the 6-acre parcel for sale on a competitive basis to the private sector for industrial development similar to that in the surrounding Fort Holabird Industrial Park. It is anticipated up to three industrial/manufacturing operations could be located on the property, associated parking facilities, and infrastructure. Access to the facility would be through the Fort Holabird Industrial Park on South Road.

Alternative 2 is to offer the 6-acre parcel for sale on a competitive bid basis to the private sector for development into a low density housing (4 units per acre) development, similar to that adjacent to the site. Under this alternative, approximately 24 homes and associated infrastructure would be constructed. Access to the housing development would be from Detroit Avenue and Oak Avenue.

The only alternative to the proposed action is the no-action alternative. Implementation of the no-action alternative would result in the facility remaining fenced, maintained by the Army and closed to the public. The Army would patrol the area periodically, maintain security, infrastructure and utilities, and structures to prevent deterioration of systems. Land management activities would continue to the extent necessary to prevent nuisance conditions. The proposed disposal/reuse of the 6-acre Crime Records Center parcel of Fort Holabird does not constitute a major federal action significantly affecting the human environment.

DATES: Written public comments and suggestions will be accepted on or before September 20, 1995.

ADDRESSES: Copies of the Environmental Assessment and Finding of No Significant Impact can be obtained by writing to the U.S. Army Corps of Engineers, Attn: Ms. Maria de la Torre (CENAB–PL–EM), P.O. Box 1715, Baltimore, Maryland 21203–1715, within 30 days of the date of publication of this notice.

FOR FURTHER INFORMATION CONTACT: Ms. Maria de la Torre at 410–962–4698.

Dated: August 15, 1995.

Raymond J. Fatz,

Acting Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health), OASA (IL&E).

[FR Doc. 95–20666 Filed 8–18–95; 8:45 am]

BILLING CODE 3710–08–M

Record of Decision on the Final Environmental Impact Statement, Fort Devens, Massachusetts

AGENCY: Department of the Army, DoD.

ACTION: Notice of availability.

SUMMARY: In compliance with the National Environmental Policy Act and its implementing regulations promulgated by the President's Council on Environmental Quality, the Army has prepared a Record of Decision (ROD) pertaining to the Final Environmental Impact Statement (FEIS) for disposal and reuse of property at Fort Devens, Massachusetts. In the ROD the Army states its intention to retain a Reserve Enclave on the Main and South Posts of Fort Devens, and to dispose of the remaining excess property. Consistent with the President's Five-Point Initiative to Revitalize Base Closure Communities, which is intended to foster economic development and job creation, the Army will dispose of the property consistent with the requests received through the federal screening process; and transfer all remaining property to the Local Redevelopment Authority, the Massachusetts Government Land Bank, for use in conformance with the Reuse Plan and Bylaws approved by the Communities of Ayer, Harvard and Shirley.

Based on the ROD, the Army will initiate the property disposal process at Fort Devens consistent with the methodology described in the Environmental Impact Statement.

FOR FURTHER INFORMATION CONTACT: Ms. Susan E. Brown, New England Division, U.S. Army Corps of Engineers, 424 Trapelo Road, Waltham, MA 02254–9149 or call (617) 647–8536.

Dated: August 15, 1995.

Raymond J. Fatz,

Acting Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health), OASA (IL&E).

[FR Doc. 95–20667 Filed 8–18–95; 8:45 am]

BILLING CODE 3710–08–M

DEPARTMENT OF ENERGY

Record of Decision; York County Energy Partners Cogeneration Facility, York County, Pennsylvania

AGENCY: Department of Energy.

ACTION: Record of Decision; York County Energy Partners Cogeneration Facility of the Clean Coal Technology Demonstration Program in North Codorus Township, York County, Pennsylvania.

SUMMARY: The Department of Energy (the Department) has prepared an Environmental Impact Statement (DOE/EIS–0221) to assess the environmental and human health impacts associated with construction and operation of the York County Energy Partners, L.P. (YCEP) Cogeneration Facility on a 38-acre (15.4-hectare) parcel in North Codorus Township, York County, PA. After careful consideration of these impacts, along with Clean Coal Technology Program goals and objectives, the Department has decided to provide $75 million (approximately 17 percent of total project cost) in federal funding support for the design, construction, and operation of a nominal 250-megawatt coal-fired, cogeneration facility demonstrating utility-scale atmospheric circulating fluidized bed (ACFB) technology.

Concerns were expressed by the Pennsylvania Game Commission regarding effects on wildlife habitats and by the Pennsylvania Bureau for Historic Resources on adverse impacts to historic properties. The Department met with the Pennsylvania Game Commission and received a list of mitigation measures the Commission believes would be adequate to mitigate the impacts to wildlife habitats on Game Commission lands. The Department also negotiated a Memorandum of Agreement with the Pennsylvania Bureau for Historic Resources that requires YCEP to perform nontraditional mitigation measures. To resolve issues related to volatile organic compound (VOC) emissions from the cooling tower, the Pennsylvania Department of Environmental Resources (PADER) incorporated mandatory monitoring requirements into the project's air permit, which was issued on July 25, 1995. These requirements, and any subsequent mitigation actions required through regulations, will be enforced through the air permit.

The Department's decision to provide cost-shared federal funding for the YCEP Cogeneration Facility is contingent on YCEP fulfilling its obligations to complete the actions described in this Record of Decision and in the Mitigation Action Plan prepared by the Department for this YCEP project.

FOR FURTHER INFORMATION CONTACT: For further information on the Department's activities related to this project, please contact Dr. Suellen A. Van Ooteghem, Environmental Project Manager, Morgantown Energy Technology Center, 3610 Collins Ferry Road, Morgantown, WV 26507–0880 or call (304) 285–5443.

For further information on the Department's National Environmental Policy Act process, please contact Carol M. Borgstrom, Director, Office of NEPA Policy and Assistance (EH–42), U.S. Department of Energy, 1000

Independence Avenue, SW., Washington, DC 20585, or call either (202) 586–4600 or (800) 472–2756.

SUPPLEMENTARY INFORMATION: The Department has prepared this Record of Decision pursuant to Council on Environmental Quality regulations for implementing the provisions of the National Environmental Policy Act (40 CFR Parts 1500–1508) and Department regulations (10 CFR Part 1021). This Record of Decision is based on the Department of Energy's Final Environmental Impact Statement for the YCEP Cogeneration Facility (DOE/EIS–0221).

An overall National Environmental Policy Act compliance procedure was developed for the Clean Coal Technology Demonstration Program that includes consideration of both programmatic and project-specific environmental impacts during and after the process of selecting a project. The procedure is called ''tiering'' (40 CFR 1508.28), and refers to the coverage of general matters in a broader Environmental Impact Statement (e.g., the Programmatic Environmental Impact Statement for the Clean Coal Technology Demonstration Program), with subsequent narrower statements or environmental analyses incorporating by reference those general discussions found in the broader programmatic document. A project-specific document, therefore, concentrates solely on the issues specific to the particular project being considered.

The Department procedure has three principal elements. The first element involved preparation of a comprehensive Programmatic Environmental Impact Statement for the Clean Coal Technology Demonstration Program (DOE/EIS–0146, November 1989) to address the potential environmental consequences of widespread commercialization of up to 22 successfully demonstrated clean coal technologies by the year 2010. The Programmatic Environmental Impact Statement evaluated (1) a no-action alternative that assumed the Clean Coal Technology Demonstration Program was not continued and that conventional coal-fired technologies with flue gas desulfurization controls would be used for new plants or as replacements for existing plants that are retired or refurbished, and (2) a proposed action that assumed that Clean Coal Technology Demonstration Program projects would be selected for funding and that successfully demonstrated technologies would undergo widespread commercialization by 2010.

The second element involved preparation of a preselection environmental review of project-specific environmental data and analyses that the Clean Coal Technology Demonstration Program offerors were required to supply to the Department as part of their Clean Coal Technology Demonstration proposal or site change.

The third element consists of preparing site-specific National Environmental Policy Act documents for each selected project. As part of this overall strategy, the YCEP Cogeneration Facility's Environmental Impact Statement draws upon the Programmatic Environmental Impact Statement and preselection environmental reviews that analyzed various alternatives and scenarios (e.g., alternative technologies).

Project Description

YCEP (a wholly-owned project company of Air Products and Chemicals, Inc.) plans to provide steam to the P.H. Glatfelter Company paper mill and power to Metropolitan Edison Company (Met-Ed) through the construction and operation of a nominal 250-megawatt coal-fired cogeneration facility with one atmospheric circulating fluidized bed (ACFB) boiler and a pollution control system consisting of a baghouse to control emissions of particulates (PM_{10}), selective non-catalytic reduction for reducing emissions of oxides of nitrogen (NO_X), and limestone injection for reducing emissions of sulfur dioxide (SO_2) and acid aerosol emissions. Carbon monoxide (CO) and volatile organic compound (VOC) emissions will be controlled through utilization of an efficient combustion process. In addition, the facility will be equipped with a continuous emissions monitoring (CEM) system, which will continuously measure and record flue gas volumetric flowrate and temperature; opacity; and sulfur dioxide (SO_2), oxides of nitrogen (NO_X), and either carbon dioxide (CO_2), or oxygen (O_2) concentrations. This project was selected under the Department's Clean Coal Technology Demonstration Program to demonstrate the commercial viability of using utility-scale ACFB technology in a cogeneration facility to generate electric power and steam. Construction of the facility will take 3 years; the demonstration period will last 24 months.

The facility will be located on a 38-acre (15.4-hectare) site in North Codorus Township in York County, PA across Codorus Creek from the P. H. Glatfelter Company paper mill. It is designed to operate continuously (24 hours a day, 365 days per year), with the exception of outages for maintenance purposes. Output of the facility will range from 114 to 227 megawatts (net) depending on Met-Ed's hourly power requirements. Steam generated in the ACFB boiler will be used to drive a steam turbine to produce electricity for sale to Met-Ed. Up to 400,000 pounds/hour of high pressure steam will be sold to the P. H. Glatfelter Company.

There are currently many small, mostly industrial, ACFB units in existence in the United States. The large (250-megawatt electric and greater) single-boiler utility-scale ACFB, however, is not yet widely accepted as commercial technology in the risk-averse utility market. Thus, actions involving large capital expenditures would usually be undertaken using only well established, proven, conventional technologies.

One of the purposes of the Clean Coal Technology Demonstration Program, however, is to accelerate technological demonstration of developing technologies. The Department believes that the development of the Foster Wheeler ACFB technology to be demonstrated by the YCEP Cogeneration Facility project will accelerate the commercialization of ACFB technology and further the deployment of ACFB clean coal technology. The Department will fund this cogeneration project at approximately 17 percent of total cost. This represents a relatively low level of funding, compared to other Clean Coal Technology demonstration projects, and indicates that the Department acknowledges the approaching maturity of ACFB technology.

A unique feature of the YCEP Cogeneration Facility is the scale of the fluidized-bed unit in terms of steam production. The unit will produce 2.1 million pounds per hour (MMlb/hr) of steam, which is 25 percent larger than any other unit built, under construction, or being planned with a single boiler. The scale at which this project is to be demonstrated (i.e., utility-scale) is of importance, since another chief goal of the Clean Coal Technology Demonstration Program is to see that more efficient and environmentally responsive coal technologies have been demonstrated at the utility-scale by the year 2000 and are available for replacing the existing inventory of aging utility boilers in the United States.

ACFB boilers have several unique operating characteristics which differentiate them from more conventional boiler technologies. The Foster Wheeler boiler design to be demonstrated by YCEP will utilize a water-cooled full division wall to

improve the predictability of hydrodynamic behavior, improve temperature uniformity, and reduce unit height while still maintaining a large heat transfer surface. The relatively low combustion temperature within the boiler will limit formation of oxides of nitrogen (NO_X) and optimize sulfur capture. The use of an INTREX™ heat exchanger also increases the heat transfer surface area while not increasing the height of the boiler. The Foster Wheeler boiler has also been designed for high limestone utilization efficiency by advantageously placing the front and rear wall feeders to allow for lower feed rates and longer residence times for feedstock (coal and limestone). The boiler's design also accommodates a relatively short mixing zone and air-swept coal distribution to allow for optimal solids mixing. The boiler will use four cylinders in parallel to absorb heat while recycling fine particles back to the boiler furnace. Because the coal and limestone to be added will represent only a fraction of total coal and limestone available in the combustor, the boiler will react more slowly to variations in coal or limestone quality. Steam characteristics and boiler temperatures will be more uniform. This is expected to result in easier operation, fewer upset conditions and air emission spikes, and more consistent (e.g., more uniform chemical composition) solid waste by-products. As a consequence of bed fluidization and the recycling back from the cyclone, good mixing will be achieved at more uniform temperatures, and will allow for more complete combustion and limestone utilization.

As a benefit of the YCEP Cogeneration Facility, the P. H. Glatfelter Company will curtail operation of one of its existing coal-fired boilers. Power Boiler No. 4, a 357 MMBtu/hr (32 MWe equivalent output) pulverized coal boiler, will be curtailed to back-up status and will be used during times when the YCEP unit is down for maintenance or under other circumstances, such as the loss of steam production from a P. H. Glatfelter Company boiler. Power Boiler No. 4 will be limited through terms of a State-issued air quality permit to operate simultaneously with the YCEP Cogeneration Facility for no more than the operating equivalent of 720 hours of oxides of nitrogen (NO_X) emissions at full output per year.

Associated utility corridors and interconnects will be required and include the following five main utility corridors and interconnection with an electric substation:

- A 6.1-kilometer (3.8-mile) single circuit 115-kilovolt electrical interconnection from the cogeneration facility to an existing substation in Bair, PA;
- A 228.6-meter (750-foot) double circuit 115-kilovolt electrical intraconnection between the cogeneration facility and an existing Met-Ed line at the P. H. Glatfelter Company paper mill;
- A 685.8-meter (2,250-foot) steam supply line/condensate return line and electrical raceway extending from the cogeneration facility to the P. H. Glatfelter Company facility;
- A 762-meter (2,500-foot) potable water supply line from an existing Spring Grove Water Company water line to the cogeneration facility;
- Approximately 2.4 kilometers (1.5 miles) of cooling water supply lines and wastewater return lines from the cogeneration facility to the P. H. Glatfelter Company wastewater treatment facility; and
- Expansion of a switchyard at Bair that would cover an area of approximately 1 acre (0.4 hectare).

Project Status

Project activities to date include applications for permits and approvals necessary to construct and operate the YCEP Cogeneration Facility in North Codorus Township; preparation of designs and specifications necessary to apply for these permits and approvals; preliminary engineering and design activities in accordance with the cooperative agreement with the Department; and preparation, publication, and distribution of the Draft and Final Environmental Impact Statements.

In October 1991, YCEP notified the Pennsylvania Public Utility Commission (PUC) of the potential for using Clean Coal Technology Demonstration Program funds to design, construct, and operate the proposed YCEP project that would supply Met-Ed with power. YCEP requested that the PUC order Met-Ed to enter into a power supply agreement, and the PUC concurred in an order issued in November 1991 (Docket No. P–910549). YCEP and Met-Ed executed a 227-megawatt, 25-year power supply agreement in April 1992. Met-Ed subsequently appealed to the Federal Energy Regulatory Commission (FERC), asking that this order be rescinded (Docket No. EL95–41–000); this request was denied by FERC on June 28, 1995. On August 4, 1995, Met-Ed filed a petition for re-hearing with the FERC.

YCEP submitted its Prevention of Significant Deterioration (PSD) ''Plan Approval Authority to Construct'' permit application in January 1994 to the Pennsylvania Department of Environmental Resources (PADER). PADER issued the air permit on July 25, 1995. In addition, an erosion and sediment control plan/National Pollutant Discharge Elimination System (NPDES) construction stormwater permit has been submitted to the York County Conservation District and PADER for review and comment. Approval for the NPDES construction stormwater permit was issued in April 1995. YCEP applied for final Land Development and Subdivision approval from North Codorus Township; approval was denied pending completion of the Record of Decision and approval of the air permit by PADER. YCEP has since refiled its request for approval, and simultaneously appealed the township's decision to the Court of Common Pleas. YCEP also petitioned the West Manchester Zoning Hearing Board for a ''special exception use'' for public utilities, as set forth in § 150–15 of the West Manchester Township Zoning Code, to allow the expansion of an electric switchyard adjacent to the existing Bair substation. Hearings were held on March 28 and April 26, 1995, and the Board denied YCEP's initial petition (Case No. 95–09). YCEP filed an appeal (Number 95–SU–2193–08) of the West Manchester Township decision with the Pennsylvania Court of Common Pleas on May 25, 1995.

