proposed action. This would allow the reader to place the proposed action into some kind of context. As the BPA has presented it now, this is impossible. The DFLS submits only the environmental impact for the present situation and the proposed alternative. This is entirely inadequate under NEPA.

4. The BPA admits quite freely that the proposed action alternative will permit the passage of the transmission corridor through wetland and flood plains in North Idaho. The DFLS completely violates Executive Orders #11990 (Protection of Wetlands) and #11988 (Flood plain management). With regard to the wetlands, the BPA has made no effort "...to avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use." E.O. #11990, Section 2. With regard to the flood plains, there is no assurance that the BPA action will be made "...consistent with the intent of (standards and criteria)...promulgated under the Natural Flood Insurance Program. E.O. #11988, Section 3. The BPA has further failed to comply with the remainder of the requirements in Section 3 of Executive Order #11988.

The DFLS further fails to abide by the Flood plain/Wetlands Environmental Review Requirements as issued by the Department of Energy. 10 C.F.R. Section 1022. There is absolutely no reference in the DFLS to the analysis and protections mandated by 10 C.F.R. Section 1022.3. The BPA has issued no flood plain/wetlands assessment as required by 10 C.F.R. Section 1022.13, with the detailed and specific examinations required therein. The DFLS also has failed to include the various components of a statement of findings as required by 10 C.F.R. Section 1022.15.

5. The BPA admits that the upgrading of the transmission corridor, with accompanying road access construction, will cause erosion problems in areas along four miles of the corridor which transverse lands with high mass wasting or water erosion potential. Such erosion will obviously affect the water courses and streams in the area. We cannot understand why no mention is made of the requirements of Section 404 of the Clean Water Act which require the acquisition of a permit from the U.S. Army Corps of Engineers

prior to construction which will affect the condition of free flowing waters. The DFLS is deficient in that manner. DFLS p. 30-32. Such a permit should be acquired since 26% of the proposed line crosses land with more than minimal or low mass wasting or water erosion potential.

6. The DFLS further fails to adequately describe the impacts of the project on agricultural lands. DFLS p. 40-42. Federal regulation requires that the BPA "...include a description of the area that will be affected by the proposed action... and an analysis of the environmental consequences of the proposal including a discussion of natural or depletable resource requirements and conservation potential on various alternative and mitigation measures...The cumulative effects of a proposal must be studied." CEQ : Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act, 45 F.R. 59189 (9-8-80).

7. The section termed "MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION" is completely unacceptable. The fact that such measures are "...still being considered by BPA" gives no indicia of certainty that such measures will be undertaken by BPA. The BPA indicates that such issues "...must still be resolved in some cases." DFLS p. 20. Leaving such issues to the future without resolving them in the NEPA process is unreasonable and illegal. The reader remains uncertain as to the actual intentions of BPA with regard to these projects. This is particularly true with regard to the assertions by BPA that along certain portions of the transmission corridor some of the metallic towers which are 120 feet high <u>might</u> be painted a dark dull color. Yet these assertions by the BPA are always conditional and contingent upon the discretion of the governmental agencies. The PAA submits that the BPA should inform the readers with finality as to whether or not certain mitigation measures are going to be undertaken. Otherwise the DFLS becomes merely a contingent document without any air of finality to it as required by NEPA.

8. The protections required under the Endangered Species Act are completely inadequate as set forth by BPA. The DFLS indicates "To avoid potential impacts to the threatened grizzly bear and endangered gray wolf and their habitat, the BPA proposes to rebuild the transmission lines using primarily existing right-of-way." DFLS p. 18. Yet the BPA has indicated that the reconstruction of the corridor will constitute a new, more intensive development of the corridor. The BPA completely fails to provide any indication as to the impact that this increased development will have upon these threatened and endangered

species. The fact that the new construction will occur in the existing right-of-way does not ensure the continual conservation of the species.

The BPA has further indicated that wherever possible, cottonwood trees used by the threatened endangered bald eagle will be left in place. DFLS p. 37. Yet there is no indication of which cottonwoods will be removed by the BPA. The BPA also does not commit itself explicitly to widening the existing right-of-way on the side away from the Kootenai River and removing those cottonwoods which were viewed as dangered trees. The BPA maintains that it is greatly concerned about the welfare of the bald eagle in terms of various actions that would be taken to protect the species. Yet the most telling fact is BPA's refusal to explicitly commit itself to constructing two single circuits 230-KV lines with flat configuration at the Troy and Kootenai Falls crossings of the Kootenai River. In a revealing action, this mitigation measure is included under the section entitled "MITIGATION MEASURES NOT INCLUDED IN THE PROPOSED ACTION." DFLS p. 21.

The PBA has further failed to show that its action will conserve the threatened endangered species. The U.S. Fish and Wildlife (USFWS) biological opinions might have found that the BPA proposed action will not jeopardize the species. Yet there is also a duty on the part of the federal agencies to conserve the species, and the BPA has explicated no such effort in the DFLS.

The failure to include a number of various general alternatives of action with regard to the transmission corridor is especially evident on this particular subject. Providing a greater number of alternative corridor routes with various tower configurations would provide a clearer view as to the impact of this project on threatened endangered species, and the manner in which such impacts could be ameliorated and mitigated.

The biological opinions issued by the FWS on November 6, 1979, and September 15, 1978, should have been affixed as exhibits to this DFLS.

