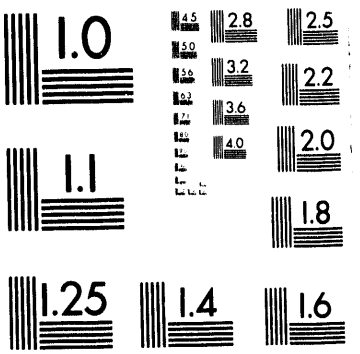
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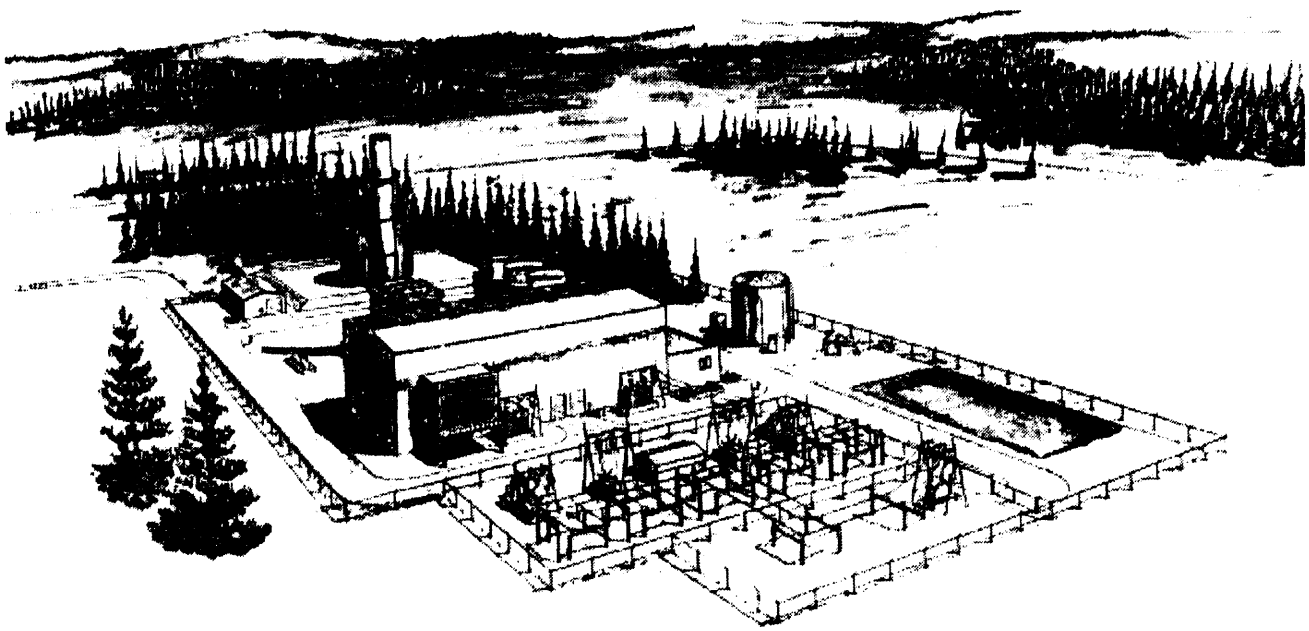
Final Environmental Impact Statement Proposed Tenaska Washington II Generation Project

Volume 2: Public Involvement



DOE/EIS-0194-(Vol.2)

Bonneville
POWER ADMINISTRATION

MASTER

January 1994

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(DOE/EIS--0194-Vol.2)

Proposed Tenaska Washington II Generation Project Final Environmental Impact Statement

Volume 2: Public Involvement

Bonneville Power Administration
January 1994

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1.0
INTRODUCTION

The goal of the Bonneville Power Administration's (BPA) Environmental Impact Statement (EIS) public involvement process is to determine the issues to be examined and pertinent analyses to be conducted and to solicit comments on the content and quality of information presented in the Draft Environmental Impact Statement (DEIS). Comments and questions are solicited from the public and government agencies during the scoping process and during the comment period and public hearing on the DEIS, to find out what is of most concern to them. The end product of the public involvement process is the Comment Report which follows in part of this volume on Public Involvement.

1.1 SCOPING PROCESS

1.1.1 Notice of Intent

September 11, 1992. Notice of Intent to Prepare an EIS published in Federal Register.

1.1.2 Scoping

A letter announcing the scoping meeting was mailed out to government agencies, Native American Tribes, and interested groups and citizens. The meeting was also announced in several local newspapers and newsletters on September 18, 1992.

- September 29, 1992. Scoping Meeting, Bethel High School, Spanaway, Washington. Forty-one individuals attended.
- September 11 - October 30, 1992. Forty-five day comment period during which the public and agencies could mail in comments and questions. Four letters were received.

1.1.3 Development of Draft Environmental Impact Statement

The comments and questions submitted during the scoping period were summarized in the Scoping Report. The Scoping Report was then used to prepare an EIS Implementation Plan, which was approved by the Department of Energy for preparation of the DEIS.

1.2 DEIS COMMENT PERIOD AND PUBLIC HEARING

- August 9 and 10, 1993. The DEIS was mailed to approximately 150 agencies, libraries, organizations, and individuals.
- August 20, 1993. Notice of availability to review DEIS published in Federal Register.
- August 20 - October 4, 1993 (comments were received through October 15, 1993). Forty-five day public comment period. Twenty-one letters were received.
- September 8, 1993. Public hearing with 32 participants. Comments and questions were recorded in a verbatim transcript. Transcript and letters were compiled into a database for responses in the Final EIS (FEIS). These responses are the primary part of the Comment Report which is included in this volume of the FEIS.

1.3 COMMENT REPORT

The Comment Report provides a record of comments and questions raised during the DEIS comment period and the BPA response to show the manner in which the comment or question is addressed in the FEIS.

1.4 PUBLICATIONS

Fact Sheet, September 1992. The Tenaska Washington II Generation Project, BP-1969.

Fact Sheet, January 1993. The Tenaska Washington II Generation Project, BP-2033.

Fact Sheet, August 1993. The Tenaska Washington II Generation Project, BP-2227.

2.0
THE SCOPING PROCESS

The goal of the scoping process is to determine the necessary analyses and issues to be examined in the EIS for the BPA administrator to make an informed decision on the environmental consequences of the proposed Project. This is based upon comments and questions raised by the public, government agencies, and the technical and professional judgment of BPA, Pierce County, and their consultants. While the general content of an EIS is specified in the National Environmental Policy Act (NEPA), the details are best defined in consultation with the public, public interest groups, and Federal, state and local government agencies. This Scoping Report presents the results of the scoping process.

Part of the first step in the scoping process is to publish in the Federal Register a Notice of Intent (NOI) to prepare an EIS for the proposed Project which also announces the time and place for the scoping meeting(s). This notice was published on September 11, 1992. A copy of the NOI is included in Appendix A. Information on the scoping meeting for the Tenaska EIS was also mailed out to agencies, indian tribes, and interested groups and individuals. The meeting invitation, the meeting agenda, and a copy of the scoping meeting attendees are contained in Appendix B.

The following newspapers and newsletters contained an announcement of the scoping meeting: the Tacoma News Tribune, the Puyallup Pierce County Herald; the Fort Lewis Ranger; the Northwest Airlifter; the Lakewood Journal; the Gig Harbor Peninsula Gateway. The announcements were published on September 18, 1992.

A scoping meeting was held on Tuesday, September 29, 1992, at Bethel High School in Spanaway, Washington, which is in the vicinity of the proposed Project. The meeting was informal, with presentations by representatives from BPA and Tenaska describing the proposed Project and the environmental review process. There were 41 individuals in attendance at the scoping meeting. Comments and questions that were raised during the presentation were recorded in a verbatim transcript. Four comment letters were also submitted within the public comment period which closed on October 30, 1992. A summary of the comments follows.

2.1 RESULTS OF THE SCOPING PROCESS

This section summarizes the issues raised during the public scoping process, issues to be addressed in the EIS, sources of information to be reviewed and/or studies to be conducted, and mitigation measures to be considered. The issues are listed in alphabetical order. Table

4-1 in the December 1992 Scoping Report lists the issues and summarizes information to be reviewed or studies to be conducted that have been identified at this level of investigation. A summary of the individual comments is included in Appendix C in the December 1992 Scoping Report.

2.1.1 Air Quality

Issues Raised during Scoping

Public concern was focused on air quality impacts from the operation of the proposed Project and whether there would be sufficient mitigation measures to offset any significant impacts from the Project. Questions and comments received on air quality included the following:

- Concern over excessive emissions from the proposed Project from burning natural gas or back-up fuel over extended periods.

- Potential contribution of emissions to acid rain deposition and the "greenhouse" effect; requests that these impacts be addressed and environmental costs be evaluated.

- The exploration of power generation sources based on alternative fuel sources other than hydrogen-based compounds.

- Potential for nuisance odors to be emitted from the operation of the generating equipment.

- How does the proposed Project's estimated particulate emissions compare to emissions from wood burning stoves? How many wood stoves would it take to give off the estimated combined particulate emissions from the proposed Project?

Additional Issues to Be Addressed in the EIS

Issues that would be addressed in the EIS include the identification and evaluation of air pollutant emission sources expected due to the construction and operation of the proposed facility. Alternative control measures will be explored that would reduce any air pollutant emissions.

Air pollutant emissions during construction activities will be estimated and their impacts assessed. The potential impacts from fugitive dust and air pollutant emissions from the construction of the facility will be evaluated. Work practices designed to minimize such

emissions will be suggested. Potential impacts due to the production of steam and fog will be investigated.