Alternatives

Congress directed the Department to pursue the goals of the Clean Coal Technology Demonstration Program by means of cooperative agreements that provide partial funding for projects owned and controlled by nonfederal-government sponsors. This statutory requirement places the Department in a more limited role than if the federal government were the owner and operator of the project. When the Department signs a Cooperative Agreement with an industrial partner, the scope of alternatives is necessarily more restricted because the Department must focus on alternative ways that not only accomplish its purpose but also reflect the industrial partner's needs and the functions the industrial partner plays in the decision making process. It is therefore, appropriate for the Department to give substantial weight to the industrial partner's needs in establishing a project's reasonable alternatives.

Based on the foregoing principles, the reasonable alternatives to the preferred alternative are an alternative site location (West Manchester Township) and the no-action alternative (including scenarios reasonably foreseeable as a

consequence of the no-action alternative). After reviewing all potential environmental effects, the Department has determined that its preferred alternative is to provide cost-shared financial assistance for the YCEP Cogeneration Facility at the North Codorus Township site.

Preferred Alternative

The preferred alternative, implementation of the proposed action, is the provision of approximately $75 million in cost-shared federal funding support for the design, construction, and operation of a single-boiler utility-scale cogeneration facility utilizing atmospheric circulating fluidized bed (ACFB) technology at the 38-acre (15.4-hectare) site in North Codorus Township in York County, PA.

Alternative Site Location

Construction and operation of the YCEP 227-megawatt (net) Cogeneration Facility at an alternative site in West Manchester Township would be similar to the preferred alternative. A continuously operating conventional wet cooling unit system would be utilized for process heat dissipation and condensation of steam to water in the steam turbine condenser. Mechanical draft cooling units would be utilized and the heat transfer medium would be fresh water. Cooling unit blowdown would be minimized but some blowdown would be required to prevent excessive buildup of dissolved solids that result in scale formation and corrosion. The blowdown volume would vary, depending on the number of cycles of concentration (projected to be 8 to 12 cycles). The steam generated in the ACFB boiler would be used to drive a steam turbine to produce electricity for purchase by Met-Ed, and a portion of the high pressure steam exiting the steam turbine would be sold to the J.E. Baker Company for use in their dolomite brick manufacturing operations. During periods when steam would not be available from the ACFB boiler within the cogeneration facility, YCEP would utilize back-up natural gas boilers to provide steam.

No Action

Under the no-action alternative, the Department would not provide cost-shared federal funding support for the YCEP cogeneration facility, and the design, construction, and operation of a single-boiler utility-scale ACFB technology applied to a cogeneration facility at the 38-acre (15.4 hectare) site in North Codorus Township in York County, PA would not take place. Because YCEP would be unable to satisfy the criteria dictated by the agreement to deliver electricity to Met-Ed, the cogeneration facility would not be constructed without financial assistance from the Department. The Pennsylvania PUC order made Met-Ed's obligation conditional on the Department's actual co-funding of the project.

Under the no-action alternative, it is reasonable to assume that some means to meet possible long-term needs for electrical power in the region would be required. Future electricity demands could be met by purchasing power from new non-utility generators, purchasing power from the existing power pool, conducting purchase transactions outside the pool with private entities, or constructing new gas- or coal-fired facilities.

Thus, for the purposes of analyzing and making comparisons between the preferred alternative and the reasonably foreseeable consequences of the no-action alternative, construction and operation of the cogeneration facility at the North Codorus site was compared to three different options for meeting project capacity requirements under the no-action alternative.

Construction and operation of a 227-megawatt natural gas-fired combined-cycle facility was one of the no-action alternative options analyzed. The primary fuel for this facility would be natural gas supplied by a single pipeline to the facility. The pipeline would be supplied through a series of gas transmission lines, most likely originating from a supply source in the Gulf of Mexico area. The 227-megawatt gas-fired combined-cycle facility would have an expected gas consumption rate of 16 billion cubic feet per year. A back-up fuel supply (typically fuel oil) would be required for times when natural gas supply is interrupted. No associated steam host would be built.

The second no-action alternative option analyzed was construction and operation of a 227-megawatt coal-fired twin-boiler exempt wholesale generator facility consisting of two 114-megawatt ACFB units with no associated steam host or related air emissions reductions.

The final option analyzed under the no-action alternative was energy and capacity purchases from the Pennsylvania-New Jersey-Maryland (PJM) Interconnection Power Pool. The PJM power pool consists of 538 generating units representing an installed capacity of 55,575 megawatts, connected to approximately 6,800 miles of high voltage transmission lines throughout the PJM region. No construction would be associated with this alternative, and future potential short-falls in long-term power needs may still need to be addressed.

Alternative Site Analysis

The Department would not be the owner-operator of the YCEP Cogeneration Facility. Therefore, the Department's evaluation of the project's reasonable site alternatives focused on a review of the site selection study and criteria prepared by the Industrial Participant. Air Product's extensive site search extended over 1½ years, and sites were evaluated based on the following criteria: location within Met-Ed's service territory, in or near major electrical load centers, near a large user of steam, and near areas where interconnection to the utility's electrical grid would be practical; reasonable access to rail lines for fuel delivery and other major infrastructure; unzoned, zoned or reserved for industrial use; and environmental acceptability. During the site search, Air Products evaluated potential sites in each of Met-Ed's three service areas. The two sites selected for detailed analysis in the Final Environmental Impact Statement, the P. H. Glatfelter Company property in North Codorus Township and the J.E. Baker Company site in West Manchester Township, appeared to meet all of the criteria.

Four alternative routes for the electrical interconnection were originally considered by YCEP and reviewed by the Department. After initial review, one alternative was eliminated and three variations of another alternative were added for the more detailed investigation. Four major factors were considered in selecting the utility corridor: (1) Achieving Met-Ed's guidelines for placing new electrical lines; (2) satisfying certain land use objectives; (3) minimizing environmental effects; and (4) providing accessibility for construction and maintenance. Evaluation criteria were identified for each of these four factors. In addition to the YCEP evaluation, the Department made site visits to view first-hand the various routes and to assess potential impacts from the electrical interconnection. In addition, the Pennsylvania Game Commission was consulted and a field review was conducted to ensure that the final corridor selection was acceptable to the Pennsylvania Game Commission.

Environmentally Preferred Alternative

The environmentally preferred alternative is the no-action alternative, particularly if Met-Ed were to purchase its energy and capacity from the existing Pennsylvania-New Jersey-Maryland (PJM) power pool. Under this

reasonably foreseeable result of the no-action alternative, no new construction of utility lines, substations, or other electrical interconnection infrastructure would be required. The potential for development and commercialization of the proposed ACFB technology would be less likely. Nominal increases in water supply requirements and process wastewater could occur at PJM facilities. Other environmental impacts, either positive or negative, would not be expected. Because this option under the no-action alternative would not further the goals of the Clean Coal Technology Program, this no-action alternative was not identified as the Department's preferred alternative.

Major Environmental Impacts and Mitigation Measures

In compliance with the National Environmental Policy Act, the Department analyzed the environmental impacts and mitigation measures associated with the construction and operation of the YCEP Cogeneration Facility at the North Codorus site (the preferred alternative); construction and operation of the YCEP facility at the West Manchester site; and three scenarios that could result as a consequence of the no-action alternative.

Preferred Alternative

Setting: Substantial construction activities for the YCEP Cogeneration Facility at the North Codorus site will be required. Approximately 30 percent of the 38-acre (15.4-hectare) site (11 acres or 4.6 hectares) will be developed. Short-term impacts (lasting the duration of the construction period) are expected both at the project site and along the utility corridor routes.

The power transmission line *intra*connection (between the YCEP facility and the P.H. Glatfelter Company facility) will be located between two large industrial facilities thereby limiting visual impacts. Much of the utility *inter*connection corridor, and especially the water supply and wastewater return/cooling pipelines, will be buried underground, resulting in primarily short-term impacts during construction.

Some long-term impacts will be associated with construction of the utility corridors. A number of deciduous trees will be removed, particularly during construction of the electrical interconnection to the Bair substation. The 6.1-kilometer (3.8-mile) electrical interconnection between the YCEP Cogeneration Facility and the new electric switchyard at the Met-Ed substation in Bair, PA will also result in long-term visual impacts by altering existing land uses and changing the viewshed near historically significant properties.

The facility will introduce industrial structures into a previously rural open space containing some treelines and will have an adverse visual impact on the residents on Colonial Valley Road west of the facility. Buildings will be consistent with the industrial style architecture of existing structures in the vicinity. Landscaping features, to be incorporated into the final design of the facility, will help blend the facility with its surroundings. Some existing treelines will be preserved to visually buffer the facility from adjacent properties and existing land uses surrounding the site. The existing treeline between the Lions Club Pavilion area and the site will be augmented with additional plantings to improve the visual buffer.

Air Quality: On-site fugitive air emissions from earthmoving and excavation activities will be mitigated during construction through the application of proper construction practices, including periodic wetting and mulching. Disturbed land will be stabilized to the greatest extent practical. A permit (PAS–10–Y009–1) was obtained from the PADER Water Management Division on April 3, 1995 for on-site earthmoving activities.

Maximum permitted air emissions during operation of the YCEP project include 2,891 tons/year of sulfur dioxide (SO_2), 127 tons/year of particulate matter (PM_{10}), 1,437 tons/year of oxides of nitrogen (NO_X), 1,726 tons/year of carbon monoxide (CO), and 48 tons/year of volatile organic compounds (VOCs). The project is expected to emit no more than 2,328,968 tons/year of carbon dioxide (CO_2), which will equate to approximately 0.05 percent of CO_2 emissions from U.S. fossil fuel combustion.

Modeling results indicate that pollutant levels will be in compliance with National Ambient Air Quality Standards (NAAQS) after the required offsets have been obtained. In addition, the increases in ambient concentrations for total suspended particles (TSP), particulate matter (PM_{10}), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) will not exceed the allowable Prevention of Significant Deterioration (PSD) increment consumption. Both Class I and Class II PSD increment analyses indicate no significant degradation of air quality is expected to occur in either the Shenandoah National Park (the closest Class I area), the Gettysburg National Military Park (a nearby Class II area).

Because the project site exceeds the National Ambient Air Quality Standard for ozone, offsets for oxides of nitrogen (NO_X) must be obtained. Emissions from the YCEP facility must be offset by a ratio of 1.15 to 1; emission reduction credits (ERCs) equivalent to 115 percent of the potential oxides of nitrogen (NO_X) emissions will be obtained from the P.H. Glatfelter Company and the Transcontinental Gas Pipe Line Corporation. Under the Phase II provision of the Clean Air Act, Title IV, YCEP will also be obliged to purchase or obtain sulfur dioxide (SO_2) ''allowances'' to continue to emit sulfur dioxide (SO_2) into the ambient air after January 1, 2000.

After offsets and allowances, actual (or expected) air emissions should result in a net reduction in sulfur dioxide (SO_2—650 tons/year), oxides of nitrogen (NO_X—415 tons/year), and particulate matter (PM_{10}—7 tons/year). An increase is expected in carbon monoxide (CO—1,350 tons/year), volatile organic compounds (VOCs—35 tons/year), and radionuclides (approximately 225 millicuries/year). Due to the expected net decreases in sulfur dioxide (SO_2) and oxides of nitrogen (NO_X), the contribution of the project to levels of acid precipitation should be very low. The expected net reduction in sulfur dioxide (SO_2) emissions should minimize adverse impacts to visibility from regional haze due to light scattering. The net reduction in oxides of nitrogen (NO_X) emissions could also help reduce adverse visual impacts.

Cumulative cancer risk for all routes of exposure to facility emissions will be approximately three in one million. Most of this risk is attributable to radionuclide emissions. The YCEP project could deliver a maximum effective radiation dose of up to 0.03 millirem/year, which is not known to increase the incidence of disease, mutation, or teratogenic effects. The cumulative hazard index for exposure to noncarcinogenic emissions is less than 1, indicating no adverse effects on human health is expected from facility operation.

A Good Engineering Practice (GEP) stack height analysis based on EPA's Guideline for Determination of Good Engineering Practice Stack Height was completed for the project using building design and facility layout information. The maximum GEP height for the main stack was determined to be 137.2 meters (450 feet). YCEP plans to build a stack with a height of 120 meters (395 feet). Because the planned stack height is less than the calculated GEP formula height,

additional air quality modeling analyses were conducted to determine if excessive groundlevel concentrations will occur. For carbon monoxide (CO) and particulate matter (PM_{10}), the worst-case groundlevel concentrations will be below EPA and PADER significance levels. For sulfur dioxide (SO_2) and oxides of nitrogen (NO_X), groundlevel impacts will be above significance levels (and thus required PSD increment consumption analyses to be calculated). The percentage of sulfur dioxide (SO_2) and oxides of nitrogen (NO_X) PSD increments to be consumed will range from 10 to 27 percent. The cumulative PSD incremental consumption will range from 22 to 85 percent.

To avoid excess build-up of dissolved solids in the recirculating cooling water and to replace water lost through evaporation, make-up water from the secondary clarifiers of the P.H. Glatfelter Company wastewater treatment plant will be added to the recirculating water. This wastewater will contain measurable levels of dissolved solids, salts, and chemical compounds that will be released from the cooling tower in the form of drift and through volatilization. These drift/volatiles would contain inorganic trace elements such as phosphate, manganese, total cyanide, and selenium, and organic compounds such as chloroform. Inorganic trace elements are expected to behave as solid materials, travel with the cooling tower drift as water droplets, and impact the ground as water deposition. One of the organic compounds, chloroform, will be present in the make-up water at a concentration of 0.081 mg/L and its expected maximum groundlevel concentration (through volatilization) is 3.05×10^{-3} $\mu g/m^3$. Residents located in the surrounding area will be exposed to cooling tower emissions.

Operation of the cooling tower is not expected to result in fog or ice on railroads in the surrounding area. Cooling tower-induced fogging and/or icing may occur for up to 5.2 hours/year within a 200-meter (656-foot) radius of the cooling tower to the southeast and south-southeast within site boundaries. Plume shadowing is expected to occur entirely within YCEP's property fenceline. Adverse impacts associated with fogging, icing, or plume shadowing are expected to be minimal.

It is not expected that the pH of local rainwater will be measurably lowered in the region by projected facility emissions, and no noticeable chemical alternation of regional soils will result from sulfur dioxide (SO_2) or oxides of nitrogen (NO_X) emissions. No meaningful reduction in crop production will be attributable to the YCEP project. Except for mercury, maximum soil concentrations of trace elements attributable to the facility will be approximately 100 times lower than existing soil concentrations. Mercury concentrations will be approximately equal to existing soil concentrations. One researcher claims that mercury is phytotoxic at levels close to existing soil concentrations, but other researchers believe mercury is not phytotoxic until reaching concentrations that are approximately 10 times higher than those expected to result from the project. Although it is not possible to specifically assess all possible effects on crops and trees, trace element emissions from the facility are not expected to adversely impact plants used for food and feed.

Odor-producing compounds that could potentially be emitted from the cooling tower are expected to be primarily released during primary and secondary treatment of wastewater before that wastewater is used by the facility. Therefore, use of process wastewater from the P. H. Glatfelter Company is not expected to aggravate existing ambient odors. Odor-producing compounds from the cooling tower are not expected to cause additional odor problems in the local community.

Geology and Soils: Construction activities for the electrical interconnection alignment will include pole placement, foundation installation, and clearing of rights-of-way. Temporary roads will be needed to provide access for construction equipment. For level terrain, earth moving will not be required, but where steep slopes are present, extensive earth moving activities will be required to provide a stable base for these temporary roadways. To protect existing ground, temporary roads will be created that have a stone fill on top of a geotextile filter cloth. Following completion of construction, temporary roads will be removed and the land will be restored to pre-existing conditions. Excess soil remaining following completion of construction activities will be available for reuse by local contractors as fill.

Construction practices at the facility will be consistent with approved guidelines for erosion and sedimentation control. An erosion and sediment control plan has been submitted to the York County Conservation District and PADER for review and comment. Erosion will be minimized by beginning cleanup and revegetation operations immediately following completion of construction activities. Facility structures will be designed and constructed to resist the effects of earthquake motion as specified in section 1612 of the BOCA National Building Code. Other mitigative measures will include constructing perimeter silt fencing, restricting heavy truck traffic to designated corridors during very wet or dry periods; implementing dust-abatement practices as needed; constructing sedimentation basins along runoff interception and/or discharge channels; and stabilizing these channels.

An unimproved access way will be maintained along the interconnect right-of-way to facilitate periodic maintenance and inspection. Complete clearing within a right-of-way will be limited to a 12.2-meter (40-foot) wide portion centered directly under the wire, called the ''wire zone.'' Selective clearing will occur in the ''edge zone,'' located on either side of the wire zone, allowing compatible tree and brush species to be left in place. Tall deciduous trees that create a safety hazard will be removed from the entire right-of-way area. The methods commonly used to clear rights-of-way are expected to minimize soil disturbance.