9. The DFLS uses nine lines to describe the possible biological effects of the proposed transmission lines. DFLS p. 30. The PAA submits that this treatment of the possible electric and magnetic effects of this particular proposed transmission line are inadequate. The government agencies should discuss the particular effect of this transmission line in our locality. A reference to a general BPA publication for further information is hardly adequate to comply with the mandates of NEPA, and the CEQ Guidelines on NEPA.

10. The actual table of contents and the structure of the DFLS fails to comply with the CEQ regulations for analysis of environmental consequences. The summary examination of the impacts to be expected from the No Action alternative is inadequate as set forth on DFLS p. 27. The ostensible impacts of power shortages are not the only environmental impacts which emanate from No Action. The current impacts of the present system should be described. Otherwise, no comparison can be made with the proposed alternative. As it stands now, detailed discussion of environmental impacts is made only for the proposed alternative. This is clearly in violation of the CEQ Regulations. 40 C.F.R. Section 1502.16.

There is further no discussion of the following issues as mandated by the CEQ: adverse environmental effects which cannot be avoided; relationship between short-term uses of man's environment and the maintenance and enhancement of long-term productivity; irreversible or irretrievable commitments of resources; direct or indirect environmental effects; possible conflicts between the proposed action and the objectives of Federal,regional, State and local land use plans, policies and controls; and the energy requirements and conservation potential of various alternatives. 40 C.F.R. Section 1502.16.

11. The DFLS gives brief mention to the herbicides that will be used to maintain the proposed corridors. DFLS p. 18, 32-33. The BPA apparently contemplates to undertake herbicide applications under its own discretion. There is no reference made to the recent Environmental Impact Statement released by the three northern forests in the National Forest System, regarding the use of herbicides on national forest lands. Initially, use of herbicides is discouraged by the USFS unless there is no other reasonable means to accomplish the same purpose. Furthermore, whenever an herbicide use is contemplated, an environmental assessment must be issued to serve as a planning document for such use, together with the solicitation of public imput. BPA gives no credence or discussion to the involvement by the USFS in its planning process in the use of herbicides. We find this neglect and omission to be illegal under NEPA.

12. The DFLS itself failed to present specific technical data, and helpful maps regarding the subject matter. For example, the BPA inadequately discusses the difference between energy losses in corridor construction, and savings in increased corridor transmission. The BPA uses no specific data to justify its discussion, and comes up only with the tepid statement that "It seems probable that the long term energy loss savings would greatly exceed the amount used during construction." DFLS p. 16. Such a cost-benefit analysis is economically indefensible and inadequate.

40 C.F.R. Section 1502.23. Such vague statements occur throughout the entire DFLS.

The use of maps is also hindered by the DFLS. The potential visual alteration by the transmission corridor is obviously a very important subject to many people. Yet the map which sets forth such alterations presents the "high alteration" areas in dark orange and the "medium alteration" areas in light orange. Thus the high alteration areas do not show up visibly on the map since they are hidden in the medium alteration areas which encompass them. DFLS p. 46. It is extremely difficult to make out the areas of high alteration. Such a masking of the situation by BPA is inexcusable. This problem also exists with regard to the following maps: Land Uses DFLS p. 24; Land Ownership, id; Geologic and Soil Hazard Zones, DFLS p. 30.

13. It has also been indicated that BPA employees have already placed stakes in the ground and have undertaken surveying operations with regard to the proposed alternative in the DFLS. This action by the BPA indicates that the agency has prejudged the decision in the facility location supplement. The BPA hasn't even waited until the issuance of the final supplement in this particular instance to undertake the proposed alternative. Considered in conjunction with the patent lack of alternatives in this document, the action of the agency has been arbitrary, capricious, and not in accordance with statute and regulation. Such prejudgment is illegal. Daly v Volpe, 350 F. Supp. 252 (W.D. Wash. 1972), 40 C.F.R. Section 1502.2(g).

In sum, we submit that the DFLS is permaturely issued. The BPA should not issue any further facility location supplements with regard to the Northwest Montana/North Idaho support and Libby integration until it is clear that the Libby reregulating dam, with the concomitant four generators at the Libby dam, are actually going to be constructed. In the alternative, the facility location supplement should be rewritten and reworked in the manner as described above to comply with statute and regulation.

If you have any further questions, please do not hesitate to call upon us.

Sincerely,

Peter C. Wagstaff

PCW:jsr

Peter Charles Wagstaff
Attorney at Law
501 Indiana Avenue
Coeur d'Alene, Idaho 83814

Post Office Box 909

(208) 667-0661

March 26, 1981

Mr. John Kiley
Environmental Manager
Bonneville Power Administration
P.O. Box 3621 - SJ
Portland, Oregon 97208

Dear Mr. Kiley:

I would appreciate your sending to me a copy of the following documents:

1. BPA Reliability Criteria and Standards, 1979.
2. Proposed Fiscal Year 1980 and 1981 Programs EIS
3. Final Facility Planning Supplements to #2 above.
4. Electrical and Biological Effects of Transmission Lines: A Review
5. U. S. Fish and Wildlife Service Biological Opinions dated November 6, 1979, and September 15, 1978, relating to the Draft Facility Location Supplement for Northwest Montana/North Idaho Support and Libby Integration.
6. Visual Impact of High Voltage Transmission Facilities in Northern Idaho and Northwestern Montana, July, 1976.
7. The resubmittal by the Corps of Engineers of the cost benefit analysis for the Montana Libby Dam project in response to the GAO report of November, 1979.

Your prompt response would be appreciated.

Sincerely,

Peter C. Wagstaff

PCW:jsr

DOE/BP-19

☆ GPO 1981-799-031