Other issues that will be included in the EIS involve the storage and handling of acutely hazardous materials at the Project site. While most of the issues relating to these facility systems will be addressed in the Health and Safety section, there is an air quality component to the potential impact of any system failure related to the storage and handling of hazardous materials. Part of the operation of the facility's electricity generation will involve the use of ammonia as part of the system to control the emissions of oxides of nitrogen (NO_X). This raw material will be stored at the facility in a pressurized tank. Also, the water used to create the steam that makes the electricity will be treated with a sulfuric acid solution to maintain the water quality requirements of the process. This material will be stored at the facility in a slightly diluted liquid solution. Potential risk of facility system failure related to hazardous materials will be addressed.

Several greenhouse gases will be emitted by the proposed Project. These include NO_x, carbon dioxide (CO_2), methane, and possibly others. There are no current plans to reduce the production of these gases except for that provided by the Selective Catalyst Reduction system to reduce NO_x emissions. Additional information will be obtained as to the emission and reduction of greenhouse gases and their effect on global warming trends.

Information to Be Reviewed/Studies Conducted

Information on the following topics will be obtained by review of technical literature and other published documents such as:

- U.S. Environmental Protection Agency (EPA) air pollution emissions factor information for vehicular, proposed Project, and construction equipment. These data will be obtained from EPA publications such as AP-42, Specification Profile manuals, and others.

- Applicable local, state, and Federal regulations giving standards for ambient air quality.

The U.S. EPA's Industrial Source Complex (ISC), Mobile 4 or other appropriate mobile source emission characterization models, and COMPLEX-1 air quality simulation models may be used, if necessary, to analyze ambient air quality impacts. Additionally, if required, the National Safety Council model CAMEO ALOHA will be used to assess off-site impacts from potential accidental releases of acutely hazardous materials. Emission factor literature will be utilized to determine the significance of emission modelling and to assure that all regulations will be met.

Tenaska is involved in an air quality analysis for obtaining an air quality permit. This work includes emission estimates, summarization of air quality regulations, and assessment of air quality and visibility impacts. The results of these studies will be included in the EIS.

Mitigation

Possible mitigation measures referred to during the scoping process include:

- Use of appropriate emission control technology to minimize potential direct emissions from the combustion process.
- Use of an alternative fuel source to generate electricity.
- Evaluation of re-forestation programs to offset potential increases in greenhouse gases from the proposed Project.

Other mitigation measures may be identified during the impact analysis and when the Project details are finalized. These measures include:

- Work practices to minimize dust, smoke, and vehicular emissions during the construction phase.
- Development and implementation of regional programs for ride sharing to reduce vehicular emissions that may "offset" impacts.
- Contribution to enhance or augment the regional program which restricts the use of wood stoves during stagnant air episodes.

Possible mitigation measures would be identified for any potentially significant impacts from storage/handling of hazardous materials.

2.1.2 Archaeological, Historic, and Cultural Resources

Issues Raised during Scoping

There were no comments received addressing archaeology and cultural resources.

Additional Issues to Be Addressed in the EIS

Review of archaeological, historic, and cultural resources would follow the Section 106 Review Guidelines (36 C.F.R. Part 800) which implement part of the National Historic Preservation Act (NHPA) of 1966. Section 106 requires that historic properties be considered by Federal agencies in both project planning and execution. Properties that have not yet been

discovered (such as archaeological properties), but that are potentially eligible for the National Register of Historic Places (NRHP), are subject to Section 106 Review. Issues to be addressed in the EIS include the determination of potential impacts to historic resources by the project including ancillary facilities such as the transmission line right-of-way, right-of-ways for any pipeline connections, and access road right-of-ways. A cultural resources survey would be performed prior to preparing the DEIS; if nothing is found, investigation of cultural resources issues will be discontinued.

Information to Be Reviewed/Studies Conducted

Prior environmental review indicates that there are no known historic or archaeologic sites of concern within the area of potential affect; however, no site-specific study has been performed. Reports on file at the State Office of Archaeology and Historic Preservation for the nearby area were identified. These reports are: 1) A Cultural Resources Survey of the BPA's Proposed Tyee Substation, Pierce County, Washington; 2) A Cultural Resource Survey of SR 7: 224th Street East to Junction 507, Pierce County, Washington; 3) Historical Resources Study, BPA Elmhurst Project, Spanaway, Washington; 4) Cultural Resource Assessment and Management Recommendations for McChord Air Force Base, Pierce County, Washington; 5) Archaeological and Historical Investigation Prepared for Chambers Creek U.L.I.D. 73-1; and 6) Interim Cultural Resource Assessment, Chamber Creek Sewerage System, Pierce County.

Mitigation

If a cultural resource is identified during the survey, a wide range of mitigation measures is available. The first option is to reroute or redesign in order to avoid the resource. If the site cannot be avoided, the next step under the Section 106 process would be to determine the significance of the site. If the site is significant, mitigation possibilities include surface collection, archaeological excavation, or other data recovery measures. These cannot be identified until the survey and significance evaluation are complete.

2.1.3 EIS Process

Issues Raised during Scoping

The following questions and comments were raised during scoping regarding the EIS process:

- Do the regulatory agencies issue the permits for operation of the proposed facility, and do they assure the public of compliance?

- Will Woodward-Clyde's EIS be the only EIS prepared? Who would be more likely to prepare an EIS that better represents the views of the public?

- Shouldn't Tenaska be preparing the EIS with Pierce County as the lead agency? Why is it BPA? Where is the citizen representation if BPA prepares the EIS?

- Who is BPA and what Federal role does it play?

- Will commenters receive personal written responses to comments/questions sent in as part of the scoping process?

- Will the comments from the scoping meeting be part of the EIS?

These issues will be addressed in a BPA Fact Sheet to the public in January 1993, and within the EIS by explaining the NEPA/SEPA process and the role that Tenaska, BPA, Pierce County, other regulatory agencies, and the public have in that process.

2.1.4 Geology

Issues Raised during Scoping
No specific comments were raised concerning geology during the scoping process.

Additional Issues to Be Addressed in the EIS
Issues that will be addressed include investigation of soils and slope stability, as well as paleontological resources. The ability of the site to support a stable foundation for roads and buildings will be investigated. Soil borings will be performed throughout the site. Soil types will be identified, physical parameters tested, and groundwater levels noted. Any potential faults or seismic hazards will be investigated as to their potential for structural damage and disruption to the energy supply system.

Information to Be Reviewed/Studies Conducted
General information from the U.S. Geological Survey, the Soil Conservation Service (SCS), and the U.S. Army Corps of Engineers will be utilized. Other geologic information will be obtained from local agencies where applicable. Specific technical studies may be required to evaluate areas of potential for erosion, slope instability, or ground surface subsidence.

Mitigation
No mitigation measures were identified at this level of investigation.

2.1.5 Land Use

Issues Raised during Scoping
No comments on land use were raised during the scoping process.

Additional Issues to Be Addressed in the EIS
As part of the EIS review, impacts on adjacent land uses (heavy manufacturing) and effects on suitability of land for future planned uses will be addressed. A Phase I environmental site assessment will be performed to evaluate the potential for contamination and to identify underground structures that could impede construction/excavation or affect the groundwater supply.

Information to Be Reviewed/Studies Conducted
Pierce County's updated comprehensive plan will be reviewed. The consistency and compatibility of a new power production facility in the Frederickson Industrial Area will be addressed in light of Federal, state, and local agency policy on existing and future planned land use.

Mitigation
No mitigation measures were identified at this level of investigation.

2.1.6 Natural Resources

Issues Raised during Scoping
No comments were received regarding impacts to natural resources during the scoping process.

Additional Issues to Be Addressed in the EIS
Issues to be addressed in the EIS include: identification of threatened, endangered, and state-designated special-status wildlife and plant species, habitats, and communities near the proposed Project site; and the potential impact to these resources caused by clearing, construction, and operation of the Project facility.

Information to Be Reviewed/Studies Conducted
Preliminary studies indicate that no threatened, endangered, species of concern, or wetlands have been identified on the site. Field studies would include documenting the absence of the species and demonstrating their low probability of occurrence or harm as a result of the proposed Project. Additional sources of information to be consulted include the U.S. Fish and Wildlife Service (USFWS) on threatened and endangered species; the Washington Department of Wildlife's (WDW) Natural Heritage Database for information on sensitive

wildlife, habitats, and sites; the Washington Department of Natural Resources (DNR) for information on threatened or endangered and sensitive plants and habitats; local WDW biologists who may be familiar with the area; Audubon Society members and other amateur naturalists; local residents; National Wetlands Inventory (NWI) maps published by the USFWS; and any published or unpublished reports about the area.

Mitigation

Mitigation measures to be considered would include designing the Project layout to preserve, if possible, the grove of Douglas-fir in the southeast corner of the proposed Project site. Wherever feasible, investigations would be made into the salvage and relocation of young Oregon white oaks, ponderosa pines, and Douglas firs as landscaping.

2.1.7 Noise

Issues Raised during Scoping

A question was raised during the scoping process as to who will do the noise impact study. No other comments on noise were received.

Additional Issues to Be Addressed in the EIS

The EIS will focus on identifying potential sources of operational noise and noise associated with construction by identifying the significant noise generating equipment to be installed at the plant and the noise control technologies that will be incorporated into the initial plant design. The EIS would then describe whether the resulting impacts are in compliance with applicable noise ordinances. It is likely that noise modeling techniques will be necessary to demonstrate whether impacts have been adequately mitigated.

Traffic flow to the plant site will add to existing noise levels. However, traffic is not expected to make a significant contribution to the noise levels near the plant, which is already in an industrialized area.

Although construction noise is expected to influence the noise environment near the plant, construction activities will be of limited dura n. Noise ordinances are generally more liberal in regulating noise from construction activities than from industrial sources. Construction activities will be comparable to those commonly encountered in industrial settings, will be of limited duration, and as such will not be addressed in great detail.