No operation is planned that will impact soil quality. If a spill occurs, procedures contained in YCEP's Preparedness, Prevention, and Contingency (PPC) plan and Spill Prevention Control and Countermeasure (SPCC) plan will be followed.

Water Resources and Water Quality: During construction of the cogeneration facility and associated utility corridors, impacts to water resources and aquatic ecosystems may result from equipment and vehicle access, earth disturbance, sedimentation, erosion from exposed soils, damaged vegetation, and placement and compaction of fill to support new rail lines [impacting an area approximately 7.6 meters (25 feet) wide and 426.7 meters (1,400 feet) long]. Appropriate measures to control erosion and sedimentation will be implemented; however, minor impacts may still occur during utility line installation. Stormwater runoff will be minimized through facility design features, dust control, and implementation of a facility-specific stormwater pollution prevention plan. Stormwater runoff during construction will be collected at the existing P. H. Glatfelter Company stormwater/sediment pond. An existing stand of vegetation between the construction area and the site perimeter will be maintained as a buffer for stormwater runoff. The stormwater management collection system will be constructed in accordance with York County Conservation District

requirements. Proper installation, maintenance, and monitoring of structural stormwater controls will minimize potential impacts to surface water from stormwater runoff.

Removal of streamside vegetation along the electrical corridor will impact water resources by causing an increase in the stream temperature. The stream's flowing water and narrow width within these reaches should serve to minimize the effects of this temperature increase.

Approximately 4 acres (1.6 hectares) of floodplain will be disturbed during construction of facilities. Placement of utility poles will occur on approximately 0.013 acres (0.005 hectares) of the 100-year floodplain. An estimated 4 to 8 utility poles will be located on land belonging to P. H. Glatfelter Company and 10 to 14 utility poles will be located on land controlled by the Army Corps of Engineers. Temporary routes will be developed to allow personnel and equipment access for construction; some segments will occur within the 500-year floodplain. Portions of the rail ladder tracks and a rail spur will also be located on land within the 100-year floodplain. The steam and condensate return pipeline to P. H. Glatfelter Company is expected to require placing permanent pipe supports within the floodplain. The electrical interconnection between the YCEP Cogeneration Facility and the Met-Ed substation at Bair, PA, will also be located within the floodplain for a portion of its length.

Water supply requirements during operation will average 4.2 million gallons per day (mgd); 4.0 mgd will be utilized for cooling unit make-up requirements. Internal recycle/reuse procedures will be employed to minimize water demands. The P. H. Glatfelter Company's wastewater will be used directly in the cooling tower, and no additional surface water releases from Lake Marburg are expected. The project would affect water quality in Codorus Creek directly by changing the effluent characteristics of the P. H. Glatfelter Company's wastewater discharge, and indirectly by reducing flow in Codorus Creek due to increases in consumptive use.

During a low-flow year, concentrations of most constituents will increase by an average of 9.5 percent near the outfall, and by 3.5 percent at the York gaging station. During lowest flow conditions [as determined by Susquehanna River Basin Commission (SRBC) requirements], an increase of approximately 20 percent is expected. When compared to concentrations following expected improvements from Pulp Mill modernization, potential concentrations of most constituents will increase by 4.6 percent at the outfall and 1.6 percent at the York gaging station. Overall, loadings (i.e., mass) of constituents will generally remain the same after Pulp Mill modernization. A decrease in effluent biochemical oxygen demand loadings (10 percent) and suspended solids loadings (4 percent) are expected as a result of higher levels of wastewater treatment resulting from the Pulp Mill modernization.

Evaporation of 2.8 mgd of wastewater effluent due to cooling tower operation will reduce the discharge flow at the outfall from 12.5 mgd to 9.7 mgd. The greatest effect from increased consumptive use will be immediately downstream of the P. H. Glatfelter Company's discharge. It is expected that the impact from this increase in consumption will be attenuated further downstream, where flow will decrease 4.9 percent [from 88 to 84 cubic feet per second (cfs)] during normal flow periods and 9.6 percent (from 45 to 41 cfs) during low-flow years; minimum flow will decrease to about 17 cfs (from 21 cfs). Consumptive wastewater loss due to evaporation will reduce P. H. Glatfelter Company's wastewater effluent volume by 25 percent. The cooling tower's consumptive use will help reduce the amount of heated wastewater discharged to Codorus Creek, and thereby will decrease creek temperature. In-stream temperatures will decrease by 1 to 2 degrees in the summer and 2 to 3 degrees in the winter. Decreased creek temperature will tend to improve the dissolved oxygen concentration downstream from the P. H. Glatfelter Company's outfall. Removal of streamside vegetation for utility corridors could result in increases in water temperature. Operation of the cogeneration facility will degrade water color and cause a subsequent increase from Pulp Mill modernization improvements to 165 color units.

To monitor potential adverse impacts to Codorus Creek due to facility operation, YCEP will conduct periodic sampling and testing. On a quarterly basis and during low-flow events for the duration of the project's demonstration phase, YCEP will sample for temperature, color, total dissolved solids, lead, copper, chloride, free cyanide, phenolics, and chloroform both upstream and downstream of the P. H. Glatfelter Company's discharge. The results will be provided to the Department of Energy and made publicly available to the local public reading rooms by YCEP.

Biological Resources and Biodiversity: Land disturbances resulting from construction activities could have an adverse impact on the biodiversity of terrestrial ecosystems. Habitat types potentially impacted by construction of the cogeneration facility include approximately 12 acres (4.8 hectares) of cultivated land, 2 acres (1.2 hectares) of maintained area (including a softball field), 0.3 acres (0.12 hectares) of successional field, and small areas of hardwood forest (less than 0.1 acre or 0.04 hectare).

Approximately 0.3 acres (0.08 hectares) of wetlands (within the 100-year floodplain) will be occupied by the new steam and condensate return pipeline corridor facilities. Wetland values, such as floodplain stabilization, ecological diversity, and water quality improvement, are expected to be minimally impacted by the project. Fencing will be installed around the perimeter of all off-site jurisdictional wetland areas on P. H. Glatfelter Company property. Coordination, including on-site review with the Army Corps of Engineers, will take place prior to any wetland disturbing activities. The U.S. Army Corps of Engineers' mitigation recommendations will be explicitly followed.

Construction of the power line will alter some wildlife habitat, disturb some riparian and forest vegetation, and cause impacts to soil and vegetative resources. Work in the electrical interconnection corridor is planned for the dry season to minimize damage to vegetation and soils, and to expedite construction. Vegetation removal along the utility lines and electrical interconnections will result in the loss of approximately 3.7 acres (1.5 hectare) of disturbed upland woody vegetative and 0.8 acres (0.3 hectares) of wetland woody vegetation on the P. H. Glatfelter Company property; 0.9 acres (0.4 hectares) of wooded area along stream crossings and on Army Corps of Engineers Flood Control Property will also be removed. Stream crossings will be strategically placed to coincide with areas already impacted by roads or rail. The stringing operation of tossing the pulling rope across the creek and carrying it to the next pole will help minimize impacts to riparian habitat.

It is expected that vegetation removal and clearing within the Indian Rock Dam project will affect the area licensed to the Pennsylvania Game Commission. Habitat modification in this area will require coordination with both the Army Corps of Engineers and the Pennsylvania Game Commission prior to construction. Vegetation management strategies will be used to minimize forest fragmentation. Low impact clearing methods planned for this

operation will avoid the use of heavy equipment, and all vegetation removed will be left in the right-of-way. Logs and limbs will be reduced to chip materials and left as mulch.

When conducting selective clearing or cutting within the right-of-way, an effort will be made to prevent damage to ''compatible'' plants that do not interfere with electrical transmission. Use of a chemical herbicide will be required to control stumps of deciduous trees; herbicides will be used in compliance with environmental protection rules. Temporary access roadways will later be returned to their original state.

The Pennsylvania Game Commission has stated that impacts to wildlife habitats on U.S. Army Corps of Engineers land within the utility corridor right-of-way can be addressed through proper mitigation. As part of the Mitigation Action Plan for the project, YCEP is required to comply with the following provisions:

- Riparian areas along Codorus Creek cleared for transmission lines are to be planted with various low growing shrub species to replace lost wildlife habitat.
- Construction of the transmission line through Pennsylvania Game Commission property is to be coordinated with the agency to avoid conflicts with hunting seasons, farming, and other management activities.
- To increase breeding habitats for waterfowl species, wood duck nesting boxes and other water fowl nesting structures are to be placed along Codorus Creek to replace nesting areas lost because large trees are removed. Kestrel nesting boxes, bat boxes, and other wildlife nesting/resting structures are to be placed on the single-shaft steel or wooden poles supporting the transmission line.
- Warm season grass species are to be planted to provide both food and cover for wildlife at different times of the year.
- To provide cover for wildlife, brush piles are to be constructed with the vegetation cleared or trimmed during pole and transmission line placement.

Evaluations of projected physio-chemical changes to Codorus Creek suggest that biodiversity within the aquatic ecosystem could potentially be adversely impacted. Although the Pulp Mill Modernization Project should result in beneficial impacts to the creek because reductions in effluent concentrations of inorganic dissolved solids (especially chloride) and wood pulping products (e.g., tannins and lignins) will reduce in-stream salinity, total organic carbon, biochemical oxygen demand, chemical oxygen demand, and color, these gains will be partially or totally offset by the project. Reductions in concentrations of chloride will be partially offset, and total dissolved solids and color units will increase slightly over concentrations existing prior to modernization. Concentrations of most inorganic constituents, although reduced by the Pulp Mill Modernization Project, will increase above the concentrations observed before modernization. For organic constituents, most concentrations will remain below the concentrations observed before the Pulp Mill Modernization Project.

Projected pollutant concentrations will increase, but they are not expected to exceed EPA ambient water quality criteria at either mean-flow or low-flow year conditions. For both low- and mean-flow conditions, projected concentrations of manganese, selenium, and chloroform will be less than the EPA ambient water quality criteria. A comparison of projected low- and mean-flow concentrations of aluminum and cyanide using recalculated acute and chronic water quality criteria for warm water aquatic species indicate that these chemical concentrations will be below levels likely to adversely impact aquatic organisms in Codorus Creek. Available toxicity data for copper, adjusted for the hardness values in P. H. Glatfelter Company's discharge and in Codorus Creek, indicate that toxic impacts will not occur.

During low-flow years, reduced flow could potentially affect aquatic organisms immediately downstream from the P. H. Glatfelter Company's outfall because mixing will be reduced and habitats may be lost or segregated where the depth and cross-sectional areas of Codorus Creek are reduced. Impacts on aquatic communities will be attenuated as the drainage from sources below the P. H. Glatfelter outfall increase the downstream volume.

Because rare or threatened plant or animal species have not been reported on the site or along associated utility corridors, no impacts to such species are expected as a result of the project.

Human Health and Safety, Including Waste Disposal: Construction- and operation-related risks will be minimized by YCEP's adherence to Occupational Safety and Health Administration (OSHA) and Air Products and Chemicals, Inc. health and safety standards. Construction permits and safety inspections will also be employed in an effort to minimize the frequency of accidents and further ensure worker safety. Implementing appropriate engineering controls will minimize potential impacts. Operation equipment will be required to meet all applicable safety design and inspection requirements, and personal protective equipment will meet regulatory and consensus standards for adequacy.

YCEP will develop an internal Spill Prevention, Control, Countermeasure, and Hazardous Waste Contingency Plan (SPCC) for the prevention of accidents, which will include explicit procedures to be followed in an emergency. The SPCC plan, required by the EPA, will also outline engineering design measures incorporated into the facility to minimize the potential for oil and chemical spills. Oil and grease drums will be kept inside buildings to prevent exposure to rainfall. All transport piping will be constructed of compatible material to prevent corrosion or deterioration by the liquid being carried. Prior to plant start-up and the first delivery of chemicals, the facility will develop a Preparedness, Prevention, and Contingency (PPC) plan that will include procedures for prompt handling and reporting of any spill in accordance with regulatory requirements as well as a list of measures to mitigate such a release. The facility will have a Plant Safety Standard Practice Manual that will serve as a guide for providing a safe and healthy work environment for employees, visitors, contractors.

Employees will be trained in safety procedures prior to working in the facility and refresher training will be provided. Employees who potentially could be exposed to chemicals will be trained on their safe handling.

Approximately 7,646 cubic meters (10,000 cubic yards) of waste will be generated over the 3-year construction period, and approximately 3 tons/month of municipal waste will be generated during operation of the YCEP Cogeneration Facility. Most of the municipal waste will consist of paper and cardboard, which will be disposed through a private contractor. The only solid waste potentially produced from construction and operation of utility lines will be woody debris associated with right-of-way clearings during periodic vegetative control activities. Some woody debris will be left in place to promote habitat use by upland game species.

During full operation, it is expected that up to 270,000 tons/year of ash byproducts will be generated. YCEP will test the ash waste prior to disposal to ensure its nonhazardous classification under the Resource Conservation and Recovery Act (RCRA). The ash handling system, located in the ash silo area, will include ash conditioning equipment to dampen the ash with water, thus minimizing the potential for fugitive dust emissions prior to loading into

totally enclosed 25-ton net capacity trucks. These trucks will be used in accordance with applicable state regulations. YCEP proposes to transport the ash byproduct to the Harriman Coal Corporation (Harriman) in Schuylkill County, PA. The impact from disposal of the ash byproduct will be positive and long-term because of its beneficial use in mine reclamation.

It is expected that the facility will qualify as a small quantity generator of hazardous waste (less than 1,000 kilograms per month) and will meet all applicable state and federal requirements. Spent degreasing solvents will be the only hazardous waste generated by the facility.

YCEP proposes to use aqueous ammonia instead of anhydrous ammonia in its selective non-catalytic reduction (SNCR) system because aqueous ammonia is safer to handle and store. The ammonia storage tank will be located within a fully contained and diked concrete area to provide sufficient secondary containment. Although using chlorine dioxide solution as the biocide in the cooling water recirculating system is more expensive than chlorine gas, the use of chlorine dioxide was determined to be the best alternative for this cooling water treatment application because it avoids the need to store and use gaseous chlorine material; tends to react with organics by oxidation (including phenols) and does not appreciably produce chlorinated organics; and does not tend to contribute to the formation of chloroform or trihalomethanes.

YCEP will apply a general policy of ''prudent avoidance'' in residential areas, near schools, churches, and other public gathering places when locating utility lines, to reduce the potential for impacts from electromagnetic fields (EMFs). YCEP has accepted, as a general guideline, the Met-Ed policy of attempting to maintain a 100-meter (328-foot) minimum setback. Magnetic field levels in the vicinity of the line will be minimized through the use of a triangular conductor layout. The maximum magnetic field predicted is 150 milligauss inside the switchyard at Bair, which is less than the magnetic field expected from a vacuum cleaner at a distance of 0.3 meters (1 foot). The field intensity will fall off rapidly and the highest field expected beyond the switchyard perimeter fence is 10 milligauss, equivalent to the field from a vacuum cleaner at 1.2 meters (4 feet). The expected magnetic field intensity at the closest residence is less than 1 milligauss, which equates to the magnetic field of a digital clock at a distance of 1.2 meters (4 feet). YCEP has negotiated purchase options on two residential properties near the switchyard in Bair, and will assume ownership of these properties. For the proposed rail/trail along the York-Hanover trolley route, the areas of maximum exposure would be near the existing Bair Substation and directly beneath transmission lines entering the switchyard. This is a distance of approximately 107 meters (350 feet), and trail users will potentially be exposed to magnetic fields of 10 milligauss. Beyond this point, magnetic fields will drop off drastically, and trail users will be exposed to fields between 1 and 5 milligauss for approximately 0.8 kilometers (0.5 miles).

Noise: The projected increase in noise resulting from construction activity at the site is expected to be 3 dBA or less (a barely discernible increase) at all receptor locations and through all construction phases. Construction of the electrical intraconnection, wastewater discharge line, and steam and condensate return lines will be of limited duration and will occur near the existing noise sources at the P. H. Glatfelter Company paper mill.

There will be some noise associated with construction of the power transmission line and expansion of the switchyard facility, which will be located more than 122 meters (400 feet) from the nearest residence. Noise levels affecting these and other residences in Bair, PA will be comparable to those produced by similar standard construction activities. Once constructed, the switchyard facility will be landscaped with trees and shrubs around its outside perimeter fence to help buffer noise from facility operations.

Construction activities will involve the purging of dirt and construction debris from steam systems. Because purging could result in very high noise levels, special mitigation measures will be utilized, such as using silencers, minimizing the occurrence, scheduling purging during less sensitive times of the day, and providing advance notice to the potentially affected public.