Information to Be Reviewed/Studies Conducted

During the scoping meeting, BPA expressed interest in the measures that would be taken to document the existing noise environment (possibly with surveys) and to predict the expected

noise impact (possibly with modeling). BPA also asked who would be responsible for accomplishing such measures.

Sources of information to be studied include a characterization of the existing noise environment. A characterization may be accomplished through a review of existing literature (i.e., the Noise Element, Pierce County General Plan) or a review of existing noise surveys for the area. If existing information inadequately describes the noise environment, some level of baseline noise monitoring is suggested.

Applicable noise ordinances and noise descriptors for the affected land uses must be identified. Ordinances are likely to include both operational and construction noise.

Other sources of information to be explored include:

- Applicable county and state noise ordinances
- Applicable limits placed on ambient noise levels based on land use
- Noise Element, Pierce County General Plan
- Existing noise surveys or contour maps
- Manufacturer's noise ratings, including frequency
- Manufacturer's rated insertion losses on noise control equipment
- Manufacturer's noise ratings on construction equipment
- Traffic flow predictions

Manufacturer's data for noise generating equipment and noise control equipment must be collected in advance as input to noise modeling. Some level of analysis, whether it involves modeling or a simpler application of standard sound propagation equations, must be performed in support of the EIS.

Mitigation

Mitigation includes noise and vibration controls for the types of industrial equipment used, such as inlet and exhaust silencers, acoustical enclosures, acoustical barriers, and insulation pads. A combination of these controls, specifically incorporated into the initial plant design, can reduce noise levels to within acceptable levels at the locations of sensitive receptors. Noise caused by vibration will be addressed through the engineering design features to maximize operational efficiency and structural integrity.

The need for other mitigation measures may become apparent as the impact analysis progresses. These could include:

- Buffer zones
- Noise barriers
- Additional noise controls like extra enclosures or extra insulation

Mitigation measures for construction noise are limited and typically involve restricted hours of activity, limits on the maximum noise levels produced by construction equipment, and erection of temporary barriers.

2.1.8 Proposed Action and Alternatives

Issues Raised during Scoping

Concerns were raised regarding documentation of the need for generating resources in this area. A supporting comment was made by the Tacoma-Pierce Chamber of Commerce regarding the desirability of production on the west side of the Cascade Range. Additional questions and concerns raised during the scoping process include:

- How will the mitigation money be spent, and how will it mitigate the environmental impacts?
- What other generating proposals is BPA evaluating?
- Who will own the Tenaska generating facility?
- What is the height of the building and its exhaust stack, and how will the facility be situated on the proposed Project site?
- Will the Project be expanded at a later time, thus causing more environmental impacts that should be addressed at this time?
- Are there other power generation plants planned for this area?
- Will the EIS evaluate situations where BPA might want to sell the power outside of this area?
- Will the proposed facility stop operating during a high hydro-power producing season?

Additional Issues to Be Addressed in the EIS

A complete description of construction, operation, and maintenance will be included in the EIS. It will not include documentation explaining BPA's needs for and the desirability of

power generation resources available to this region, nor will it address resource allocation scenarios, because these subjects will be covered under the programmatic Resource Program Environmental Impact Statement (RPEIS) for the greater resource acquisition program (see Section 1.2 PURPOSE AND NEED).

Information to Be Reviewed/Studies Conducted

Information on the details of the Project will be obtained from Tenaska reports and technical studies. Additional Project information on resource purchase and allocation will be provided by BPA.

Mitigation

Some impacts of the proposed Project could be mitigated by modifying the proposed action. For example, the location of the facility on the property site could be placed in such a way as to minimize noise or visual impacts. Transmission lines could be placed underground to minimize visual impacts and health impacts due to electromagnetic fields. Additional modifications may be suggested as impacts are identified.

2.1.9 Public Health and Safety

Issues Raised during Scoping

Public health and safety concerns that were raised in the scoping process include concerns over odor and gas emissions, plant safety, visibility and heat-emission problems which might affect low-flying airplanes, and potentially cancer-causing electromagnetic fields.

Additional Issues to Be Addressed in the EIS

Health effects of electric and magnetic fields (EMF), failure of operating systems (e.g., generators, turbines, cooling tower, natural gas pipeline, and back-up fuel oil, acids, caustics and ammonia tanks/pipes), and other emergencies will be analyzed. The likelihood for off-property impacts from potential accidents involving hazardous materials will be assessed. This analysis will include the identification of potential accidents, the estimation of the likelihood of occurrence, and any off-site impacts that might result, should an accident occur.

Additional Information to Be Reviewed/Studies Conducted

An extensive scientific literature search will be performed about the health effects of EMF, including any current BPA studies. Similar projects which utilize below-ground power lines will be studied as to their safety, cost, and applicability to the proposed Project site. Epidemiological studies of electrical workers or other groups in which the subjects are exposed to high and changing magnetic files will be reviewed for the EIS. Nearby sensitive areas, such as homes and schools, will be identified and models used to predict levels of electromagnetic fields within these sensitive areas.

Worst-case studies may be needed to identify ways in which the facility and its components might fail and then to identify the consequences of failure to public health and safety. This evaluation will entail air dispersion modeling for natural gas and chemical releases and investigation of requirements for a spill prevention and containment plan for the back-up fuel oil tank and on-site chemicals. The Federal Aviation Authority requirements will be investigated with regard to steam exhaust in the proximity of a runway flight pattern. If necessary, appropriate toxicological information related to exposure from accidental release of acutely hazardous materials will be reviewed.

Mitigation
No mitigation measures were identified at this level of investigation.

2.1.10 Socioeconomics

Issues Raised during Scoping
No specific comments were received during the scoping process regarding socioeconomic impacts.

Additional Issues to Be Addressed in the EIS
Issues that will be addressed in the EIS include socioeconomic impacts arising from the proposed Project both in the short term (i.e., construction) and long term (i.e., Project operations). The analysis will focus on direct and indirect impacts on local employment levels, income and local government revenues. If inquiries indicate that some of the construction or operations workers could be drawn from non-local sources, the EIS will present potential impacts of the in-migrating workers and their dependents on housing, public services, and utilities in the communities within commuting distance of the proposed Project site.

Positive impacts to the stability of the existing power grid will be addressed.

Information to Be Reviewed/Studies Conducted
Sources of information to be explored include recent employment rates from appropriate state sources, estimation of the number of in-migrating workers, and impacts to adjacent property values.

Mitigation
No mitigation measures were identified at this level of investigation.

2.1.11 Transportation/Traffic

Issues Raised during Scoping

There was some concern expressed during the scoping process specifically addressing impacts on road infrastructure caused by delivery of fuel supplies during a worst-case scenario of extended operation requirements (two weeks) during adverse winter weather conditions.

Additional Issues to Be Addressed in the EIS

Issues that will also be addressed include short-term construction worker traffic impacts; load limits on roads, particularly local roads, associated with delivery of turbine generators and any other heavy equipment; operations traffic; and worker traffic impacts. Other issues that may be considered include transmission line and pipeline construction traffic due to workers and trucks, construction worker parking impacts, materials moving in and out, and sustained transport of back-up fuel oil. A safety evaluation of possible accidents associated with back-up fuel oil delivery will be covered in the Health and Safety section of the EIS.

Information to Be Reviewed/Studies Conducted

Sources of information to be explored include the City of Tacoma Traffic Department circulation plan, or similar reports or discussions with staff; Tenaska data on construction shipment weights and workforce; and Tenaska data on back-up oil supply volume and delivery plan.

Mitigation

Mitigation efforts would be examined based upon potential impacts from transportation- and traffic-related issues. If use of back-up oil becomes necessary on a long-term basis, and the EIS determines that the impacts would be significant, then a contingency plan to improve road surfaces or intersections may be implemented. Another option for this scenario would be to guarantee or require that a new use permit and associated impact study be triggered by such a change in normal operation.

2.1.12 Utilities

Issues Raised during Scoping

All of the comments regarding utilities pertained to water use. Additional comments concerning water are addressed in Section 4.1.14 Water Quality/Water Resources. There were several comments concerning the use of water for operation. This concern encompassed the existence of utility infrastructure to provide a sufficient quantity of water, and to address the source of that water. Other questions included:

- Where will the waste water be routed?
- Is water required 24 hours each day?
- Will groundwater wells be required to supply enough water?

Additional Issues to Be Addressed in the EIS

In this section, the cumulative effect with other projects on the water supply will be addressed. The City's anticipated ability to meet potential expansions will be discussed with the Water Department. Other potential impacts associated with non-related proposed projects will be gathered from existing water resources information.

The quality of the City water supply will be investigated and compared to the required water quality for use in the proposed Project. Any required on-site treatment will be identified, along with an estimated cost per cubic meter (gallon). The expected quantity of water required will be calculated using water/mass balance. This quantity will be compared to the available City water, present and anticipated. The potential addition of water wells by the City to its well field will be discussed with the City. The likelihood of this addition will be addressed in the EIS. The City's present and expected future water rates will be updated. The various supply options investigated will be evaluated and compared to determine the most feasible primary supply and back-up.

The expected quantity and quality of waste water to be discharged to the sewer will be estimated. The discharge criteria will be obtained from Pierce County for comparison to the expected waste water quality. If any on-site treatment is expected, it will be investigated and an estimated cost per cubic meter (gallon) will be calculated. Pierce County's charge for sewer discharge will be updated.

An investigation on the potential location of buried cable, pipelines, or other utilities that may be affected by the proposed Project will be undertaken.

Mitigation

No mitigation measures were identified at this level of investigation.

2.1.13 Visual

Issues Raised during Scoping

A question was raised at the scoping meeting regarding the height of the building and the exhaust stack. No other comments regarding visual impacts of the proposed Project were made.

Additional Issues to Be Addressed in the EIS

The EIS will identify and map sensitive visual resources (e.g., areas where people may travel, reside, or recreate); inventory existing visual condition and landscape and determine facilities' night lighting; determine the ability of the landscape to absorb the visual impact of the proposed Project; evaluate disturbance of views, particularly to Mt. Rainier; and calculate the effectiveness of mitigation measures and techniques to reduce visual impacts.

Visual impacts from the proposed modifications to the BPA South Tacoma switching station and other visual changes within the right-of-way will be addressed.

A visual plume impact screening analysis for visual impacts to recreation users in Mt. Rainier National Park will be performed by Tenaska as part of the air permit for the Puget Sound Air Pollution Control agency. This information will be a evaluated for incorporation in the EIS.

Information to Be Reviewed/Studies Conducted

Sources of information which will be explored include color or black and white aerial photography, the USGS topographic map, and county planning documents containing information about scenic areas or corridors of viewing which are dependent on the quality of the visual environment. In order to meet the requirements of NEPA, certain technical studies will be conducted. The purpose of the technical studies will be to identify and describe visually sensitive landscapes and determine the significance of visual contrast between the Project facility and the existing landscape. The study may include a visual simulation for areas of significant visual impact. The simulation would display before-and-after landscape scenes illustrating the amount of visual change that would occur.

Mitigation

Mitigation measures that would be studied include minimizing earthwork disturbance, utilizing a variety of landscape elements (in form, line, texture, color, scale, and space), and creation of visual barriers.

2.1.14 Water Quality/Water Resources

Issues Raised During Scoping

Concerns raised during the scoping process included the likelihood that the plant would eventually expand, thus requiring more water and this would impact the need for more dams. The remainder of concerns raised on water quality and water resources are addressed in the Utilities section.

Additional Issues to Be Addressed in the EIS

This section will discuss surface water quality during construction and operation, and potential impacts to groundwater. Permitting requirements for storm water runoff will be investigated. Other issues to be addressed in this section of the EIS are erosion and the resulting sediment loads to surface waters during construction and operation of the facility; impacts on groundwater levels; flow rates from springs and well flow rates due to construction excavation dewatering; impacts to aquifer recharge areas; and water quality impacts of application or spillage of maintenance chemicals, fuels (including the back-up oil supply), lubricants and hydraulic fluids during construction and operation of the facility.

A proposed sole-source aquifer, the Clover-Chambers Creek Basin, is located within the Project area. The EPA proposed designation of sole-source indicates a recognition that the basin relies on groundwater as a water supply source and that the groundwater system is susceptible to contamination. The EPA reviews projects receiving Federal funds which may have an impact on designated sole-source aquifers. Special measures for handling and storing construction materials, fuels, and solvents may be required under this designation if EPA determines that the project would impact the aquifer. The designation for the Clover-Chambers Creek Basin Aquifer will likely be finalized within six months to one year from December 1992.

Water supply issues will be discussed in the Utilities section. Wetland issues will be addressed in the Natural Resources section.

Information to Be Reviewed/Studies Conducted

Hydrologic and hydraulic models may be used to examine the effect of facility structures on drainage and flooding in the Frederickson Industrial Area. Sediment loads to surface water bodies on-site due to erosion during construction and operation will be estimated using erosion and sediment yield models. The impacts of sediment loads on water quality and the violation of applicable water quality standards as well as an evaluation of the proposed storm water detention facility will be addressed. Groundwater flow models may be used to predict the drawdown of aquifer water levels due to excavation dewatering and other Project-related activities where there is reasonable expectation that flow rates from wells, natural springs or groundwater-fed springs could be affected. The resulting impacts on flow rates from wells and in natural springs and groundwater-fed streams will be estimated.

Sources of information include the Supplemental EIS for the Boeing-Pierce County Frederickson Site, October 1990, US EPA Sole Source Aquifer program, Pierce County Utilities, Tacoma City Water, and other planning and environmental impact documents from the surrounding area.

Mitigation
No mitigation measures were identified at this level of investigation

2.1.15 Responses to Comments Not Addressed in EIS Text

The following comments/questions were presented during the public scoping, but were not discussed in the body of the EIS:

Question (A):

Will the EIS evaluate situations where BPA might want to sell this power to California? Will the plant be "turned off" during high hydro-generation seasons?

Response (A):

BPA currently transmits power to California during high demand periods (e.g., summer air conditioning) and acquires power from California during Pacific Northwest high-demand periods (e.g., winter heating).

Question (B):

Do the regulatory agencies issue the permit and do they assure the public of compliance?

Response (B):

A number of permits will be required from regulatory agencies before the facility can be built (for a list of permits, see Section 6.0 Environmental Consultation, Review, and Permit Requirements). Periodic reviews and re-issuance of permits varies with each permit.

Question (C):

If/when the plant is built, are there going to be any tours of the facility?

Response (C):

Tenaska has indicated that the proposed facility would be open for tours. Tours would need to be pre-arranged and would be reviewed on a case-by-case basis. Security at the facility would mainly protect people from harm and prevent sabotage.

3.1 INTRODUCTION

Copies of the DEIS for the proposed Tenaska Washington II Generation Project were distributed by mail to interested and affected members of the public for comments. This chapter outlines the DEIS public involvement process, and also contains written comments from letters and oral comments from the public meeting.

3.1.1 Comment Period

The DEIS was mailed on August 9 and 10, 1993, to approximately 150 agencies, libraries, organizations and individuals. A notice of availability to review the DEIS was published in the Federal Register on August 20, 1993. The public review and comment period lasted for 45 days with comments due by October 4, 1993. Commenters could send comments to BPA's Public Involvement Office in Portland, Oregon. BPA provided a toll-free number for commenters. Twenty-one letters were received and 188 comments were coded from these response letters. Copies of the letters are included in Section 3.4.1.

3.1.2 Public Meeting

BPA held one public meeting, on September 8, 1993, to receive oral and written comments on the DEIS from the interested public. The meeting was held at Bethel High School in Spanaway, Washington. Bill's Recording Service (Beaverton, Oregon) recorded the meeting and produced a transcript for comment analysis. Thirty-two participants registered at this meeting.

The public meeting was preceded by an open house lasting one hour. During that time, meeting participants could view displays about the proposed project and had the opportunity to converse with BPA and Tenaska personnel. The format of the meeting consisted of: greetings and introductions; background information about BPA's resource acquisition program and NEPA-compliance responsibilities; a project status update; local government involvement; comments from the public; and a question and answer period. Nine people gave public comment from which 68 individual comments were coded; the coded pages of the transcript from the public meeting are included in Section 3.4.2.

3.1.3 Information

The remainder of this Comment Report contains information about the comments received and the responses to these comments. Tables showing summary information about the comments and BPA's responses to these comments are included. Copies of letters, cards and the public meeting transcript are included in the last section. A brief description of the contents of each section is presented at the beginning of each section.

3.2 COMMENT SUMMARY

Section 3.2 consists of two comment summary tables. Table 3.2-1 provides a summary of the comment categories and the number of comments in each category. This table shows the distribution of comments among the categories and provides information on which categories are of most concern to the commenters.

Table 3.2-2 is organized by commenter beginning with Federal agencies followed by state, county, and local agencies then organizations and individuals. Other information included in this table is the Category of the comment, the Comment ID number, the page number in Table 3.3-1 where the comment and response are located, and a brief description of the comment. This table is useful for quickly identifying the concerns of a particular commenter and locating the comment and response.

TABLE 3.2-1
Summary of Comments - Comment Report

Category		Number of Comments
1.0 PURPOSE OF AND NEED FOR ACTION		13
	Subtotal	**13**
3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION		8
	Subtotal	**8**
4.0/5.0 AFFECTED ENVIRONMENT/ENVIRONMENTAL CONSEQUENCES		3
GEOLOGY AND SOILS		
Geologic Hazards		1
Soils		3
	Subtotal	**7**
HYDROLOGY AND WATER QUALITY		
Groundwater		21
Surface Water		8
	Subtotal	**29**
AIR QUALITY		26
Existing Air Quality		1
Regulatory Requirements		17
Global Warming		18
	Subtotal	**62**
BIOLOGICAL RESOURCES		1
Vegetation		3
Floodplains/Wetlands		1
Wildlife and Wildlife Habitat		4
Sensitive species		3
	Subtotal	**12**
LAND USE AND COMMUNITY CHARACTER		1
Existing Land Uses		1
	Subtotal	**2**
HISTORY AND ARCHAEOLOGY		
Survey Results		1
	Subtotal	**1**

TABLE 3.2-1
Summary of Comments - Comment Report (Cont.)