Adverse impacts from increased noise levels are expected during operation. Primary sources of project operation noise will come from steam venting and rail car coupling. A vent silencer will be installed to lessen the noise associated with the release of steam. Coupling activities will be of short duration. In addition, low noise design equipment will be used, as appropriate. When necessary to provide further sound attenuation, equipment noise sources will be enclosed in insulated buildings designed to absorb noise. Additional noise mitigation features incorporated into the facility design include extended fan housings on the cooling tower, thermal and acoustic insulation around the induced stack draft fan, and discharge silencers on the ventilation and forced draft fans. The spatial orientation of major noise production structures are planned to block direct propagation of noise to off-site receptors.

Transportation and Traffic: A peak employment of 974 persons during construction will result in an additional 712 vehicles accessing the project site, with an average increase in employee traffic of 178 vehicles per day. An increased accident risk of fewer than 4 accidents per year could potentially occur during the construction period.

York Road and Colonial Valley Road will experience a degradation in Levels of Service (LOS), from LOS D to LOS E during the a.m. peak hour. During the p.m. peak hour, traffic on Colonial Valley Road at the westbound approach of York Road will operate at LOS D compared to LOS C without construction traffic. Northbound traffic turning west into the project site at the York Road and Roundwood Facility Access Drive intersection will operate at LOS E during the a.m. peak hour compared to a LOS A without construction traffic; traffic exiting the facility will operate at LOS F. During the p.m. peak hour, LOS F conditions will exist for traffic exiting north and south onto York Road. Southbound traffic on York Road at the Jefferson Road and Lehman Road intersection will operate at LOS E during the p.m. peak hour compared to an LOS C without construction traffic.

All material laydown and employee parking areas will be located on site. In addition, to address the existing problem of occasional disruption to traffic flow on York Road from an overflow of log truck queues on the driveway, an additional truck parking area to accommodate the queue will be provided. Facility security will enforce a ban on on-street parking. Traffic conditions throughout the construction period will be monitored. If congestion is noted, additional mitigation measures, such as scheduling of shifts to further avoid peak periods or the stationing of traffic control personnel at critical locations, will be instituted.

The electrical interconnections will cross township roads used by farmers and residents, but construction activity will be scheduled to minimize disturbances to traffic on these roads. Construction will slow traffic and measures will be taken to minimize this impact.

The projected increase in traffic resulting from operation of the facility will be approximately 125 vehicles per day, for a total projected access driveway volume of 325 vehicles per day. An increased accident risk of approximately 2 accidents per year could occur during the operation of the facility. Levels of Service (LOS) during both the a.m. and p.m. peak hours will be degraded. An increase of 5 percent in total intersection traffic at York Road and Colonial Valley Road is expected during both the a.m. and the p.m. peak hours. At the intersection of York Road and the Roundwood Facility Access Drive, traffic could increase as much as 8 percent during the a.m. peak hour and 8.5 percent during the p.m. peak hour. At the York Road, Jefferson Road, and Lehman Road intersection, an increase of 5 percent in total traffic during both the a.m. and the p.m. peak hours is expected during operation. Installation of a traffic signal at the intersection has been approved by the Pennsylvania Department of Transportation.

Land Use: The site of the facility in North Codorus Township will be purchased by YCEP. Project approval must be obtained under the North Codorus Township Land Development and Subdivision Ordinance. Non-industrial land uses, primarily residences located south of the site, will not be buffered from the facility by either distance or intervening industrial structures. A vegetative screen will be provided by landscaping to shield these residences from the YCEP facility. No change in land use trends and controls will be required for construction of the cogeneration facility or the utility pipeline.

Impacts to land use will occur during construction of some portions of utility corridors as a result of temporary disturbances during pole installation. Construction and placement of each pole will disturb approximately 2.3 square meters (25 square feet) of surface and could require access to the area for periodic maintenance. The electrical interconnection will not prevent existing land uses of light industry, agriculture, wildlife conservation, and flood control. In some instances, the electrical interconnection will cross wooded or riparian lands and will require removal of some woody vegetative cover. Within the identified right-of-way, the alignment will permanently alter industrial or wooded/riparian land uses. No permanent conversion of prime agricultural land is expected to occur.

Before installation of the switchyard at the Bair substation, YCEP must obtain approval from the West Manchester Township Zoning Hearing Board for a ''special exception use'' for public utilities. YCEP must prove that construction at the electric switchyard at the Bair substation will not discourage use of adjacent land and buildings and that the location, nature, and height of new buildings, walls, and fences will not impair the value of adjacent land and buildings. Specifically, YCEP must show that the public utility will not emit any obnoxious noise, glare, dust, odor, vibration, electrical disturbance, or have other objectionable impacts. Once the electric switchyard is completed, the surrounding area will be landscaped to be compatible with local scenery. YCEP is considering a design change for the switchyard so it can be built entirely on existing Met-Ed property, and thus not require a zoning exception.

Pollution Prevention: The YCEP Cogeneration Facility will implement the pollution prevention programs that have been adopted by Air Products. Air Products has adopted the voluntary Chemical Manufacturers Association (CMA) Responsible Care Pollution Prevention Code of Management Practices. The facility is expected to be in full compliance with the code within 4 years after start-up.

The facility's material handling systems for coal, limestone, and ash byproducts will be completely enclosed to minimize fugitive dust emissions to the environment. Potential emission points in the material handling systems will be equipped with dust control systems. Chemical and storage areas will be equipped with secondary containment to avoid discharge to the surrounding environment. In the event of a tank leak or a system leak, spilled liquid will be retained within the concrete containment area. Tanks will include a lock valve that will open to a sump. To reduce the potential for equipment failures, a preventive maintenance program will be implemented.

Other pollution prevention measures include the selection of water treatment chemicals that do not adversely impact the environment (e.g., the cooling tower circulating water system will use a phosphate-based rather than a heavy-metal based treatment program, and ash byproducts will be used for mine land reclamation rather than landfill disposal.

General good housekeeping practices (e.g., neat and orderly storage of chemicals, prompt cleanup of small spills, regular refuse removal, maintenance of clean, dry floors, and proper storage of containers away from walkways and roads) will be followed at the facility.

Cultural Resources: Three historical districts and eight individual historical resources within the viewshed of the facility site, and one district and three individual historical resources within the viewshed of the electrical interconnection route were identified as eligible for listing on the National Register of Historic Places. The Bureau for Historic Preservation (the Bureau) originally determined that the cogeneration facility would have an adverse visual effect on one historical district and three historical individual resources but decided, that for two of the resources, planned landscaping would mitigate the adverse effects. Consequently, an unavoidable adverse visual impact to one district and one individual resource will result. For these, non-traditional mitigation measures are being negotiated between the Department and the Bureau. A draft Memorandum of Agreement has been written calling for YCEP to publish a history and self-guided tour of the Dempwolf Architectural Firm and to assist the Bureau with computer coding, mapping, and general organization of York County historical survey records. The Bureau has indicated that through these non-traditional methods, mitigation of the unavoidable visual effects is possible. Construction and alignment of project pipelines will not affect historic properties. No evidence of archeological resources has been found. Therefore, no archeological impacts are expected from construction of either the facility or associated utility corridors.

Socioeconomic Resources: Because of the skilled construction labor force existing in the York County area, it is expected that much of the construction workforce for the project will be hired regionally. This will have a positive, but temporary, impact on regional unemployment rates. During construction, supporting local retail establishments will be positively impacted by increased revenues, and the regional economy may benefit from an influx of wage dollars.

To the extent practical, the 70 person full-time workforce for the operational facility will be derived from the local labor force. The impact of these newly created positions, along with new positions in related sectors, will be positive but not significant (i.e., less than a 0.1 percent reduction in York County's unemployment rate). Increased tax revenues may benefit local and state infrastructure and government programs, including schools, roadway systems, and hospitals; this could have a positive impact on local property

values. However, other factors, such as visual appearances, noise, and traffic may have negative impacts on real estate values.

Because much of the labor force will be supplied locally, increased demands on public and community services will be minimal. A fire water system, designed in conformance with Uniform Fire Code and applicable National Fire Protection Association standards, will minimize impacts to community fire protection services from facility operation.

The Lions Club picnic pavilion and fishing area will receive a long-term, direct negative impact from the introduction of additional industrial structures into the viewshed. The electrical interconnection corridor will cross a mix of land uses including light industrial, agricultural, conservation, and flood control properties. Placement of the electrical poles will entail a visual impact. Compared to baseline conditions, water quality for the protection and propagation of fish and wildlife and for recreation in or on the water should be minimally impacted by the project.

The project should provide consumers with predictably priced electricity. It is not possible to speculate what effect the project will have on long-term electric rates because of uncertainties in energy markets and the specific factors that contribute to long-term analyses.

Environmental Justice: Neither construction nor operation of the facility and associated utility corridors will have disproportionately high and adverse human health or environmental effects on low-income or minority communities. The minority community located in Jackson Township is not expected to experience visual or noise-related impacts due to its distance from the utility corridor and electric switchyard.

Proposed Project at the Alternative Site Location

Substantial construction activities would be required to build the cogeneration facility at the West Manchester site. Approximately 20 percent of the 47-acre (19-hectare) site [9.4 acres (3.8 hectares)] would be developed. The industrial function of the facility at the West Manchester site would be consistent with existing structures located at the J.E. Baker Company surface mining and brick manufacturing complex.

Air Quality: Projected air emission rates, without offsets or allowances, would include 2,300 tons/year of sulfur dioxide (SO_2), 107 tons/year of particulate matter (PM_{10}), 1,212 tons/year of oxides of nitrogen (NO_X), 1,454 tons/year of carbon monoxide (CO), and 39 tons/year of volatile organic compounds (VOCs). Emissions generated by the main boiler would be controlled through selective non-catalytic reduction (SNCR) for limiting oxides of nitrogen (NO_X) emissions to 0.125 lbs/MMBtu, a baghouse for limiting emissions of particulate matter (PM_{10}) to 0.011 lbs/MMBtu, and limestone injection into a single train ACFB boiler to limit sulfur dioxide (SO_2) emissions to 0.25 lbs/MMBtu. The West Manchester site is located in the Northeast Ozone Transport Region (NOTR) that exceeds National Ambient Air Quality Standards for ozone. Therefore, oxides of nitrogen (NO_X) offsets would be required. With offsets, the overall (net) NO_X levels would be reduced by 182 tons/year.

A comparison of anticipated emissions of sulfur dioxide (SO_2), oxides of nitrogen (NO_X), and particulate matter (PM_{10}) between the 227-megawatt coal-fired facility at the West Manchester site facility and at the North Codorus site, indicates that these emissions at the West Manchester site would exceed the levels of these emissions at the North Codorus.

Modeling analysis indicates that operation of the cooling unit at the West Manchester site would have minimal impacts on the roadways and railroad surrounding the facility. Emigs Mill Road, east of the cooling unit, would experience less than 30 minutes of fogging annually as a result of operation of the West Manchester facility. No other roadways surrounding the facility would be impacted. There would be no occasions where the cooling unit would also induce icing on roadways adjacent to the facility. The cooling unit plume would cause less than 15 minutes/year of fogging and/or icing on adjacent Yorkrail tracks. Results of a study conducted by Dr. Ducatman, Director of the West Virginia University's Institute of Occupational and Environmental Health, concluded that the groundlevel concentrations of emissions from the facility at the West Manchester site would not expose the York County community to a health risk.

Geology and Soils: Construction impacts to soil would include loss of excavated soil from water and wind erosion, reduction of soil quality from mixing topsoil with subsoil, and soil compaction from activities of construction equipment. Construction involving site grading, preparation, and placement of fill would alter the existing topography, and excavation would be necessary. Non-organic soils found on the site would be expected to be suitable for uses such as compacted fill for loaded structures, pavements, and embankment construction, as well as for landscaping and grading purposes. A total of 98,763 cubic meters (129,169 cubic yards) of on-site excavated materials would be used for site preparation and access roadway construction.

Water Resources and Water Quality: Water supply requirements for construction of the facility at the West Manchester site would be 30,000 to 100,000 gallons per day (gpd), which would be supplied by the York Water Company municipal distribution system; no adverse impact to company service would be expected. In addition, handling, treatment, or discharge of sanitary wastes during construction would not be expected to impact existing sewage systems or surface water.

Dewatering would be required during construction activities if a shallow water table were encountered, but water table levels would return to their original contours following completion of dewatering activities. No long-term impacts to groundwater would occur. No construction would occur within the 100-year floodplain.

Water supply requirements during operation of the facility at the West Manchester site would range between 2.8 and 3.0 mgd. Adequate surface water resources would be available to meet water supply needs during normal and excess rainfall periods. A net water savings of 80 to 180 gpm would be obtained through recycling and reuse. Consumptive use for the facility at the West Manchester site would range from 2.5 to 2.6 mgd, which is greater than the Susquehanna River Basin Commission (SRBC) regulatory threshold of 20,000 gpd. Consequently, the facility in West Manchester would be subject to SRBC's consumptive use compensation requirement.

All ambient water quality and thermal discharge criteria would be met. Within the discharge's zone of initial dilution, the total dissolved solids (TDS) concentration is expected to increase by approximately 100 mg/L; following complete mixing, an increase of 30 mg/L is anticipated. In-stream TDS concentrations are expected to remain below the 500 mg/L standard. The PADER thermal discharge criterion would be met because of available in-stream dilution capacity and the facility's use of a stormwater retention pond on the West Manchester site for cooling. The facility at the West Manchester site would also be capable of meeting the effluent limitations for

total suspended solids, oil and grease, pH, chlorine residual, zinc, and polychlorinated biphenols defined by EPA's pretreatment standards for new sources.

Biological Resources and Biodiversity: No construction of site facilities would take place in a wetland; however, electric transmission lines and non-contact discharge pipelines would cross narrow wetlands. A permit to construct these utility corridors would need to be obtained. The most probable electric transmission line route would cross a narrow wetland associated with Honey Run. The crossing would consist of an overhead span, and vegetation in the existing meadow wetland would not require additional management for right-of-way maintenance. No alterations to wetlands would be expected to occur. The non-contact wastewater discharge pipeline would cross approximately 4.8 kilometers (3 miles) of wetlands between the West Manchester site and its discharge to Codorus Creek. Short-term impacts to herbaceous wetlands have occurred previously with placement of underground utility pipelines. A limited, temporary impact to wetlands would also occur if a natural gas pipeline were installed along a proposed alternative route. The route would cross few wetlands and all construction would take place in areas that were previously altered for roadway construction and use. Construction in wetlands would occur during periods of low flow and if necessary, flow would be diverted during construction. Following completion of construction, affected areas would be restored to their original contour, and altered areas would be revegetated with appropriate species.

No threatened or endangered plant or animal species were reported to occur on the West Manchester site or within the area of proposed associated infrastructure routes.

Noise: Increased outdoor noise levels at four residences closest to the project at the West Manchester site would be clearly perceptible. Daytime noise levels at two residences to the north and east of the site and at the golf course located to the west of the site would increase by approximately 14 to 20 dBA. The noise increase at more distant receptors to the south and southeast would range from 3 to 12 dBA.

The purging of steam systems of dirt and construction debris would be scheduled for several brief periods; this process may result in extremely high noise levels. To limit the impact from noise during this process, special mitigation measures would be utilized, including efforts to minimize the extent of the process, scheduling the process during daylight hours, and providing advance notice to the potentially affected public.

Transportation and Traffic: Traffic studies indicate that traffic flow is already slow in many of the affected areas and would be aggravated. Along the East Berlin Road, one intersection (East Berlin Road/Emigs Mill Road) would experience a change in level of service (LOS) during p.m. peak hours. A decline from LOS D to LOS E would be expected at this intersection from construction traffic. Most Route 30 intersections, which are already operating at unsatisfactory levels of service, would be expected to experience significant impacts during construction. Once the facility is operational, only one intersection (Route 30 and Emigs Mill Road) would experience a decline in level of service. During the a.m. peak hour, facility traffic would cause southbound traffic on Emigs Mill Road to decline from LOS C to LOS D. Plans are underway, independent of this project, to improve highway conditions.

Land Use: The West Manchester site would be located within the General Industrial Zone, which is the most intensive level of industrial zoning in the township. Even though the site is designated to be used for industrial purposes, construction of the facility would impact existing agricultural land use. Coordination would be conducted with the appropriate zoning authority. Utility interconnection corridors may require a Conditional Use Permit because the project is not included as a specifically permitted use within the General Industrial Zone. The West Manchester site is of adequate size to comply with the minimum area requirements that apply to this General Industrial Zone. Most of the proposed facility structures would be less than the 30.5-meter (100-foot) maximum permitted height or could accommodate required setback distances. Features exceeding the maximum height (e.g., the facility stack) would require zoning approval.

Environmental Justice: Construction and operation of the facility at the West Manchester site has the potential to impact both minority and low-income communities. Although the site is located in an industrialized area, three census tract block groups within a 5-kilometer (3.1-mile) radius contain minority population concentrations higher than the county average. In addition, a low-income community is located in the same census tract block group as the West Manchester site. Thus, there is a potential for greater environmental justice impacts from the project at the West Manchester site compared to the preferred alternative.