Category		Number of Comments
SOCIOECONOMICS AND PUBLIC SERVICES		5
Employment		4
Tax Revenues		2
Fire Protection		4
	Subtotal	**21**
PUBLIC HEALTH AND SAFETY		38
Phase I Environmental Site Assessment		1
	Subtotal	**39**
TRAFFIC AND TRANSPORTATION		
Growth Trends		2
	Subtotal	**2**
ENERGY AND UTILITIES		5
Water Supply		10
Sanitary Sewer		15
Storm Drainage		2
Solid Waste Disposal		6
Electricity		5
Natural Gas		9
Back-Up Fuel Oil		2
	Subtotal	**54**
NOISE		1
	Subtotal	**1**
VISUAL QUALITY		3
	Subtotal	**3**
6.0 ENVIRONMENTAL CONSULTATION, REVIEW, AND PERMIT REQUIREMENTS		2
	Subtotal	**2**
TOTAL COMMENTS		**256**

TABLE 3.2-2
Commenters and Comments

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
U.S.D.A. Soil Conservation Service		**T14**		No comments on project
U.S. EPA	Air Quality	**T22/1**	3-31	Project is subject to federal permit conditions but not to PSD
U.S. EPA	Air Quality	T22/2	3-27	Final EIS should describe cumulative air quality impacts
U.S. EPA	Air Quality	T22/3	3-31	Comment regarding statement of PSAPCA emission limits
U.S. EPA	Air Quality	T22/4	3-27	Inconsistency in time units noted regarding fuel oil
U.S. EPA	Hydrology/Water Quality	T22/5	3-22	May review and comment if sole source aquifer
U.S. EPA	Hydrology/Water Quality	T22/5B	3-22	Sole source aquifer designation
U.S. EPA	Hydrology/Water Quality	T22/6	3-23	Factual error in text
U.S. EPA	Hydrology/Water Quality	T22/7	3-23	Potential for groundwater contamination
U.S. EPA	Hydrology/Water Quality	T22/8	3-24	Final EIS should reflect NPDES application information
U.S. EPA	Public Health and Safety	T22/9	3-45	Prevention of spills/clean up should be better documented
U.S. EPA	Hydrology/Water Quality	T22/10	3-23	Measures to protect groundwater should be commitments
Northwest Power Planning Council	Public Health and Safety	**T24/1**	3-45	Possible risks of utilizing hazardous materials
Northwest Power Planning Council	Public Health and Safety	T24/2	3-45	Potential contamination from accidental release of wastewater
Northwest Power Planning Council	Public Health and Safety	T24/3	3-45	Potential impacts of hazardous material releases
Northwest Power Planning Council	Public Health and Safety	T24/4	3-45	Expand scope of potential hazardous material release impacts
Northwest Power Planning Council	Energy and Utilities	T24/5	3-52	Risks associated with air pollution control catalysts
Northwest Power Planning Council	Biological Resources	T24/6	3-34	Project is not likely to significantly affect fish
Northwest Power Planning Council	Hydrology/Water Quality	T24/7	3-24	Potential impacts of deposition of "cooling tower drift"
Northwest Power Planning Council	Energy and Utilities	T24/8	3-47	Estimate of annual hours of operation on fuel oil
Northwest Power Planning Council	Noise	T24/9	3-54	Potential vibration from plant operation should be assessed
Northwest Power Planning Council	Air Quality	T24/10	3-34	Augment discussion of global warming
Northwest Power Planning Council	Air Quality	T24/11	3-27	Proposed nitrogen oxide control BACT
Northwest Power Planning Council	Air Quality	T24/11B	3-27	Tables for firing on fuel oil
Northwest Power Planning Council	Socioeconomics	T24/12	3-37	Specific environmental impacts that should be evaluated
Northwest Power Planning Council	Energy and Utilities	T24/13	3-54	Fuel oil would be used only as necessary
Northwest Power Planning Council	Energy and Utilities	T24/14	3-47	Comparison with power plants in Texas is questionable
WA Dept. of Community Development	History and Archaeology	**T8/1**	3-36	No registered historic or archaeological sites are in project area
WA Dept. of Natural Resources	Biological Resources	**T15/1**	3-35	Incorrect state status of *Aster curtus* written in DEIS text
WA Dept. of Natural Resources	Biological Resources	T15/2	3-35	Contradiction in text regarding presence of Idaho fescue occurrence

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
EDB, Tacoma-Pierce Counties	Purpose and Need	**T23/1**	3-17	The region needs new electrical power generation
EDB, Tacoma-Pierce Counties	Energy and Utilities	T23/2	3-52	Support power generation in the proposed location
EDB, Tacoma-Pierce Counties	Socioeconomics and Public Services	T23/3	3-38	Construction and operation will provide high quality jobs
EDB, Tacoma-Pierce Counties	Affected Environment	T23/4	3-19	Project will have a minimal environmental impact
EDB, Tacoma-Pierce Counties	Purpose and Need	T23/5	3-17	Strong endorsement of the Tenaska Washington II project
Pierce County Dept. of Utilities	Energy and Utilities	**T9/1**	3-48	Project operation would increase discharge of water pollutants
Pierce County Dept. of Utilities	Energy and Utilities	T9/2	3-48	Existing sewer extension towards the project site from main line
Pierce County Dept. of Utilities	Energy and Utilities	T9/3	3-46	Clarify types, handling, recycling, and disposal of wastes
Pierce County Dept. of Utilities	Energy and Utilities	T9/4	3-48	Wastewater discharge associated with air pollutant stripping?
Pierce County Dept. of Utilities	Public Health and Safety	T9/5	3-40	Hazardous materials used or generated could be released
Pierce County Dept. of Utilities	Energy and Utilities	T9/6	3-49	Any potential discharge of listed items may require pretreatment
Pierce County Dept. of Utilities	Energy and Utilities	T9/7	3-51	Materials discharged outside can't include storm water runoff
Pierce County Dept. of Utilities	Energy and Utilities	T9/8	3-51	Describe types and amount of wastes for disposal and recycling
Pierce County Dept. of Utilities	Energy and Utilities	T9/9	3-51	Clarify intended disposal of wastes in or out of Pierce County
Pierce County Dept. of Utilities	Energy and Utilities	T9/10	3-49	Aqueous wastes would discharge into Pierce County's system
Pierce County Dept. of Utilities	Air Quality	T9/11	3-29	Project is in an area which has a burning ban
Pierce County Dept. of Utilities	Energy and Utilities	T9/12	3-51	Recycle as much of the land clearing debris as possible
Pierce County Fire Prevention Bureau	Public Health and Safety	**T7/1**	3-40	Concern regarding hazardous material release
Pierce County Fire Prevention Bureau	Public Health and Safety	T7/2	3-40	Large fuel oil storage tank presents potential fire problem
Pierce County Fire Prevention Bureau	Public Health and Safety	T7/3	3-40	Storage and handling of hazardous substances
Pierce County Fire Prevention Bureau	Socioeconomics	T7/4	3-38	Some fire protection needs are not clearly identified in Code
Pierce County Fire Prevention Bureau	Socioeconomics	T7/5	3-39	Should be more detail on needs for the fire protection system
Tacoma-Pierce County Health Department	Public Health and Safety	**T17/1**	3-41	Design fuel oil storage tanks for "worst case" spill
Tacoma-Pierce County Health Department	Energy and Utilities	T17/2	3-49	Water from containment structure should be treated for disposal
Tacoma-Pierce County Health Department	Public Health and Safety	T17/3	3-41	Monitoring features to determine potential fuel piping leakage
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/4	3-21	The project site is not underlain by Vashon till as stated in text
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/5	3-21	Groundwater flow direction in basin toward "the Narrows"
Tacoma-Pierce County Health Department	Energy and Utilities	T17/6	3-48	Public wells and water systems within the "three mile radius"
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/7	3-21	Groundwater quality in area has been undergoing degradation
Tacoma-Pierce County Health Department	Biological Resources	T17/8	3-35	Potential groundwater contamination in wetland area

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/9	3-21	Submittal of hydrogeological assessment required
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/10	3-22	Potential pollution impacts to groundwater recharge area
Tacoma-Pierce County Health Department	Public Health and Safety	T17/11	3-41	Completion of SPCC and Hazardous Materials Handling Plan
Tacoma-Pierce County Health Department	Hydrology/Water Quality	T17/12	3-22	Area is extremely vulnerable to groundwater contamination
Tacoma Public Utilities (Water Division)	Energy and Utilities	**T13/1**	3-47	Adequate water supply needs for the project
Tacoma Public Utilities (Water Division)	Hydrology/Water Quality	T13/2	3-20	Correction regarding authority over public wells
Tacoma Public Utilities (Water Division)	Energy and Utilities	T13/3	3-47	Water service for the project is planned
Tacoma Public Utilities (Water Division)	Energy and Utilities	T13/4	3-48	Correction of employment division for "persons consulted"
Tacoma Public Utilities (Water Division)	Public Health and Safety	T13/5	3-41	Recommend Ecology guidelines for spill containment
Tacoma Public Utilities (Water Division)	Hydrology/Water Quality	T13/6	3-20	Will a groundwater monitoring program be implemented?
Tacoma Public Utilities (Water Division)	Hydrology/Water Quality	T13/7	3-21	Mitigation measures for protection of groundwater quality
Tacoma Public Utilities (Water Division)	Energy and Utilities	T13/8	3-48	Integrate water conservation features into project design
Tacoma Public Utilities (Light Division)		T21		No Comments on project
Clover Creek Council	Energy and Utilities	**T11/1**	3-47	Concern over water supply needs for project
Clover Creek Council	Hydrology/Water Quality	T11/2	3-20	Potential depletion of the aquifer in the future
Clover Creek Council	Energy and Utilities	T11/3	3-47	Concerns about efficient use of steam
Clover Creek Council	Visual Quality	**T12/1**	3-54	Visibility of steam plume from plant
Clover Creek Council	Air Quality	T12/2	3-25	Potential long term effects of releasing steam into air
Clover Creek Council	Visual Quality	T12/3	3-54	Steam plume
Clover Creek Council	Energy and Utilities	PM52	3-47	Concern about water requirements for project
Clover Creek Council	Energy and Utilities	PM53	3-52	More efficient use of excess steam heat
Clover Creek Council	Visual Quality	PM54	3-54	Concern about visual effects of steam plume
Greenhouse Action	Purpose and Need	PM38	3-17	The Northwest is embarking on a fossil fuel-based energy future
Greenhouse Action	Air Quality	PM39	3-29	Natural gas is a "cheap fix" for our energy needs
Greenhouse Action	Air Quality	PM40	3-29	Potential impacts and costs of regulation of carbon dioxide
Greenhouse Action	Purpose and Need	PM41	3-17	The need for power, for what set of customers, fuel switching
Greenhouse Action	Air Quality	PM42	3-24	Increase in CO_2 emissions due to using natural gas turbines
Greenhouse Action	Energy and Utilities	PM43	3-53	Cumulative effects of gas generation and effects on Northwest
Greenhouse Action	Air Quality	PM44	3-29	Insurance against the risk of future CO_2 regulation
Greenhouse Action	Energy and Utilities	PM45	3-54	Supply availability of back-up fuel oil