No-Action Alternative

Substantial construction activities would be required for the gas-fired facility and the coal-fired facility options. The number of acres developed for the coal-fired facility would be similar to that for the preferred alternative [approximately 38 acres (15.4 hectares)]. Approximately 10 acres (4 hectares) would be developed for the gas-fired facility. No construction would be required for the PJM Interconnection Power Pool option.

Many impacts from construction, which apply only to the coal-fired facility and gas-fired facility options, would be similar to impacts identified for construction of the preferred alternative. Because generic sites were analyzed, it is assumed that appropriate sites would be used and thus no adverse land use, cultural resources, or environmental justice impacts would occur. During construction of the gas-fired facility, monthly employment would average approximately 180 persons compared to 350 for the preferred alternative; consequently, less traffic impact would result. Employment during construction of the coal fired facility would be similar to employment for the preferred alternative and all related impacts would be comparable. Impacts associated with operation of the three no-action alternative options are as follows.

Setting: It is assumed that the additional structures for the gas-fired and coal-fired facilities would not alter visual quality. The tallest structures for the coal-fired facility would be similar in height to those of the preferred alternative. The gas-fired facility's exhaust stack would be between 45.7 and 61 meters (150 and 200 feet) tall [compared to the 120.4-meter (395-foot) stack associated with the preferred alternative]. Building height would be approximately 30.5 to 45.7 meters (100 to 150 feet) tall [compared to 57.9 meters (180 feet) for the preferred alternative]. There would be no new structures to alter visual quality for the PJM Interconnection Power Pool option.

Air Quality: Anticipated air emission rates during operation of a gas-fired facility would include 26 tons/year of sulfur dioxide (SO_2), 23 tons/year of particulate matter (PM_{10}), 240 tons/year of oxides of nitrogen (NO_X), 144 tons/year of carbon monoxide (CO), and 35 tons/year of volatile organic compounds (VOCs). Anticipated air emission rates

during operation of a coal-fired facility would include 2,456 tons/year of sulfur dioxide (SO_2), 108 tons/year of particulate matter (PM_{10}), 1,226 tons/year of oxides of nitrogen (NO_X), 1,474 tons/year of carbon monoxide (CO), and 41 tons/year of volatile organic compounds (VOCs). Compared to the preferred alternative, the coal-fired facility emissions would be approximately 15 percent less because it would burn less coal and produce less energy, since it would not supply steam to an adjacent host. Radionuclide emissions would be much lower from a gas-fired facility when compared to any of the coal-fired options.

If either the gas-fired or the coal-fired facility were to be located in the NOTR, oxides of nitrogen (NO_X) offsets would be required. Under the gas-fired facility option, the overall (net) oxides of nitrogen (NO_X) reduction would be 36 tons/year and under the coal-fired facility option, the overall (net) reduction would be 184 tons/year. Secondary emissions associated with the gas-fired facility would be less than for the preferred alternative because fewer workers would be required and the need for rail delivery of coal and shipments of limestone-ash byproduct would be eliminated.

Under the PJM Interconnection Power Pool option, 0.4 percent of the existing total capacity of the facilities would be utilized by Met-Ed. No increases in air emissions at existing PJM facilities would occur.

Water Resources and Water Quality: No increases in water supply requirements or wastewater discharges would occur from the purchase of existing electrical capacity from the PJM pool. One mgd of freshwater would be required for cooling under the gas-fired facility option; 2.5 mgd would be required under the coal-fired facility option. The gas-fired facility would be expected to use 200,000 gpd for boiler make-up and to discharge approximately the same amount. The coal-fired facility would be expected to use 340,000 gpd for boiler make-up. For the gas-fired facility option, non-cooling water consumption would decrease 40 percent compared to the preferred alternative; for the coal-fired facility option, the decrease would be 15 percent. Discharges from both the gas-fired and coal-fired facilities would be expected to raise water temperature in the receiving surface water bodies.

Biological Resources and Biodiversity: It is possible that because of reduced spatial requirements for the gas-fired facility, less disturbance to wildlife habitats would take place. No other impacts to biological resources or biodiversity would be expected from any of the no-action alternative options.

Human Health and Safety: Impacts from the coal-fired facility option would be similar to those for the preferred alternative; however approximately 10 to 15 percent less ash byproduct would be generated because less fuel would be consumed. There would be no coal handling requirements or related mitigation measures needed for the gas-fired facility option. Instead, special procedures for natural gas (e.g., leak detection) would be implemented. Less municipal waste, compared to the preferred alternative would be generated and no ash byproduct would be produced. Current facility health and safety procedures would not be affected with the PJM Interconnection Power Pool option. No impacts to the health and safety of employees or the local population would occur with any of the no-action alternative options.

Noise: It is expected that noise levels for the coal-fired facility option would be equivalent to those of the preferred alternative. For the gas-fired option, noise attributed to coal handling and processing equipment would be eliminated. Because there would be no increase in operating activity at existing facilities with the PJM Interconnection Power Pool option, there would be no impact on existing noise levels.

Transportation and Traffic: Impacts to transportation and traffic would be similar between the preferred alternative and the coal-fired facility option. No additional impacts to traffic or transportation would occur with the PJM Interconnection Power Pool. It is assumed that for the gas-fired facility option, operation impacts to transportation and traffic would be less than those for the preferred alternative because of reduced employment levels. In addition, impacts from rail traffic for coal delivery and truck traffic for limestone delivery and ash removal would be avoided. If the gas supply is interrupted, however, continuing supplies would need to be delivered by tandem trucks, thus impacting the transportation infrastructure.

Socioeconomic Resources: $75 million in federal funds would not be expended for any of the no-action alternative options. Socioeconomic resources would benefit from the sale of excess capacity with the PJM power pool option; but because the sale of 227 megawatts represents only 0.4 percent of the total capacity available for sale, the increase would not be significant. Socioeconomic impacts (e.g., employment, property tax revenue, electricity cost) for the coal-fired facility option would be similar to those of the preferred alternative.

The payment of property tax, under the gas-fired facility option, would be approximately 40 to 60 percent less than for the preferred alternative. Employment would be 25 to 30 workers compared to 70 employees for the preferred alternative. Because the source of fuel would most likely originate in the Gulf of Mexico, additional revenues associated with the sale of Pennsylvania coal would not be realized for the gas-fired facility option.

Comments Received

The Department received comments on the YCEP Final Environmental Impact Statement from 14 commenters/groups.

Nina Huizinga from the Pennsylvania Department of Environmental Resources' Office of Policy and Communication stated that PADER had no comments. Steven Hill congratulated the Department on its ''timely completion and absolute thoroughness'' of the Final Environmental Impact Statement. Barry G. Hoffman, District Engineer for the Pennsylvania Department of Transportation's Engineering District 8–0, informed the Department that Air Products had submitted an application for the required traffic signal and the District had no substantive comments [note: approval for the signal (permit no. 84–55) was made to North Codorus Township on March 6, 1995]. Roland Bergner commented that the Pennsylvania Game Commission concurred with the selection of the Flood Control Property alternative as the preferred electric interconnect corridor route. Mr. Bergner reiterated the U.S. Army Corps of Engineers (USACE) requirement that during the final design phase, both agencies must approve YCEP's mitigation measures for alleviating impacts to wildlife associated with construction across USACE property. The Department is aware of this stipulation and is including this requirement in its Mitigation Action Plan.

Ronald Davis, Chief, Engineering Services of the Air Quality Program, Pennsylvania Department of Environmental Resources (PADER), submitted four substantive comments with supporting documentation. His comments were related to analyses of secondary effluent (process wastewater) samples that were recently collected by PADER and YCEP from the P.H. Glatfelter Company's Outfall 001. The PADER analyses indicated the presence of several compounds [specifically, residual agricultural pesticides (Aldrin,

BHC, and propachlor) and herbicides (MCPA and dalapon) and three additional volatile organics (1,4-dioxane, 1,1,2,2-tetrachloroethane, and formaldehyde)] that were not identified in the Final Environmental Impact Statement. The YCEP cooling tower is designed to utilize the process wastewater for cooling tower make-up water, and would evaporate an estimated maximum 2.8 million gallons per day during the cooling process.

- The first comment stated that several of the compounds detected in wastewater are classified by the U.S. EPA as carcinogens. Most of the other detected compounds have non-carcinogenic toxicity. Except for chloroform, none of these contaminants had been previously identified by YCEP or reviewed by PADER.

The Department reviewed the analytical data submitted by both PADER (1 sampling event—analyses conducted by PADER Bureau of Laboratories) and YCEP (4 sampling events—analyses conducted by Lancaster Laboratories), and found that results of the analyses differed between sampling events, between the laboratories conducting the analyses, between the analytical technique used, and, when tested, between the varying ''hold times'' (time between sample collection and analysis). Some compounds were believed to be present in one sample, but were not found in other samples. In addition, some compounds were thought to be present by one laboratory and not the other, and some compounds were thought to be present by both laboratories, but at very different concentration. Thus, one needs to understand the limitations of the results presented, since there seems to be some inherent uncertainty with respect to the accuracy and/or precision of the analytical data generated. These limitations and uncertainties are explored below.

Most of the organic components indicated as present in PADER's wastewater analyses were tentatively identified compounds (TICs). TICs are compounds analyzed through screening techniques (gas chromatographic/mass spectrometric analyses), where the spectra obtained from components in the sample are matched with a computerized spectral database of possible compounds. The TICs were not generally quantified in the PADER laboratory report, as denoted by the letter ''J'' behind the values for some of the analyses. [The ''J'' designation is a laboratory data qualifier used in the EPA's Contract Laboratory Program to indicate that a reported value is estimated.]

Although several organic compounds were tentatively identified by PADER's analyses, further component-specific analytical validation methods did not indicate the presence of many of these compounds. To verify TIC results, a pure sample (of the compound indicated by the TIC result) should be rerun on the same equipment to determine if retention times match those of the TIC and to determine if actual spectral results obtained with the mass spectrometer match those indicated by the computerized library. If both of these match then can one state with reasonable certainty that a TIC represents a compound that is truly present. In summary, only compounds identified and quantified according to EPA methodology (in the manner indicated above) are detected. TIC's are not present until confirmed; they are only *presumed* present.

The EPA has provided specific guidelines for evaluating the usability of laboratory data in quantitative risk assessments. As a general rule, only positively identified compounds that are listed within a methods list of compounds to be identified (i.e., the instrument response factor has been derived based on a multipoint standards curve for each of these chemicals) can be used in risk assessment calculations, and then only if they are present above the method quantification limit once corrected for field and laboratory blanks. EPA guidance allows substantial leeway on use of TICs, but one cannot identify ''method list'' chemicals (e.g., bromodichloromethane) as TICs (please note that nearly all of the compounds presumed to be present are compounds having methods list), automatically printout the first chemical on a computer hitlist as being the TIC, or use quantification levels derived from TICs for anything but estimating relative importance of the compound.

As a conservative measure for health effects analysis, DOE acted on the premise that all analysis results were valid until proven otherwise, and conducted a risk screening of DOE's targeted 21 potentially hazardous compounds at the highest concentrations ''detected'' in any of the analyses.

Concurrent with risk screening conducted by DOE, YCEP submitted a ''Human Health Risk Assessment for the YCEP Cooling Tower Drift,'' to PADER on July 12, 1995, and its Addendum on July 20, 1995. A copy of this health risk assessment was received and reviewed by DOE. Both YCEP's health risk assessment and DOE's risk screening concluded that the recently detected compounds in P.H. Glatfelter Company wastewater posed no increased human health risks. Both YCEP's human health risk assessment and DOE's screening assessment are in the public reading rooms.

DOE determined that although potential emissions of most compounds detected in the recent sampling events were not assessed in the Final Environmental Impact Statement, the addition of these compounds (at the highest detected concentrations) to emissions from the proposed cooling tower are expected to pose no additional human health risks. Therefore, the general human health risk conclusions reached in the Final Environmental Impact Statement are not measurably altered. It should also be noted that the health risk analyses conducted in the Final Environmental Impact Statement were based on measurements made using a simulated cooling tower, which arguably would generate more accurate release data than that based on pure extrapolation of analytical measurements made on wastewater samples.

PADER's laboratory analyzed the wastewater outfall for one sampling campaign (4/17/95), and Lancaster Laboratories, an EPA-accredited facility, analyzed wastewater samples taken during four sampling campaigns (3/13/95, 4/17/95, 5/18/95, and 6/21/95). DOE reviewed and evaluated all of these available data in identifying components in the wastewater and in assessing potential health effects from cooling tower operation. As stated before, many of the organic compounds identified by PADER's laboratory were only tentatively identified during screening analyses, but were not confirmed in their validation analyses, which support the general findings of Lancaster Laboratories.

- The second comment stated that five (5) of the detected compounds are hazardous air pollutants (HAPs), as defined in the 1990 Clean Air Act Amendments. The compound detected at the highest level was formaldehyde at 0.3 mg/L. Based on this level, the potential emissions of formaldehyde from the YCEP cooling tower would be over one ton/year. PADER's sampling results indicated that potential HAP emissions from the cooling tower have not been fully investigated, and that there is a need to determine the amount of hazardous air pollutants (HAPs) that will be emitted from the process.

The volatile and semi-volatile (methods lists) analyses conducted by the PADER and YCEP laboratories included scans for over 120 different compounds. Additional analyses for pesticides, herbicides, and base neutral

components bring the total quantity of compounds analyzed in excess of 160, with 55 of these components being on the Clean Air Act Amendments list of HAPs.

The Department's review of the sampling analysis data submitted by PADER determined that five of the compounds presumed to be present (chloroform, formaldehyde, 1,4-dioxane, 1,1,2,2-tetrachloroethane, and 1,2,3,4,5,6-hexachlorocyclohexane), were HAPs. The Department then estimated the amounts of these five compounds that would be emitted from the cooling tower. Four of the HAPs are volatile organic compounds (VOCs), except 1,2,3,4,5,6-hexachlorocyclohexane). These four volatile compounds were assumed to be released from the cooling tower in vapor (100 percent evaporation) form. The 1,2,3,4,5,6-hexachlorocyclohexane was assumed to be released primarily in the form of drift (0.005 percent of the water recirculation rate).

Based on the maximum potential concentrations of tentatively identified HAPs in the make-up water, the proposed YCEP cooling tower operation would be expected to release an additional 2.8 tons/year of HAPs beyond the amount (0.57 tons/year) assessed in the Final Environmental Impact Statement. It should be noted that, based on confirming analyses for volatile and non-volatile components that would be used for regulatory purposes, only chloroform was detected in the samples with any degree of confidence. PADER's formaldehyde analyses which yielded a concentration of 0.3 mg/L may be invalid due to the presence of a pale yellow color in the sample as well as the exceedance of maximum holding time prior to analysis. Subsequent analyses by Lancaster Laboratories indicate the formaldehyde levels are less than 57 µg/L. However, the method (water) blank had a background level of 48.5 µg/L, which generated a corrected analytical result below the detection limit. If one extrapolates based on the *validated* analytical information obtained during the recent sampling campaigns, the total emissions for VOCs (including HAPs) from the cooling tower would be approximately 0.11 tons/year, which is less than that reported in the Final Environmental Impact Statement (0.57 tons/year).

The Department determined that although potential increased emissions (2.8 tons/year) of HAPs presumed to be present in the recent sampling events were not assessed in the Final Environmental Impact Statement, the incremental health risks associated with these expected additional emissions from the proposed cooling tower would pose no additional environmental or human health risks, and that the human health risk conclusions reached in the Final Environmental Impact Statement are not measurably altered. Analytical results suggest that the health risk could be lower than that reported in the Final Environmental Impact Statement due to the lower chloroform emissions from the cooling tower.

A monitoring stipulation has been included in the Prevention of Significant Deterioration (PSD) Air Permit to resolve issues related to the *actual* amount of volatile organic compound and HAPs emissions from the YCEP facility. This stipulation reads as follows: Within 60 days of issuance of this plan approval, the applicant shall submit a cooling water sampling protocol to the Regional Air Quality Program Manager for approval. The protocol shall address the following analyses: a. Volatile organic compounds; b. semi-volatile organic compounds; c. chloroform; d. formaldehyde; e. dimethylsulfide; f. chlorinated herbicides; and g. organochloride pesticides. The sampling of the Glatfelter effluent/YCEP cooling tower evaporant stream shall be conducted on a monthly basis. Sampling results in accordance with this condition shall be submitted to the Department [PADER] within 30 days of completion of the laboratory analysis. Sampling results shall be used to verify compliance with the 50 tons/year VOC emission limit and to verify that HAP concentrations in the cooling water are consistent with the sampling values known to the Department [PADER] prior to issuance of this plan approval. Sampling shall be conducted for at least 1 year (12 consecutive months) or until the maximum production rate of the source is achieved, as deemed appropriate by the Department [PADER] based upon review of the information collected. At the conclusion of the monthly sampling program, the Department [PADER] shall specify sampling frequency which shall continue for the life of the project. The applicant may recommend a sampling frequency and other changes to the protocol at that time. The long term sampling program may include correlation with the NPDES monitoring results at the P.H. Glatfelter Company. [See DOE's mitigation commitment concerning the cooling tower sampling results below under Mitigation Action Plan]

- A third comment made by PADER stated that a number of the newly identified pollutants are volatile organic compounds (VOCs), and that the total potential emissions (from the cooling tower) could be greater than two tons/year. When these emissions are added to the 49 tons/year identified from other sources in YCEP's air permit application, the total project emissions exceed 50 tons/year; therefore, New Source Review might now apply to VOC emissions from the project. PADER also detected 76.2 mg/L of total organic carbon in the wastewater, and questioned if the cooling tower might release this organic carbon to the air as VOCs.

The Department's review of data submitted by PADER determined that up to an additional 4.2 tons/year of identified VOCs could be emitted from the proposed YCEP cooling tower, if VOCs are *confirmed* to be present in the make-up water at the maximum detected concentrations using appropriate protocols. If these emissions (4.2 tons/year) are accurate and when combined with the circulating fluidized bed boiler emissions exceed the New Source Review (NSR) threshold for VOCs of 50 tons/year, an additional regulatory review would be required. However, as a condition for providing cost-shared funding for the YCEP project, net VOC emissions for the YCEP facility will not exceed 50 tons/year as prescribed by law.

Chloroform levels measured for samples collected during recent sampling events indicate an almost 10-fold reduction (when compared to concentrations analyzed in the Final Environmental Impact Statement). This reduction is probably due to the effects of the P. H. Glatfelter Company's Modernization Project, which went online in the fall of 1994, since similar reductions in many of the surrogate parameters have been observed (e.g., color, specific conductance, chemical oxygen demand, total organic carbon). The highest formaldehyde concentration (0.3 mg/L) that was used in the estimation of maximum VOC emissions by the Department could be in question due to analytical interferences noted by the laboratory that conducted the analyses. More recent formaldehyde analyses indicate that its presence is non-detectable. Thus, there is a possibility that further analyses of current and future data will indicate that the total VOC emissions will be less than 50 tons/year, and that the component contributed by the cooling tower could be less than 0.57 tons/year (as previously reported in the Final Environmental Impact Statement). In light of the discrepancies and non-validation found in the analytical analyses between samples and

laboratories, additional sampling would be required to more accurately establish the overall amount of VOC emissions that would be emitted. More recent analyses conducted suggest that VOC emissions from the cooling tower could be approximately 0.11 tons/year.

To address this issue as part of the Prevention of Significant Deterioration (PSD) Permit for the YCEP Project, PADER's Ronald Davis has stated that the following language has been included in the PSD permit (which was issued on July 25, 1995): ''Annual actual volatile organic carbon emissions from all activities at the YCEP facility shall not exceed 50 tons for any consecutive twelve month period. This limit is based upon the VOC applicability threshold contained in Chapter 127 Subchapter E of the New Source Review of the Department's rules and regulations.''

Another stipulation of the permit (as outlined in the previous response) will require YCEP to conduct sampling to determine, in part, VOC emissions. If total VOC emissions on an annualized basis exceed 50 tons/year, YCEP would be required under law to mitigate the effects by demonstrating lowest achievable emission rates (LAER) for VOC emissions. If initial operational data indicate a potential VOC exceedance, YCEP could pursue a number of options (including operational or engineering controls at the combustor) to reduce the VOCs on an annualized basis for the entire facility to less than 50 tons/year. As a condition for providing cost-shared funding for the this project, net VOC emissions for the YCEP facility will not exceed 50 tons/year as prescribed by law.

The need for a New Source Review is a regulatory issue which will be determined by PADER based on operational data. As noted earlier, PADER has not determined the need for a New Source Review at this time, but will require YCEP to monitor the P.H. Glatfelter Company wastewater for volatile organic compounds, semi-volatile organic compounds, chloroform, formaldehyde, dimethyl disulfide, chlorinated herbicides, and organochloride pesticides. Data from this monitoring will provide the basis for the determination of whether additional mitigative measures would be required. PADER, in its capacity as the regulatory agency would determine the need for a New Source Review, and (if required) the conditions would be outlined and enforced by PADER's permit. Previously unaccounted VOC emissions from the proposed cooling tower are not expected to alter conclusions in the Final Environmental Impact Statement regarding health risks or environmental impacts.

The issue of whether the 76.2 mg/L of total organic carbon in the wastewater contains volatile constituents has been addressed through the EPA standardized volatile organic compound analyses of the wastewater samples conducted by the various laboratories. It is not unusual to find that the carbon associated with volatile constituents does not total the organic carbon in the entire wastewater sample due to the presence of color-containing non-volatile components. These color-containing components are derivatives of wood structure such as lignin, a non-volatile, complex sugar derived from wood. In addition, total organic carbon analyses involve air stripping methodology to remove inorganic constituents, such as carbon dioxide, bicarbonates, and carbonates. Therefore, the measurement of total organic carbon may represent the non-volatile organic carbon fraction and may not contribute to additional VOC emissions.

- PADER's fourth comment stated that compounds possessing very low odor thresholds were present in the wastewater and that release of these compounds in the air, both as a vapor and in water mist, may result in odors being generated in the area.

The Department reviewed PADER's analysis results and identified dimethyl disulfide as the presumptively present compound having the most significant odor-causing potential. Assuming dimethyl disulfide is present in the make-up water at the maximum reported concentration, 130 micrograms/liter (μg/L), a worst case ambient air concentration was calculated. The results of these calculations estimated an ambient air concentration ($6.0 \times 10^{\pm 6}$ μg/m^3) which is five orders of magnitude less than the lowest reported odor detection threshold for dimethyl disulfide (3.0 μg/m^3) (K. Verschueren, Handbook of Environmental Data on Organic Chemicals, New York, Van Nostrand Reinhold, 1983). Therefore, the Department determined that the addition of these emissions (at the highest detected concentrations) would pose no additional odor impacts. Thus, the conclusions reached in the Final Environmental Impact Statement regarding odor are not measurably altered.

Since receipt of the comments from Mr. Davis, Pennsylvania has issued the air permit for the YCEP facility. In its press release announcing issuance of the air permit, Michael Steiner, acting director of the Department of Environmental Protection's (DEP's) southcentral region office noted that DEP required YCEP to conduct a health risk assessment showing that the project will not result in significant human health risk. The health assessment requested by PADER is available in the public reading rooms.

Mr. John R. Pomponio, Acting Director, Environmental Services Division, EPA Region 3, submitted two major comments for consideration.

- The first comment was related to the human health risks associated with the constituents identified in the wastewater analyses conducted by PADER. This wastewater is to be used for cooling tower purposes. The EPA requested that a human health risk assessment be prepared for the compounds identified in the PADER laboratory analyses: oil and grease, total organic carbon, chemical oxygen demand, methylene blue active substances (MBAs), formaldehyde, ammonia, nitrobenzene, toluene, bromide, bromofluorobenzene, bromodichloromethane, 2,4,6-tribromophenol, phenols, 2-fluorophenol, terphenyl, 2-fluorophenyl (sic), 1,1,2,2-tetrachloroethane, 1,2-dichloroethane, carbon disulfide, dimethyl sulfide, dimethyl sulfone, 1,4-dioxane, propachlor, aldrin, hexachlorocyclohexane (all congeries), cyanide, sulfide, sulfate, fluoride, nitrates, nitrites, and metals (sodium, calcium, potassium, magnesium, iron, aluminum, strontium, manganese, molybdenum, vanadium, zinc, lithium, titanium, mercury, barium, boron, chromium [+6] and chromium [total]). The human health risk assessment should address all potential exposure pathways resulting from both the air cooling towers and the wastewater discharge. In addition, possible remediation of the wastewater from the P.H. Glatfelter Company should be examined.

Please see above the responses to comments received from Ronald Davis, Chief, Engineering Services of the Air Quality Program, Pennsylvania Department of Environmental Resources (PADER), which outline the utility of analytical data generated by PADER and Lancaster Laboratories.

The Department and YCEP conducted concurrent health risk assessments to address EPA's concerns. These studies were screening studies (i.e., assessing maximum exposure pathways under maximum exposure scenarios) in order to assess whether more refined analyses were appropriate.

In terms of performing risk analyses on the components identified by EPA, those items which are surrogate or compound non-specific parameters (i.e.,

oil and grease, total organic carbon, chemical oxygen demand, and MBAs) do not lend themselves to risk assessment methodology, since the cornerstone of health effects analyses is to assign risk to specific compound exposure or an aggregation of specific compound exposures. As such, the information provided in these surrogate parameters is inappropriate for conducting quantitative risk assessments and for these basic reasons were not included in the health risk analyses conducted.

Eight compounds listed by EPA for investigation were internal standards used by PADER's analytical laboratory in conducting its analyses. These compounds included bromofluorobenzene, 2-fluorophenol, 2-fluorobiphenyl, 2,4,6-tribromophenol, 1,2-dichloroethane-(d4), toluene-(d8), nitrobenzene-(d5), phenol-(d6), and terphenyl-(d14). An indication that some of these were internal standards was the notation that these compounds contained deuterium (as noted by the suffix ''d''), an isotope of hydrogen. The fact that these compounds were internal standards introduced into the sample by the analytical laboratory obviates the need for their inclusion in the health risk analyses.

Many of the constituents analyzed by PADER's laboratory which were listed by EPA for further health effects investigation were below detection limits. These constituents included sulfide, fluoride, boron, hexavalent chromium, total chromium, total mercury, molybdenum, lithium, titanium, free cyanide, oil and grease, and MBAs. Since these components were not above the limits of detection, these were not included in the health risk assessment.

Many of the constituents on EPA's list are essential human nutrients, considered by toxicological experts to be largely non-toxic at ''environmental exposure'' conditions, as evidenced by their lack of inclusion in two of the most common risk assessment data bases (Integrated Risk Information System [IRIS] and Health Effects Assessment Summary Tables [HEAST]). These common constituents include components such as sodium, sulfates, calcium, potassium, magnesium, and iron. EPA guidance suggests that chemicals that are essential human nutrients, present at low concentrations (i.e., only slightly elevated above naturally occurring levels), and toxic only at very high doses need not be considered further in quantitative risk assessments. Examples of these chemicals include iron, magnesium, calcium, potassium, and sodium. Some of the components on EPA's target list were detected in the wastewater at concentrations less than Primary or Secondary National Interim Drinking Water Standards for Inorganics (**Federal Register**, Feb. 1978, No. 266). These levels are established to protect the public against both ''nuisance'' and health effects (assuming consumption of approximately 2 liters of water each day). For instance, barium was detected at 429 μg/L; the primary drinking water standard is 1,000 μg/L. Manganese was detected at 40 μg/L; the secondary drinking water standard is 50 μg/L. Sulfate was detected at 190 mg/L; the secondary drinking water standard is 250 mg/L. Zinc was detected at 28 μg/L; the secondary drinking water standard is 5,000 μg/L. Another method for estimating the effects of these essential human nutrients is to compare the effective dose with recommended daily dietary allowances. Even if one unrealistically assumes that an average male ingests 2 liters of the cooling tower wastewater daily [note: the maximum expected drift exposure of cooling tower water for a person would be 9×10^{-7} *liters/day*], many of the components consumed would be less than the daily dietary allowances. For example, calcium consumption would be approximately 31 percent of the recommended daily dietary allowances for a 23–50 year old male; sodium consumption would be about 50 percent; potassium consumption would be about 4 percent; iron consumption would be approximately 15 percent; magnesium consumption would be 7 percent; zinc consumption would be 0.4 percent; and manganese consumption would be about 3 percent of the recommended daily dietary allowances.

To address EPA's concerns, additional human health risk analyses were conducted by Environmental Resources Management, Inc. (ERM) (Human Health Risk Assessment for the YCEP Cooling Tower Drift, 11 July 1995, and Addendum to Human Health Risk Assessment for the YCEP Cooling Tower Drift, 20 July 1995). As a response to the EPA letter submitted to the Department on July 14, 1995, the Addendum assessed human health risks to additional chemicals not in the first report.

A step-wise approach was used in the ERM analysis. The first step was to determine the chemicals of concern and their concentrations in the wastewater, based on analyses conducted on the wastewater streams. The compounds which were incorporated into the analyses based on this analytical screening protocol in the initial July 11, 1995 ERM Report were the following: pesticides (congeners of hexachlorocyclohexane [alpha BHC, beta BHC, delta BHC], aldrin, heptachlor epoxide, propachlor); herbicides (dalapon, MCPP, MCPA, 2,4-D, 2,4-DB), and other compounds (formaldehyde and chloroform). The Addendum analyzed or reanalyzed the following constituents: organics (dimethyl disulfide, dimethyl sulfone, formaldehyde, chloroform, phenol, carbon disulfide, aldrin, beta BHC); metals (aluminum, strontium, manganese, vanadium, zinc, barium, boron, and lithium), and inorganics (ammonia, cyanide, fluoride, nitrate, nitrite, and bromide). Aldrin and B-BHC were reanalyzed in the Addendum at concentrations higher than in the original report. Formaldehyde and chloroform were reanalyzed in the Addendum using a more conservative transport mechanism (i.e., 100 percent volatilization from cooling tower; dispersion based on droplet behavior in order to maximize groundlevel concentration). Although dimethyl disulfide, dimethyl sulfone, and bromide have no risk-based concentrations available from EPA Region 3 (which suggest that these pose negligible risk to human health at the trace concentrations present in the cooling tower), they were included in the Addendum to demonstrate that groundlevel concentrations will be negligible.

Estimates of steady-state concentrations of the chemicals following three cycles within the cooling tower were derived based on the expected volatility behavior of the compounds in the tower. Estimates of airborne concentrations and deposition rates for each of the chemical constituents were derived. In addition, in the July 11, 1995 Report, soil concentrations that would occur if chemicals were deposited over the facility lifetime of 30 years were estimated. Human health risks associated with the emissions from the cooling tower based on inhalation and potential residential exposures to soils affected by deposition were then determined by comparison with EPA Region III Risk-Based Concentrations (RBC's) which are acceptable levels for inhalation and residential use of soil. These RBC's are reported to prevent (1) carcinogenic effects at a target lifetime cancer risk of $1x10^{-6}$ for known and potential carcinogenic chemicals; and (2) non-carcinogenic effects for systemic toxicants at a target hazard quotient of 1.0.

The results in the July 11, 1995 Report indicate that in every case for which an RBC was known, the predicted airborne

concentration of components analyzed in this risk assessment was at least *four* orders of magnitude smaller than the RBC; for some compounds, the predicted concentration is more than *eight* orders of magnitude smaller. This means that there is essentially no chance of airborne concentration of constituents being great enough to cause adverse health effects to the surrounding population. The risk assessment results for the soil ingestion pathway are similar to the air pathway. None of the compounds are predicted to accumulate to levels approaching their RBC for soil ingestion. The calculated soil concentration for each constituent with a known RBC is at least two orders of magnitude smaller than the RBC; for most of the compounds, it is at least five orders of magnitude smaller.

The results in the July 20, 1995 Addendum indicate that for non-volatile chemicals, the predicted airborne concentration is at least *four* orders of magnitude smaller than the RBC; for some compounds, the predicted concentration is nearly *eight* orders of magnitude smaller. These results seem to suggest that there is essentially no chance of airborne concentrations of non-volatile drift constituents being great enough to cause adverse health effects to the surrounding population. For volatile constituents, such as chloroform and formaldehyde, the predicted airborne concentrations are nearly *two* orders of magnitude smaller than the RBCs. The predicted airborne concentrations for the VOCs are extremely conservative given that the dispersion modeled for the water droplets in the drift was used to estimate VOC dispersion. In actuality, the VOC vapors, which are lighter than water droplets, would disperse over a greater area, resulting in much lower groundlevel concentrations.

Another risk assessment was conducted by the Department to validate the general conclusions reached in the RBC-based health effects analysis presented above. The assessment considered risks from inhalation as well as risks from both oral ingestion and dermal absorption, and made conservative assumptions for exposure and dose which would tend to overstate risks to human health. It was determined by the Department that the human exposure route via contact with P. H. Glatfelter Company wastewater was not a primary route due to the fact that the Codorus Creek is not used as a drinking water source in the area, and therefore there are no viable exposure points for ingestion of the wastewater. In addition, if the wastewater exposure route was a primary exposure pathway, it would be difficult, if not impossible, to discern or isolate any unique or toxicological effects due to the project, since the wastewater is currently being discharged to Codorus Creek.