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Greenhouse Action	Air Quality	PM46	3-25	Extreme cold weather conditions and air quality emergencies
Greenhouse Action	Alternatives	PM47	3-18	Compare gas-fired generation with fuel choice options
Greenhouse Action	Air Quality	PM48	3-29	Ratepayers are at the risk of paying for CO_2 mitigation costs
Greenhouse Action	Air Quality	PM49	3-32	Does not understand statement that "natural gas is benign"
Greenhouse Action	Purpose and Need	PM65	3-17	Project cost has not been realistically factored
Greenhouse Action	Socioeconomics	PM68	3-37	Project would take up airshed and provide few jobs
Greenpeace	Energy and Utilities	**T18/1**	3-53	Greenpeace opposed to using natural gas in combustion turbines
Greenpeace	Air Quality	T18/2	3-25	CO_2 content in natural gas is significant enough for concern
Greenpeace	Air Quality	T18/3	3-33	Methane content of natural gas; a potent greenhouse gas
Greenpeace	Air Quality	T18/4	3-30	Compliance with more strict air quality regulations
Greenpeace	Air Quality	T18/5	3-33	Importance of global warming issue
Greenpeace	Air Quality	T18/6	3-33	Source-referenced comment regarding global warming
Greenpeace	Air Quality	T18/6B	3-25	Carbon sequestration does not address problems with fossil fuels
Greenpeace	Socioeconomics	T18/7	3-37	Beneficial impact of project on community would be minimal
Greenpeace	Socioeconomics	T18/8	3-37	Renewable resources employ more people than fossil fuel
Greenpeace	Alternatives	T18/9	3-19	Endorsement of renewable energy sources
Greenpeace	Energy and Utilities	T18/10	3-53	Address nonlocal impacts of utilizing natural gas
Greenpeace	Energy and Utilities	T18/11	3-53	One-third of all natural gas found in Canada is sour
Greenpeace	Public Health and Safety	T18/12	3-41	Potential dangers of natural gas wells in Canada
Greenpeace	Biological Resources	T18/13	3-35	Adverse impact of oil/gas exploration on grizzly bear habitat
Greenpeace	Biological Resources	T18/14	3-34	Concern over destruction of boreal forests
Greenpeace	Public Health and Safety	T18/15	3-41	Address cumulative impacts of utilizing natural gas
Greenpeace	Air Quality	T18/16	3-34	Comment regarding emissions should be added to EIS
LASER	Air Quality	**T25/1**	3-27	Actual NO_x emission will be nearly tripled
LASER	Air Quality	T25/1B	3-28	EIS should discuss alternative NO_x control technologies
LASER	Public Health and Safety	T25/2	3-46	Consider using aqueous (not anhydrous) ammonia
LASER	Public Health and Safety	T25/3	3-46	Risk assessment of potential hazardous substance(s) release
LASER	Air Quality	T25/4	3-28	Describe impact of "sulfur mist" emissions
LASER	Energy and Utilities	T25/5	3-52	Plant may use a regeneration system to treat wastewater
LASER	Air Quality	T25/6	3-28	Project is located within a no-burn zone

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Rebound	Air Quality	T19/1	3-30	Potential for localized areas with a higher level of air pollutants
Rebound	Air Quality	T19/2	3-30	Determination of significant impact on air quality within an EIS
Rebound	Public Health and Safety	T19/3	3-41	Any contribution to present air pollutant levels is significant
Rebound	Air Quality	T19/4	3-25	Production of low-level ozone due to nitrogen oxides
Rebound	Air Quality	T19/5	3-30	Background levels of specific air pollutants
Rebound	Public Health and Safety	T19/6	3-42	Air pollution by mobile sources (construction equipment, etc.)
Rebound	Air Quality	T19/7	3-25	Impacts to Mt. Rainier National Park from SO_2 emissions
Rebound	Air Quality	T19/8	3-26	Pollutants making up the total VOC emission limit
Rebound	Air Quality	T19/9	3-30	Ability to attain compliance with PSAPCA's standards
Rebound	Public Health and Safety	T19/10	3-42	Adverse health impacts from increase in air pollutant levels
Rebound	Public Health and Safety	T19/11	3-42	Concern about increasing PM-10 levels in the air
Rebound	Public Health and Safety	T19/12	3-42	Sources of PM-10 and TSP that should be discussed in EIS
Rebound	Air Quality	T19/13	3-30	Project is located within a no-burn zone
Rebound	Geology and Soils	T19/14	3-19	Potential earth shaking raises concern about an ammonia release
Rebound	Public Health and Safety	T19/15	3-42	Information provided in EIS regarding ammonia emissions
Rebound	Air Quality	T19/16	3-26	Assumptions on which the air quality models are based
Rebound	Public Health and Safety	T19/17	3-42	Analysis of a worst case controlled ammonia spill
Rebound	Air Quality	T19/18	3-26	Cumulative impacts of ammonia sources should be discussed
Rebound	Air Quality	T19/19	3-26	Correlate air quality parameters with an odor threshold
Rebound	Air Quality	T19/20	3-26	Conversion of ammonia emissions to formation of NO_x
Rebound	Public Health and Safety	T19/21	3-43	Concern regarding risks associated with use of ammonia
Rebound	Public Health and Safety	T19/22	3-43	Potential for a transportation accident involving ammonia
Rebound	Public Health and Safety	T19/23	3-43	EIS should discuss use of aqueous ammonia
Rebound	Public Health and Safety	T19/24	3-43	Possible alternative design that does not use ammonia
Rebound	Energy and Utilities	T19/25	3-48	Timing of peak hour water consumption requirements
Rebound	Energy and Utilities	T19/26	3-48	Potential impacts of project water needs on future development
Rebound	Socioeconomics	T19/27	3-39	Impact to ratepayers of utility construction work
Rebound	Energy and Utilities	T19/28	3-49	Clarification regarding what system would receive wastewater
Rebound	Energy and Utilities	T19/29	3-49	Compliance with laws and regulations for wastewater discharge
Rebound	Energy and Utilities	T19/30	3-49	EIS should have detailed account of water treatment chemicals

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Rebound	Energy and Utilities	T19/31	3-49	Impact of wastewater discharge on sewage treatment system
Rebound	Energy and Utilities	T19/32	3-50	Potential addition of metal pollutants to sanitary wastewater
Rebound	Socioeconomics	T19/33	3-37	Potential impact to ratepayers of utilities infrastructure, etc.
Rebound	Hydrology/Water Quality	T19/34	3-22	Large water demand may adversely affect aquifer
Rebound	Public Health and Safety	T19/35	3-43	Contamination of area's present and future water supply
Rebound	Hydrology/Water Quality	T19/36	3-22	Underlying soils are extremely permeable
Rebound	Hydrology/Water Quality	T19/37	3-23	EIS should provide more detail regarding mitigation plans
Rebound	Air Quality	T19/38	3-34	Possible contribution of steam discharge to global warming
Rebound	Air Quality	T19/39	3-34	Mitigation of emissions that contribute to global warming
Rebound	Geology and Soils	T19/40	3-20	Mitigation measures for erosion and runoff control
Rebound	Geology and Soils	T19/41	3-20	Concern regarding erosion and silt deposition
Rebound	Hydrology/Water Quality	T19/42	3-23	Status of project's application for a NPDES storm water permit
Rebound	Public Health and Safety	T19/43	3-43	Negative implications of storm water management design
Rebound	Public Health and Safety	T19/44	3-43	Treatment systems for oil and grease
Rebound	Public Health and Safety	T19/45	3-44	Runoff considerations for areas containing toxic substances
Rebound	Hydrology/Water Quality	T19/46	3-23	Storm-water contaminant removal in the vadose zone
Rebound	Hydrology/Water Quality	T19/47	3-24	Bioswale liner could not be "totally" impervious
Rebound	Public Health and Safety	T19/48	3-46	Soil, groundwater sampling and groundwater monitoring wells
Rebound	Energy and Utilities	T19/49	3-51	Destiny of various solid wastes to be generated by project
Rebound	Energy and Utilities	T19/50	3-50	EIS should describe demineralizer and its waste stream
Rebound	Public Health and Safety	T19/51	3-44	Prevention of bacterial growth (Legionnaires disease)
Rebound	Public Health and Safety	T19/52	3-44	Composition and potential effects of a chemical (DCL 500)
Rebound	Biological Resources	T19/53	3-35	Describe status of agencies' review of oak stands on the site
Rebound	Biological Resources	T19/54	3-36	Habitat for TES species that could potentially be impacted
Rebound	Traffic and Transportation	T19/55	3-46	Discuss project's impact on traffic volume
Rebound	Socioeconomics	T19/56	3-37	Consideration of several project workforce aspects
Rebound	Public Health and Safety	T19/57	3-44	BACT and construction techniques to ensure public health/safety
Rebound	Socioeconomics	T19/58	3-38	Construction worker training in apprenticeship programs
Rebound	Energy and Utilities	T19/59	3-52	Should select alternative of burying power lines
Rebound	Air Quality	T19/60	3-27	Consider installing a water saving, air cooling system