The methodology used was slightly more rigorous than the aforementioned study, since hazard quotients and risk values were specifically calculated for the compounds investigated. The two major exposure pathways examined were inhalation and ingestion under maximum effective dose scenarios. This maximization of effective oral dose obviates the need to calculate oral doses from indirect ingestion (e.g., soil ingestion, beef, fish, milk, and water consumption). The following compounds were analyzed: aldrin, ammonia, alpha-BHC, beta-BHC, delta-BHC, bromodichloromethane, 2-(2-butoxyethoxy) ethanol, carbon disulfide, chloroform, cyanide, dalapon, dimethyl sulfide, dimethyl trisulfide, dimethyl sulfone, 1,4-dioxane, formaldehyde, 1-hexadecene, heptachlor epoxide, MCPA, MCPP, phenol, propachlor, 1,1,2,2-tetrachloroethane, 1-(2-thienyl)-1-propanone, strontium, and vanadium. Although delta-BHC, dimethyl disulfide, dimethyl sulfone, 1-hexadecene, and 1-(2-thienyl)-1-propanone have no risk-based concentrations available from EPA Region 3 (which suggest that these pose negligible risk to human health at the trace concentrations present in the cooling tower), they were included in the Addendum to demonstrate that groundlevel concentrations will be negligible. Based on the assumptions and methodology used in this screening assessment, the results indicate that the compounds investigated would not pose a measurable and adverse risk to human health. For non-carcinogenic substances, hazard quotients are all less than 1, indicating that these substance would not adversely affect human health. For carcinogenic substances, risk factors are less than 1 in 1 million, which is below the EPA's presumptively safe range (1×10^{-4} to 1×10^{-6}), except for 1,1,2,2-tetrachloroethane in a combined ''worst-case'' inhalation and dermal absorption dose, when the risk is approximately 4 in 1 million. Further assessment does not appear to be warranted, since PADER identified 1,1,2,2-tetrachloroethane as a ''tentatively identified compound'' (TIC) during its analysis of P.H. Glatfelter Company wastewater. Although EPA guidance (EPA, Risk Assessment Guidance for Superfund Volume 1 Human Health Evaluation Manual (Part A), EPA/540/1–89/002, p. 5–19, 1989) allows for the use of TICs for human health risk assessments, caution is recommended - particularly if inclusion of the TIC at the detected concentrations would dominate the risk assessment. In the case of 1,1,2,2-tetrachloroethane, other analyses, including a split sample, do not confirm the presence of the compound, and PADER's own volatile organics analysis for which 1,1,2,2-tetrachloroethane was a ''Target Compound'' did not detect a concentration 65 times *lower* than the concentration used for this screening assessment.

Based on the health risk assessments conducted for the Final Environmental Impact Statement and two conducted for this document, the acceptable health risk levels associated with evaporative and drift emissions from the cooling tower do not currently support the need for further wastewater treatment. In addition, in the unlikely event that emissions from the cooling tower contribute to regulatory or health risk exceedances during operation (i.e., for HAPs and VOCs), there are a number of options that YCEP could pursue to remedy the situation.

- EPA's second comment dealt with regulatory concerns related to major source thresholds of hazardous air pollutants (HAPs) (10 tons/year of individual HAP; 25 tons/year of aggregate HAP) and toxic release inventory requirements.

These issues are related to regulatory concerns that would need to be coordinated with PADER for resolution. However, under the requirements of the CAA Amendments of 1990, the YCEP facility is not currently required to address hazardous air pollutants listed in Section 112(b) of the CAA. According to Section 112(n), Other Provisions, (1) Electric Utility Steam Generating Units, the EPA must perform a study before deciding if Section 112(b) is applicable to electric utility steam generating units. A draft study was issued in June 1995. As a general requirement of the Clean Coal program, the Environmental Monitoring Plan for the proposed project will contain a requirement for reporting monitoring results from project operation for some selected air toxics (as outlined in Table 4.4–1 of the Final Environmental Impact Statement).

DOE has received a letter from Robert Kramer, Acting Chief, Environmental Assessment Branch, EPA Region III, which states that the EPA's initial review of the human health risk assessments for the cooling tower indicates that the EPA's concerns have been addressed. EPA will conduct a more in-depth analysis over the coming weeks, and will advise DOE of any changes to their initial concurrence.

Willie R. Taylor, Director, Office of Environmental Policy and Compliance of the Office of the Secretary, United States Department of Interior (DOI), submitted four comments relative to the Final Environmental Impact Statement for this project. These same comments were made earlier (letter received on December 22, 1994; Volume IV, Written-94, Final Environmental Impact Statement) relative to the Prevention of Significant Deterioration (PSD) permit application for the York County Energy Partners (YCEP) project.

- The first comment suggested that air quality could be expected to improve because reductions in nitrogen oxide and sulfur oxide, (sic., dioxide) emissions from the P. H. Glatfelter Company would be made federally enforceable concurrent with this permit.

Section 4.1.2.3 (Volume I, pg. 4–21) of the Final Environmental Impact Statement states that an enforceable restriction would apply to P. H. Glatfelter's Power Boiler No. 4, so that this boiler could operate for an equivalent of 720 hours per year at full (100 percent) load. An accompanying reduction of sulfur dioxide (SO_2) would result from restriction of operation of Power Boiler No. 4. Furthermore, Section 3.1.2 (Volume I pg. 3–2) and 4.1.2.1 (Volume I, pg. 4–10) of the Final Environmental Impact Statement also discuss the regulatory requirements applicable to this project.

- A second comment indicates that (for future reference) the DOI wishes the permitting authority to notify the Federal Land Manager of all major sources on a case-by-case basis and model for those sources even if the distance from a Class I area is greater than required by current regulations (100 km), when there is a potential to affect air quality in such a Class I area.

Comment is noted for future projects. The Department is responsible for developing NEPA documentation to assess the effects of potential actions on health and the human environment, regardless of distance from the proposed action if there is the possibility of potential, measurable effects. DOE has made extensive contact with the DOI on this project, as evidenced by the correspondence contained in Volume IV of the Final Environmental Impact Statement. These letters are dated March 16, 1992; March 3, 1993; July 21, 1993; September 22, 1993; September 23, 1993; May 27, 1994; and December 22, 1994.

- A third comment from DOI agreed that nitrogen oxide emissions should be determined during compliance testing, and requested that the BACT emission levels for other pollutants should also be determined and set at lower levels than the levels proposed, if testing indicates lower levels can be achieved on a continuous basis.

This same comment was made earlier by DOI and responded to by the Department during the comment period for the Draft Environmental Impact Statement (W-BJG–12/22a, Volume IV, pg. Written-96). The Department believes this matter has been adequately addressed in the comment response. In addition, a discussion of BACT and air pollution control equipment for this project is found in Section 4.1.2.2 of the Final Environmental Impact Statement (Volume I, pg. 4–17.)

- A final comment by Mr. Taylor indicated that the DOI wanted to see both nitrogen oxide and sulfur dioxide emissions to be made federally enforceable and permanent.

This issue was also presented earlier by DOI and the Department considers its response to DOI's concerns to be complete (see response W-BJG–12/22b, Volume IV, pg. Written-96).

Alan J. Barak, the attorney for Mr. Richard and Mrs. Joan Clark and Stop Targeting Our People (STOP) submitted a ''Request/Demand for Supplement or New EIS'' with three specific comments and supporting documentation.

- The first comment asserted that the Department failed to include the ruling by the West Manchester Township Zoning Hearing Board that construction of the Bair switchyard is contrary to the Township's zoning laws and that a construction permit had been denied.

The Department described the West Manchester Zoning Ordinance in Section 3.2.9.2 (page 3–144) and further discussed it in Sections 4.1.14.9 (page 4–192) and Section 9.7 (page 9–19) of the Final Environmental Impact Statement. In addition, the issue, including the then forthcoming hearing, was covered in the responses to several comments, such as D–50/17 (Volume II, page DEC–109), D–51/16 (Volume II, page DEC–113), and D–53/8 (Volume II, page DEC–117). Thus, the Final Environmental Impact Statement included information that was as current as possible. This Record of Decision provides more recent information in the Project Status discussion. Since final resolution of this issue is still pending due to YCEP's appeal of the West Manchester Township Board's decision, it is not currently ripe for the Department to address. Furthermore, in addition to appealing the West Manchester Township decision, YCEP has prepared preliminary designs for a mini-substation arrangement which could be constructed entirely on existing Met-Ed property, thus negating the zoning issue. Therefore, the Department concludes that building the proposed switchyard at the Bair substation (which is the environmentally preferred utility corridor route) remains viable. Met-Ed has indicated to YCEP that it preferred a conventional interconnection requiring the adjacent lot and Specific Exemption, and only in the event that YCEP was unsuccessful in receiving approval for this conventional interconnection would Met-Ed consider other interconnection alternatives, including the mini-substation design.

- The second comment stated that the Department did not address EPA's determination that alternative plant designs could lower the plant's polluting emissions by 70 percent. This point raises the question of YCEP's Best Available Control Technology (BACT) analysis.

The Department publicly responded to EPA-suggested design changes in its response to Comment W–PHK–1/31a (Volume IV, page WRITTEN–229). Additional responses to EPA issues were provided in the following agency correspondence which are reproduced in Appendix E (Volume IV) of the Final Environmental Impact Statement: June 9, 1994, letter to Diana Esher (EPA) from Jan Wachter (METC); January 17, 1995, letter to William G. Browne (EPA) from Gary Kinsey (YCEP); February 15, 1995, letter to Peter Kostmayer (EPA) from Gary Kinsey (YCEP); February 22, 1995, letter to Peter Kostmayer (EPA) from Gary Kinsey (YCEP); March 1, 1995, letter to Ronald Davis (PADER) from Bradley Hahn (YCEP); March 2, 1995, letter to Ronald Davis (PADER) from Gary Kinsey (YCEP); March 21, 1995, letter to Peter H. Kostmayer (EPA) from Thomas Bechtel (METC); and April 4, 1995, letter to William Browne (EPA) from Gary Kinsey (YCEP). Based on its own analysis and information provided by the boiler manufacturer, the Department has concluded that incorporating the design changes suggested by EPA is neither technically nor economically feasible and would not satisfy the Department's purpose and need as set forth in Section 1.3.1 (page 1–8) and Section 1.3.2 (page 1–11) of the Final Environmental Impact Statement because the recommended design changes cannot be incorporated without abandoning the proposed technology. Ultimately, the final determination of the adequacy of YCEP's BACT analysis is a matter for the regulatory agency (PADER). PADER issued the Prevention of Significant Deterioration (PSD) permit on July 25, 1995 thus accepting YCEP's BACT analysis based on the atmospheric

circulating fluidized bed (ACFB) technology to be employed.

• The final comment stated that the Final Environmental Impact Statement did not address the fact that Met-Ed has undertaken a ''study showing that the power from the facility will cost its customers $900 million more than readily available alternative power'' and has ''filed an action at the Federal Energy Regulatory Commission * * * to void the power purchase contract.''

The commenter cited two sources as references to the Met-Ed study. Both of these sources are provided in the Final Environmental Impact Statement. The March 14, 1995, letter from A.M. Seltzer is reproduced in Appendix E and the January 27, 1995, letter from A. M. Seltzer is provided as Comment W–AMS–1/27 with the Department's response beginning on page WRITTEN–153, both in Volume IV of the Final Environmental Impact Statement. The Department also updated the Final Environmental Impact Statement from the Draft using relevant information provided by Met-Ed. A new alternative was described (Volume I, Section 2.2.4.3, page 2–85) and associated impacts analyzed (Volume I, Section 4.3.3, page 4–249), and the subsection on Utilities under Section 4.1.12.3 (Volume I, page 4–169) was revised to incorporate the relevant information on potential impacts to utility rates. In addition, responses to several comments present the results of the Met-Ed study [e.g., D–119/11 (Volume II, page DEC–249), D–137/17 (Volume II, page DEC–285), and J–152/5 (Volume III, page JAN–305)]. The Project Status section of this document presents the latest information the Department has on the action taken by Met-Ed to void the power purchase contract.

In summary, the Department agrees that if YCEP is unable to build the switchyard at the Bair substation or if Met-Ed should win an appeal and the power purchase contract is void, then additional analyses, which could include the development of a Supplemental Final Environmental Impact Statement, may be necessary. The Department's NEPA process (10 CFR 1021.314) provides for supplement analysis to address substantial changes or significant new information relevant to environmental concerns. The results of supplement analysis, if required, cannot be predetermined. Moreover, the parties have not exhausted all possible remedies. Therefore, the issues are not ripe for Departmental consideration at this time. NEPA does not require that all permits be issued or that all compliance questions be resolved before an agency's decision on a proposed action can be made.

John and Margaret Klunk submitted three comments with supporting documentation.

• The first comment pertained to U.S. Geological Survey (USGS) provisional data on organochlorine and trace elements.

These data are from bed sediment and fish tissue collected in 1992 from 18 sites in the lower Susquehanna River Basin, including one site in Codorus Creek, downstream from both the YCEP facility and the city of York. The provisional data indicate the occurrence of contaminants and are not intended to determine impacts on human health or aquatic life. Also, according to the USGS, because of the small data set used, differences in contaminant concentrations among species or even within species are not easily explained and site comparisons between unlike species are not valid and are only generally comparable using like species. The Pennsylvania Interagency Workgroup reviewed the data and determined that no public health advisories were warranted. The Department does not believe these data significantly change the description of Codorus Creek water quality as presented in Chapter 3, Affected Environment, of the Final Environmental Impact Statement and thus, do not alter the environmental impact analysis presented.

• The second comment pertained to the U.S. Environmental Protection Agency's 1993 Toxics Release Inventory, which became available in March 1995. As a result of its total releases of 1,818,951 pounds, the P. H. Glatfelter Company was listed first among Pennsylvania facilities for total toxic releases.

In the Department's discussion of the affected environment, more current Toxics Release Inventory data were used. As indicated in Section 3.1.2 (page 3–14) of the Final Environmental Impact Statement, the Department based its assessment on 1994 air emissions reported to the EPA on Form R.

• Mr. and Mrs. Klunk's final comment pertained to correspondence from the P. H. Glatfelter Company to PADER's Regional Water Quality Manager regarding National Pollutant Discharge Elimination System (NPDES) permit issues.

These issues are currently subject to negotiation between the P. H. Glatfelter Company and the state agency. It would be inappropriate for the Department to project possible outcomes from these discussions. However, obtaining an NPDES permit and complying with its provisions are required for the facility to operate in the Commonwealth. A discussion on how NPDES permits are enforced is presented in the Department's response to Comment D–82/24 (Volume II, page DEC–175) in the Final Environmental Impact Statement.

Carl Vallow believed that the Final Environmental Impact Statement's discussion on the effects from the YCEP facility on recreation and Lake Marburg was insufficient. He stated that adequate assurances still need to be provided that the ''massive'' increase in water usage will not be detrimental to the recreational activities and advantages of Lake Marburg. The Department believes that the discussions presented in Sections 4.1.4.2.8 (page 4–114) and 4.1.12.3 (page 4–168) on impacts to Lake Marburg and recreational facilities, including Codorus State Park, support the conclusions that recreational activities on Lake Marburg will not be adversely impacted by the project. In addition, the Department provided responses to comments related to Mr. Vallow's concerns. Please see the responses to Comments D–270/2 (Volume II, page DEC–547), J–32/25 (Volume III, pages JAN–65), J–179/19 (Volume III, page JAN–359), and W–JK–1/28mm (Volume IV, page WRITTEN–195) of the Final Environmental Impact Statement.

Ms. Genevieve Ketterman submitted five comments.

• She expressed her belief that there would be effects of the project, especially due to evaporative losses, on water supplies, water quality, and ''the atmosphere.'' The Department believes that the Final Environmental Impact Statement addresses water resource issues in depth in Section 4.1.4 (page 4–98) and Section 4.1.14.4 (page 4–177). The effects of evaporation on air quality and atmospheric conditions are discussed in Section 4.1.2.9 (page 4–44).

• Ms. Ketterman's second comment questioned the need for power in the local area. The Final Environmental Impact Statement discusses the need for power in the Met-Ed service area, including York County, in Section 1.3.4 (page 1–14), in the response to Comment D–83/5 (Volume II, page DEC–177), and also in Appendix K (Volume IV).

• Ms. Ketterman also mentioned that the proposed facility would ''place a burden on Met-Ed,'' and thus would negatively impact consumers. This issue is addressed in great length in Section 4.1.12.3 (page 4–169) and in the responses to Comment D–119/11 (Volume II, page DEC–249) and Comment J–152/5 (Volume III, page JAN–305).

• Fourth, Ms. Ketterman stated that despite the offsets, the facility ''still means more emissions and pollution.'' Section 4.1.2.3 (page 4–21) discusses the net reductions in emissions of many criteria pollutants and the expected increases of some pollutants. However, detailed analyses determined that emissions of all pollutants are expected to be within established limits. Section 4.1.2.11 (page 4–63) describes the health effects of these emissions and shows that no adverse impact is expected.

• Finally, Ms. Ketterman questioned the worthiness of this project for DOE funding. The Department uses established procedures on the selection of a project as described in Section 1.4 (page 1–16) of the Final Environmental Impact Statement, and diligently follows each step. This Record of Decision presents the Department's concise articulation of its decision to fund the YCEP project under the Clean Coal Technology Demonstration Program.

Robin Sigworth submitted seven substantive comments.

• M. Sigworth first claimed that the Department uses the assertion that ''the area is already heavily polluted... to justify... further pollution and environmental degradation.'' In the NEPA process, the Department must consider the baseline conditions of the affected area when assessing the impacts of a proposed project. Consequently, the Final Environmental Impact Statement does, in fact, recognize that the York County area, as a historically industrialized region, has higher ambient levels of some pollutants. For instance, Section 3.1.4.1 (page 3–27) presents the baseline conditions of Codorus Creek water quality, noting that the creek has been degraded in the past, due in large part to municipal and industrial discharges and agricultural runoff. The Department recognizes that the assessed impact from increasing emissions or concentrations of pollutants in a previously degraded area may not be as significant as for a pristine area. In degraded areas, even a small incremental increase could result in a negative impact. The analysis of impacts associated with the YCEP facility, relative to the baseline conditions, indicated that few adverse impacts are expected. Mitigation measures, outlined in the Department's Mitigation Action Plan, will be implemented to alleviate those adverse impacts that cannot be avoided (e.g., habitat loss on U.S. Army Corps of Engineers land).

• Second, M. Sigworth believed that the Final Environmental Impact Statement deceives readers by misrepresenting Met-Ed's opinion of the project, the need for power, and the effect of the project on electric rates. The Department included all correspondence from Met-Ed in Appendix E (Volume IV) and provided responses to Comment W–AMS–1/27 beginning on page WRITTEN–153 in Volume IV. Information presented in the body of the Final Environmental Impact Statement represents the Department's assessment of the situation, incorporating the opinions of and the information provided by a vast number of sources, including Met-Ed. The need for power is evaluated in Section 1.3.4 (page 1–14), in the response to Comment D–83/5 (Volume II, page DEC–177), and also in Appendix K (Volume IV). An adequate discussion of projected utility rates can be found in Section 4.1.12.3 (page 4–169) and in the responses to Comment D–119/11 (Volume II, page DEC–249), Comment D–137/17 (Volume II, page DEC–285), and Comment J–152/5 (Volume III, page JAN–305).

• Third, M. Sigworth suggested that the Department did not ''fully address the impacts on the human community.'' The Department believes that the local community and its various resources (e.g., cultural and socioeconomic) are accurately described throughout Chapter 3 and included in the corresponding assessments of environmental consequences in Chapter 4. For instance, the Department has included specific local residences as noise and visual receptors [Section 4.1.7 (page 4–144) and Section 4.1.1 (page 4–3), respectively], and included all York County area residents, regardless of age, race, sex, or religion, etc. in the health risk analysis [Section 4.1.2.11 (page 4–63)].

• Fourth, M. Sigworth questioned the '' 'pollution reduction figures' based on shutting *down* (emphasis Sigworth's) an unmodified [P. H. Glatfelter Company] Power Boiler No. 4.'' As Section 4.1.2.3 (page 4–23) describes in substantial detail, all estimated emission rates are based on the enforceable curtailment of Power Boiler No. 4 to 720 hours of operation per year. M. Sigworth also notes that ''this same boiler was due for an environmental overhaul regardless of [DOE's decision].'' This is true and reflected in the oxides of nitrogen (NO_X) values used in analyses presented in the Final Environmental Impact Statement. As discussed in Section 4.1.2.3 (page 4–23), the Clean Air Act (CAA) Amendments of 1990 required the P. H. Glatfelter Company to install Reasonably Available Control Technology (RACT) on Power Boiler No. 4, which was completed in July 1994. Furthermore, as discussed in Section 4.1.2.1 (page 4–16), the CAA Amendments of 1990 require that RACT emissions levels be used as the existing baseline source in calculating Emission Reduction Credits (ERCs).

• Fifth, to the suggestion that the Final Environmental Impact Statement has ''poorly 'reasoned away' the documented fog problems,'' the Department disagrees and believes a thorough evaluation was performed and presented in the discussion of current fog conditions in Section 3.1.2 (page 3–15) and in the response to Comment D–62/8 (Volume II, page DEC–135).

• Sixth, M. Sigworth surmises that the Department has ''failed to discuss contingency enforcement fine levels for offenders.'' The Department's role in this proposed project is not that of a regulatory agency. Fines are established by legislation and enforced by regulatory bodies such as the Environmental Protection Agency and PADER. Consequently, this is not a deficiency in the Final Environmental Impact Statement.

• Finally, M. Sigworth concludes that ''significant impact studies on property values'' are not presented in the Final Environmental Impact Statement. The Department believes the analysis of impacts to real estate provided in Section 4.1.12.2 (page 4–166) and Section 4.1.14.12 (page 4–197) to be sufficient.

Mr. Pat Brown submitted a reproduction of a page from the Final Environmental Impact Statement (Volume IV, page WRITTEN–123) containing the responses to two comments he had previously submitted. He was of the opinion that the Department's replies were not written from the perspective of someone whose life would be directly affected by the project.

• Mr. Brown noted that the response to W–PB–01/16a did not clearly state whether or not the proposed facility would adversely affect the quality of life in the community and did not address the issue of health effects on children. He also noted that money cannot replace anyone's health.

The Department included reference to the economic benefits that could result from construction and operation of the YCEP facility because financial security is reasonably included in a definition of ''quality of life.'' Mr. Brown is correct that the response does not specifically address health effects to children; however, because of the concerns regarding children, prior to issuance of the Draft Environmental Impact Statement, the Department reassessed health risks (particularly to children) for

boiler stack and cooling tower emissions. This information is presented in Section 4.1.2.11 (page 4–65) of the Final Environmental Impact Statement. The Department's analysis indicated that the project should not adversely affect the health of children. Throughout the Final Environmental Impact Statement, the Department presents its evaluation of environmental consequences in terms of the likelihood of occurrence; consequently, unequivocal claims are not made.

- The second comment referred to the size of the YCEP facility. Mr. Brown indicated that the Department's statement ''[t]he plant size * * * is necessary to fulfill the needs of DOE's Clean Coal Technology Program,'' in the response to Comment W–PB–01/16b, could be translated to ''first on the list is to qualify for grant money.''

The scale of the single-boiler fluidized-bed unit [which will be 25% larger than any other unit built, under construction, or being planned] was a factor in the Department's decision to select the proposed project for demonstration under the Clean Coal Technology Program. As noted earlier in this Record of Decision, the Department believes that development of ACFB technology at the scale which will be used in the YCEP Cogeneration Facility will accelerate the commercialization of this maturing clean coal technology. If the ACFB technology had been proposed at a smaller scale, it is probable that the Department would not have viewed it as a technology requiring demonstration, and thus, would not have considered funding it under the Clean Coal Technology Demonstration Program.

Dr. Richard Dabb submitted a comment where he reiterated his personal opposition to the project and asserted that his concerns regarding adverse impacts to human health were not adequately reviewed. The Department disagrees. The Department analyzed every report previously submitted by the York County medical and osteopathic communities, provided summaries in the Final Environmental Impact Statement (page 4–69), and incorporated information from the reports in an expanded health risk assessment discussion in Section 4.1.2.11 (page 4–63). In addition, responses to specific health effects issues were provided for more that 30 comments, including: D–85/3; D–241/17; D–242/11; D–243/2; D–255/11; D–256/1; D–257/4; J–85/21; J–111/3; J–112/3; J–121/7; J–124/13; J–131/13; W–ACP–12/15a; W–HES–1/04a; W–LFL–12/14; W–MK–1/28; W–PNK–1/3; W–PNP–12/94d; W–RS–1/27d; and W–YCMS–1/30.

Decision

DOE will implement the proposed action of providing approximately $75 million in cost-shared federal funding support to YCEP for the construction and operation of the ACFB technology as described in the FEIS and summarized earlier in this Record of Decision. The YCEP project will demonstrate ACFB technology in a cogeneration setting at a single-boiler utility-scale which is approximately 25 percent larger than any ACFB planned or in current operation. The project is expected to generate sufficient data from the design, construction, and operation to allow private industry to more accurately assess the commercial potential of utility-scale (250–400 MWe) ACFB technology to new or existing units. While it is possible that selecting no-action would be environmentally preferable to the proposed action, it would not produce the data needed to further the Congressionally-mandated goals and objectives of demonstrating clean coal technologies. The Department has evaluated the projected environmental impacts and weighed the costs and benefits of proceeding with the proposed action, and has determined that the benefits of early commercialization of the technology described in the FEIS outweigh the limited environmental impacts, which will be largely mitigated by the actions described in this Record of Decision.

Mitigation Action Plan

Section 1021.331(a) of the Department of Energy regulations implementing the National Environmental Policy Act (10 CFR Part 1021) states that the Department shall prepare a Mitigation Action Plan that addresses mitigation commitments expressed in the Record of Decision. As a condition of providing federal funds under the Clean Coal Technology Demonstration Program, the Department will require that those mitigative measures, to which it has committed in the Final Environmental Impact Statement and more specifically outlined and discussed in the Mitigation Action Plan, will be implemented during the construction and demonstration periods of the YCEP project.

In the course of making its decision, the Department analyzed the information presented such as environmental and human health impacts and associated mitigation measures, and determined that some of the mitigation measures have been incorporated into the design of the cogeneration facility, which include sound engineering and proper construction practices, and that some of the mitigation measures are part of existing YCEP/Air Products operating procedures. These measures, which are considered part of the project, prevent or reduce the likelihood of an adverse impact from occurring. However, the Department also concluded that some adverse impacts are unavoidable and, therefore, is requiring YCEP to complete additional mitigation or monitoring measures that will lessen the severity of adverse environmental impacts. All practicable means to avoid or minimize environmental harm from the proposed action have been adopted. As part of its agreement with the Department, YCEP is required to prepare an Environmental Monitoring Plan and submit associated reports. The Department will require YCEP to incorporate the following mitigation measures into its Environmental Monitoring Plan and to document related activities in quarterly reports.

Codorus Creek Monitoring

For the duration of the demonstration phase, YCEP will collect samples from Codorus Creek both upstream and downstream of the P. H. Glatfelter Company discharge. Samples of temperature, color, total dissolved solids, lead, copper, chloride, free cyanide, phenolics, and chloroform will be analyzed each quarter and during low-flow events.

Sampling of P.H. Glatfelter Company Effluent/Cooling Tower Evaporant Stream

YCEP will conduct monthly sampling of P.H. Glatfelter Company effluent/YCEP cooling tower evaporant stream as required by its PSD permit, and will analyze the following components: volatile organic compounds, semi-volatile organic compounds, chloroform, formaldehyde, dimethylsulfide, chlorinated herbicides, and organochloride pesticides. These sampling/analysis results will be submitted both to the PADER and the Department within 30 days of completion of the laboratory analysis. As a condition of this Record of Decision, these sampling results will be made public by YCEP. YCEP will announce the availability of these sampling results in the local reading rooms through notice in the local newspapers.

Sampling results will be used to verify compliance with the 50 tons/year VOC emission limit and to verify that hazardous air pollutant concentrations in the cooling water are consistent with the sampling values known to PADER and the Department prior to issuance of

both the PSD Air Permit and this Record of Decision. Net VOC emissions from the YCEP facility will not exceed 50 tons/year on an annualized basis as prescribed by law.

Use of Geotextile Fabric for Temporary Roads

To protect existing ground, YCEP will create temporary roads that have a stone fill on top of geotextile filter cloth. This measure will be taken, as needed, throughout the construction period. After construction, the stone fill and textile cloth will be removed.

Shrub Planting of Riparian Areas

YCEP will plant low growing shrub species in riparian areas along Codorus Creek that have been cleared for transmission lines. Plantings will take place as soon as possible following clearing, and under favorable planting/establishment conditions.

Providing Nesting Structures

YCEP will place wood duck nesting boxes and other water fowl nesting structures along Codorus Creek wherever large trees are removed. YCEP will also place kestrel nesting boxes, bat boxes, and other wildlife nesting/resting structures on the single-shaft steel or wooden poles supporting the transmission line. The number, type, and placement of nesting boxes will be mutually agreed upon by YCEP and the Pennsylvania Game Commission.

Planting Warm Season Grasses

YCEP will plant warm season grass species. This measure will be performed, as needed, throughout the construction phase, during favorable planting conditions for seedling establishment. Unsuccessful seedings will be reseeded the following spring.

Brush Pile Construction

YCEP will construct brush piles with vegetation cleared or trimmed for pole and transmission line placement. This measure will be performed, as needed, throughout the construction phase. The number and placement of brush piles will be mutually agreed upon by YCEP and the Pennsylvania Game Commission.

Reducing Logs and Limbs to Mulch

YCEP will reduce logs and limbs from cleared areas to chip materials and leave them as mulch. This measure will be performed, as needed, throughout the construction phase.

Steam Purge Notification

At the end of the construction phase, YCEP will take steps to minimize the impact to local residents from the loud noise associated with purging dirt and debris from the steam systems. These measures may include providing advanced notice, minimizing the occurrence, scheduling activities during less sensitive hours, and/or using vent silencers.

Purchase of Residences

Although the expected magnetic field intensities at the residences closest to Bair substation is less than 1 milligauss, YCEP will negotiate purchase options for two properties near the Bair substation, so it can assume ownership.

On-Street Parking Ban

During construction, YCEP facility security will enforce a ban of on-street parking at the North Codorus site by posting signs, patrolling the area, and arranging for vehicles to be towed if necessary.

Traffic Monitoring

YCEP facility security will monitor traffic conditions throughout the construction period. If congestion is noted, additional mitigation measures will be implemented. These measures may include scheduling of shifts or stationing traffic control personnel at critical locations.

Traffic Signal Installation

YCEP will communicate with the Pennsylvania Department of Transportation and take whatever actions are necessary to ensure that a traffic signal is installed at the York Road/Jefferson Road/Lehman Road intersection before construction begins.

History/Tour of Dempwolf Architectural Firm

In accordance with a Memorandum of Agreement between the Department and the Pennsylvania Bureau for Historic Preservation, YCEP will publish a history and self-guided tour of the Dempwolf architectural firm for distribution to the public. An outline, draft, and final draft of the Dempwolf self-guided tour materials will be prepared and reviewed by the Bureau for Historic Preservation. YCEP will provide 500 copies of the publication for distribution and a reproducible copy for Historic York, Inc. The publication will be completed within 1½ years after the Memorandum of Agreement becomes effective.

Assist Bureau for Historic Preservation with Computer Coding

In accordance with a Memorandum of Agreement between the Department and the Pennsylvania Bureau for Historic Preservation, YCEP will provide the Bureau for Historic Preservation with a qualified consultant, having a working knowledge of the Pennsylvania Historic Resource Survey Form and York County resources. This individual will work for a total of 15 days for 7½ hours each day and will assist the Bureau with computer coding, mapping, and general organization of York county historical survey records. Work will be completed within 6 months after the Memorandum of Agreement becomes effective.

Procedures currently are in place for Department oversight of project activities. A Mitigation Action Plan for the YCEP Cogeneration Facility has been developed that identifies how the Department will ensure that YCEP implements all mitigation commitments and provides a schedule for completion. This plan describes all of the mitigation measures, including those incorporated into the project that prevent or reduce the likelihood of an adverse impact occurring. Copies of the Mitigation Action Plan may be obtained from Dr. Suellen A. Van Ooteghem, Environmental Project Manager, Morgantown Energy Technology Center, 3610 Collins Ferry Road, Morgantown, WV 26507–0880. Telephone (304) 285–5443.

Issued in Washington, DC, on August 10, 1995.

Patricia Fry Godley,

Assistant Secretary for Fossil Energy.

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Federal Energy Regulatory Commission

[Docket No. RP95–417–000]

Algonquin Gas Transmission Co; Proposed Changes in FERC Gas Tariff

August 15, 1995.

Take notice that on August 11, 1995, Algonquin Gas Transmission Company (Algonquin) tendered for filing as part of its FERC Gas Tariff. Fourth Revised Volume No. 1, the following tariff sheets, to become effective September 11, 1995:

Twenty-fourth Revised Sheet No. 20A
Original Sheet No. 99D

Algonquin states that the purpose of this filing is to flow through to Algonquin's former sales customers, a refund from CNG Transmission Corporation's (CNG) Docket No. RP95–347–000 related to CNG's Account Nos. 191 and 186.

Algonquin further states that copies of this filing were mailed to all affected