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Rebound	Energy and Utilities	T19/61	3-50	Water recovery method to treat and reuse blowdown water
Rebound	Purpose and Need	T19/62	3-17	Discuss reasons for not siting plant next to a steam host
Rebound	Alternatives	T19/63	3-19	EIS does not discuss alternative sites for proposed project
Tahoma Audubon Society	Alternatives	PM55	3-18	BPA has not considered conservation proposals at a lower cost
Tahoma Audubon Society	Alternatives	PM56	3-18	Identifiable conservation and efficiency projects
Tahoma Audubon Society	Air Quality	PM57	3-32	Concern for carbon dioxide's contribution to global warming
Tahoma Audubon Society	Air Quality	PM58	3-32	Global environmental impact of increased CO_2 emissions
Tahoma Audubon Society	Air Quality	PM59	3-25	Half to nearly all plant emissions would remain unmitigated
Tahoma Audubon Society	Air Quality	PM60	3-32	Importance of global warming as threat to future of humanity
Tahoma Audubon Society	Socioeconomics	PM61	3-36	Society cannot afford the proposed project
Tahoma Audubon Society	Socioeconomics	PM62	3-37	Ratepayers at risk for potential costs of fossil fuel dependence
Tahoma Audubon Society	Alternatives	**T10/1**	3-18	No project, or a different project, would be preferable
Tahoma Audubon Society	Air Quality	T10/2	3-33	Concern about carbon dioxide's contribution to global warming
Tahoma Audubon Society	Air Quality	T10/3	3-29	Possible initiation of a carbon tax during project's lifetime
Tahoma Audubon Society	Air Quality	T10/4	3-33	Concern regarding carbon dioxide emissions
Tahoma Audubon Society	Air Quality	T10/5	3-25	Nearly all the plant emissions would remain unmitigated
Tahoma Audubon Society	Air Quality	T10/6	3-29	Insurance coverage for carbon risks associated with project
Tahoma Audubon Society	Socioeconomics	T10/7	3-37	Risk to ratepayers for potential costs of fossil fuel dependence
Tenaska Washington Partners II, L.P.	Hydrology/Water Quality	**T20/1**	3-24	Discussion of NPDES permit should be updated
Tenaska Washington Partners II, L.P.	Environmental Consultation, Review, and Permit Requirements	T20/2	3-55	Tenaska will apply for a construction permit for project
Tenaska Washington Partners II, L.P.	Land Use and Community Character	T20/3	3-36	Project is included in Draft Pierce County Comprehensive Plan
Tenaska Washington Partners II, L.P.	Energy and Utilities	T20/4	3-52	Clarification of name as "Tenaska Washington Partners II, L.P."
Tenaska Washington Partners II, L.P.	Public Health and Safety	T20/5	3-45	Configuration of fuel oil storage area
Tenaska Washington Partners II, L.P.	Energy and Utilities	T20/6	3-50	Wastewater discharge meets requirements of Pierce County
Tenaska Washington Partners II, L.P.	Air Quality	T20/7	3-31	No comments were received on project's air permit application
Tenaska Washington Partners II, L.P.	Biological Resources	T20/8	3-35	Impacts to vegetation and habitat along utility corridors
Tenaska Washington Partners II, L.P.	Socioeconomics	T20/9	3-38	Estimated taxes should be expressed as *annual* amounts
Tenaska Washington Partners II, L.P.	Traffic/Transportation	T20/10	3-46	Output is not dependent upon the manpower on site
Tenaska Washington Partners II, L.P.	Energy and Utilities	T20/11	3-47	Types of wastes, handling, recycling and disposal

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
Tenaska Washington Partners II, L.P.	Environmental Consultation, Review, and Permit Requirements	T20/12	3-55	Add five permits to list of required permits for project
UA Local No. 82	Socioeconomics	**T26/1**	3-39	Sprinkler systems for fire control of flammable substances
UA Local No. 82	Socioeconomics	T26/2	3-39	The need to plan and discuss fire prevention measures
UA Local No. 82	Energy and Utilities	T26/3	3-50	Discharge of storm water from the project site
Abraham, Clark	Alternatives	PM7	3-18	Technology for renewable energy resources is available
Abraham, Clark	Air Quality	PM8	3-31	Natural gas is not environmentally friendly
Abraham, Clark	Air Quality	PM9	3-31	Methane is a global warming gas
Abraham, Clark	Energy and Utilities	PM10	3-53	Natural gas will be supplied from Canadian sources
Abraham, Clark	Energy and Utilities	PM11	3-53	A third of natural gas from Canada is "critically sour"
Abraham, Clark	Energy and Utilities	PM12	3-53	Risk of human exposure to hydrogen sulfide gas
Abraham, Clark	Land Use and Community Character	PM13	3-36	Does not want a natural gas plant near where he lives
Giddings, Roxy	Hydrology/Water Quality	PM26	3-20	Concern about groundwater and the aquifer
Giddings, Roxy	Energy and Utilities	PM27	3-50	Concern about groundwater/aquifer recharge
Giddings, Roxy	Hydrology/Water Quality	PM28	3-20	Concern about groundwater/aquifer recharge
Giddings, Roxy	Hydrology/Water Quality	PM29	3-20	Concern about groundwater issues and well water
Giddings, Roxy	Biological Resources	PM30	3-34	Potential for saving some of the oak stand on the project site
Giddings, Roxy	Biological Resources	PM31	3-35	Concern about wildlife that potentially inhabits the project site
Giddings, Roxy	Hydrology/Water Quality	PM32	3-23	Storm water runoff mitigation measures
Giddings, Roxy	Geology and Soils	PM33	3-19	Concern about soil erosion during construction period
Giddings, Roxy	Biological Resources	PM34	3-35	Concern about loss of wildlife habitat
Giddings, Roxy	Hydrology/Water Quality	PM35	3-20	Concern about groundwater
Giddings, Roxy	Air Quality	PM36	3-32	Concern about global warming
Giddings, Roxy	Purpose and Need	PM37	3-17	It would be more cost-efficient to use natural gas directly
Iverson, Earl	Energy and Utilities	PM50	3-47	Concern about availability of water
Iverson, Earl	Public Health and Safety	PM51	3-40	Health and safety issues related to natural gas
King, Jill	Air Quality	PM1	3-28	The project area currently has air-quality problems
King, Jill	Purpose and Need	PM2	3-16	Building a gas-fired plant is in contradiction to state policy
King, Jill	Purpose and Need	PM3	3-16	Concern about dependency on fossil fuels as energy source
King, Jill	Energy and Utilities	PM4	3-52	Gas is more polluting and costly than public is led to believe

TABLE 3.2-2
Commenters and Comments (Cont.)

Commenter	Category	Comment ID	Page No. in Table 3.3-1	Topic
King, Jill	Alternatives	PM5	3-18	Renewable energy sources would be more efficient
King, Jill	Affected Environment	PM6	3-19	Consider environmental impacts and long-term solutions
Lane, Steve	Purpose and Need	PM14	3-16	A gas-fired plant should not be chosen to meet energy needs
Lane, Steve	Energy and Utilities	PM15	3-46	Dependency on fossil fuel and foreign imports
Lane, Steve	Energy and Utilities	PM16	3-53	Availability and supply of natural gas in the United States
Lane, Steve	Air Quality	PM17	3-31	Natural gas is said to be a clean-burning fuel, which isn t true
Lane, Steve	Purpose and Need	PM18	3-16	The future of gas-fired plants involves increased use of coal
Lane, Steve	Public Health and Safety	PM19	3-40	Health risks to community based around the project site
Lane, Steve	Purpose and Need	PM20	3-16	Development of renewable resources for a sustainable future
Lane, Steve	Socioeconomics	PM21	3-38	Renewable energy resources are economically viable
Lane, Steve	Air Quality	PM66	3-29	The Clean Air Act and air quality standards in the region
Meek, Daniel	Purpose and Need	T16/1	3-17	BPA is not acquiring all cost-effective conservation resources
Schipper, Matthew	Socioeconomics	PM22	3-36	Questions the cost-efficiency of the proposed project
Schipper, Matthew	Socioeconomics	PM23	3-36	The fossil fuels industry in U.S. is subsidized with tax money
Schipper, Matthew	Public Health and Safety	PM24	3-40	Concern about accidents associated with gas plants
Schipper, Matthew	Purpose and Need	PM25	3-16	Renewable energy resources are for the longer term
Schipper, Matthew	Air Quality	PM63	3-32	Long-term costs of carbon dioxide and methane emissions
Schipper, Matthew	Socioeconomics	PM64	3-37	True cost of project (health, global, future) cannot be figured
Schipper, Matthew	Air Quality	PM67	3-25	Concern about increase in air pollution due to project
Williams, John	Air Quality	T27/1	3-28	NO_x should be recognized as an ozone precursor in FEIS

3.3 COMMENTS AND RESPONSES

Section 3.3 contains the responses to the comments that were received. Table 3-1, in addition to the comments and responses, also provides certain comment information such as the Comment ID number, the Comment Author and the Organization represented, if noted. The comments in Table 3.3-1 are arranged by category. A shaded bar with the category name precedes those comments assigned to that category. Categories are presented in the same order as in Table 3.2-1.

A key for Table 3.3-1 immediately precedes the table. This key is useful in explaining the Comment Identification (ID) number and how it can be used to locate a particular comment in its full context in Section 3.4, Comment Documents.

Key for Table 3.3-1: Comments and Responses and for the Comment Documents

Comments

Comments on the DEIS are of two types; oral comments received at the public meeting and written comments in letters and cards.

The oral comments are identified by "PM" followed by a number (PM6) which is annotated in the right margin of the transcript pages. The pages from the transcript containing the oral comments is located in Section 3.4.2.

Written comments are identified by a "T" followed by number (document number), a "/" and a second number (comment number) (T20/12). Letters and cards containing the written comments are in Section 3.4.1.

Other comment information in Table 3.3-1 includes:

Author of the Comment

Organization Represented

EXAMPLE
TABLE 3.3-1: COMMENTS AND RESPONSES

Comment Information	Comments and Responses
	4.0 AFFECTED ENVIRONMENT
PM6 King, J. None Stated	Comment: *Please consider the true environmental impact on this community as well as finding lasting solutions for the future.* Response: The Tenaska Washington II Draft EIS included an analysis of the environmental effects on the natural environment as well as a consideration of social and economic effects on the community. BPA's Resource Programs EIS and ROD support energy resource actions to meet BPA's contractual obligations to serve electrical load, taking into consideration the environmental consequences of these actions.
T20/12 Tenaska Washington Partner II, L.P.	Comment: *Pg 6-11; Sect. 6.17 Permits - Add the five permits listed to this section.* Response: Section 6.17, Permits, has been revised to include these additional five permits: 1) *Review per Section 309 of the Clean Air Act by the Environmental Protection Agency.* 2) *Industrial Waste Discharge Permit from the Washington Department of Ecology.* 3) *Natural Gas Import Authorizations from the FERC.* 4) *Determination of Exempt Wholesale Generator from the FERC.* 5) *Critical Area Review by Pierce County.*
T23/4 Mark, E EDB Puree Co	Comment: *Project will have a minimal environmental impact. The Frederickson site is intended for industrial development. Project meets all environmental requirements and has gone through an extensive BPA screening of potential generation project candidates.* Response: Comment noted.
4.2 GEOLOGY AND SOILS	4.2.2 Geologic Hazards
T19/14 Herman, O. Rebound	Comment: *Earth shaking in the project area could compound the concern regarding the potential for an ammonia release.* Response: The plant buildings, equipment and process systems will be designed to code requirements for Seismic Zone 3.

EXAMPLE COMMENT LETTER

- **Fuel oil storage:** The large fuel oil storage tank presents the potential for a serious fire problem requiring large quantities of water for an extended period. At least 6000 gpm should be provided for a period of not less than 6 hours. In addition, foam fire protection shall be provided in accordance with Section 79.510 of the Uniform Fire Code. — T7/2

- **Other hazardous materials:** The storage, handling and use of other hazardous materials such as anhydrous ammonia, sulfuric acid, caustic soda and bromine shall be in accordance with Article 80 of the *Uniform Fire Code*. Because ammonia will ignite and burn, it will be handled as both a corrosive and a flammable gas. — T7/3

The large fire flow requirement, provisions of foam fire protection and need to handle ammonia as a flammable gas are not clearly identified in the Code. Therefore we feel that it is important to establish these needs for mitigation of fire protection/health and safety impacts. — T7/4, T7/5

If you have any questions, you may call Assistant Fire Marshal Russ Henderson at (206) 596-3754. Our business hours are from 7:30 AM to 4:30 PM, Monday through Friday.

Sincerely,

Wayne A. Wienholz
Fire Marshal

T7

Comment Identifiers are composed of the document number and the numerically ordered comment number within the document.

T7/2 identifies the second comment on Document T7.

Document Number is placed on each page of the letter. Letters and cards are arranged in numerical order in Section 3.4.1, Written Comments.

The transcript is preceded by an index that shows the commenters and the transcript page numbers where the respective comments appear.

TABLE 3.3-1
COMMENTS AND RESPONSES

Comment Information	Comments and Responses
	PURPOSE OF AND NEED FOR ACTION
PM2 King, J. None Stated	***Comment:*** *The state has made an official commitment to conservation and renewable energy resources. Building a gas-fired plant is clearly in contradiction to this policy.* **Response:** BPA has also made a commitment to conservation and renewable energy resources. In its April 1993 Record of Decision on the Resource Programs Environmental Impact Statement, BPA chose the Emphasize Conservation Alternative as its preferred alternative. This means that BPA will acquire all cost-effective conservation and efficiency improvements. In addition, BPA will acquire additional conservation resources as their supply, cost-effectiveness, and reliability are validated. However, conservation resources alone do not satisfy the need for resources. Conservation must be supplemented by a mix of renewables and thermal resources. Tenaska Washington II is being considered as one of those thermal resources.
PM3 King, J. None Stated	***Comment:*** *If we're planning for the future, not five or ten years down the road, we've got to begin moving away from fossil fuels as a primary energy source.* **Response:** BPA's Resource Programs EIS looked at resource acquisitions over a 20-year planning period — through 2010. In the Record of Decision, a mix of conservation and generation resources was determined to be the most cost-effective and environmentally responsible. The thermal resources included both cogeneration and gas-fired combustion turbines.
PM14 Lane, S. None Stated	***Comment:*** *I find it reprehensible that these needs are to be answered with a gas-fired power plant.* **Response:** After thoroughly analyzing the environmental trade-offs among energy resource types and the cumulative environmental effects of adding combinations of these resources to the existing power system, the BPA Administrator determined that acquiring all cost-effective conservation and efficiency improvements, supplemented by a mix of renewables and thermal resources (including combustion turbines and cogeneration) was the most cost-effective, reliable, and environmentally responsible approach.
PM18 Lane, S. None Stated	***Comment:*** *The truer picture for the future of gas-fired plants is one of coal-fired plants with natural gas providing 10 percent of the fuel and coal providing 90 percent in the combustion process.* **Response:** Coal gasification technology is still under development with several demonstration facilities in operation. Performance and economic evaluations are being performed for different gasification processes and coal types. While it is possible that coal gasification will play a role in providing primary or alternative fuel to gas-fired turbines in the future, it would not be expected to play a role in the early years of the Tenaska plant operation. In addition, the President's Climate Change Action Plan encourages the use of natural gas in coal fired power plants to reduce the emissions of CO_2.
PM20 Lane, S. None Stated	***Comment:*** *Someone with courage would put their foot down and lead us toward a sustainable future, and further acquisitions of gas-fired resources would be set aside for the development of renewable sources such as wind, geothermal and solar energy.* **Response:** BPA is actively pursuing two geothermal pilot projects and two wind projects under its Resource Supply Expansion Program. However, there is a limited, cost-effective supply of renewable resources available to BPA in the region.
PM25 Schipper, M. None Stated	***Comment:*** *Things like solar power, wind power, conservation, energy efficiency, all are for the long term.* **Response:** BPA is committed to pursuing all cost-effective conservation and renewable energy resources as well as energy efficiency improvements.

Comment Information	Comments and Responses
PM37 Giddings, R. None Stated	***Comment:*** *It would be a lot cheaper if we just took the natural gas and ran it into our house and heated our water or whatever. It would be cheaper for us to use the natural gas in the way it comes out of the ground.* **Response:** BPA's role is to fulfill a statutory obligation to meet the electrical needs of its customers, based on the acquisition of resources determined best suited to serve this need. BPA encourages all end-users to evaluate the most cost-effective, environmentally sound means of meeting their end-use needs. For many end-users, direct application of natural gas is more efficient than using natural gas in the intermediate stage converting it to electricity at a power plant.
PM38 Holbrook, N. Greenhouse Action	***Comment:*** *The Northwest is about to embark on a fossil fuel-based energy future, utilizing what one government official refers to as the "crack cocaine of the electric utilities."* **Response:** Comment noted.
PM41 Holbrook, N. Greenhouse Action	***Comment:*** *What is the actual need for the Tenaska Power? How will future DSI contracts affect this need? How is the region's fuel switching potential going to offset the need for large, gas-fired generation?* **Response:** This project would provide firming of non-firm hydro, voltage support in a high load geographic area and the need for the power. The BPA Administrator will reassess this need prior to signing the Tenaska power purchase agreement in 1994.
PM65 Holbrook, N. Greenhouse Action	***Comment:*** *Cost is important and what we're saying is that you haven't accurately factored in realistically the costs.* **Response:** Cost effectiveness is a primary selection criteria and BPA believes that it employed a sound system cost analysis in the evaluation of the proposals.
T16/1 Meek, D. None Stated	***Comment:*** *BPA is not acquiring all cost-effective conservation. Mr. Meek references attachments to his letter: Testimony of Richard Esteves to US House of Reps, July 12, 1993, and a letter of September 23, 1993 from Mr. Meek to Peter DeFazio.* **Response:** The Emphasize Conservation Alternative was identified as the preferred alternative in the 1993 Record of Decision on the Resource Programs EIS. Under this alternative, all cost-effective conservation will be acquired. In this ROD, BPA also committed to actively investigate additional conservation resources, and to acquire them as their supply, cost-effectiveness, and reliability were validated.
T19/62 Herman, O. Rebound	***Comment:*** *The DEIS fails to discuss any reason why the Tenaska power plant could not be sited next to an industrial host which would serve as a customer for this plant's spent steam (cogeneration).* **Response:** Provisions are incorporated into the plant design so that steam could be supplied to a future industrial steam host.
T23/1 Mork, E. EDB Pierce Co.	***Comment:*** *The region needs new electrical power generation. Failure to provide for continued growth of electrical demand is a recipe for economic stagnation.* **Response:** Comment noted.
T23/5 Mork, E. EDB Pierce Co.	***Comment:*** *Therefore, we at the EDB strongly endorse the construction of the Tenaska Washington II project located at Frederickson.* **Response:** Comment noted.
ALTERNATIVES INCLUDING THE PROPOSED ACTION	

Comment Information	Comments and Responses
PM5 King, J. None Stated	***Comment:*** *Conservation programs and renewable energy sources - we all know that these methods would be extremely clean and efficient and create more jobs that would stay local.* **Response:** BPA is committed to evaluating, within a competitive bidding process, all resource proposals including those for conservation resources and renewable energy resources. Cost-effectiveness is a primary selection criteria. However, even renewable resources may create adverse environmental impacts.
PM7 Abraham, C. None Stated	***Comment:*** *First, I would like to say that the technology for renewable energy resources such as wind and solar is available and can be implemented rapidly.* **Response:** BPA considers renewable resources — hydro, geothermal, wind, and solar — in its resource planning. The Resource Programs EIS included an examination of the technology, operating characteristics, supply, costs, and environmental effects and mitigation for each of these renewable energy resources. Renewable resources were included in BPA's preferred alternative in the 1993 Record of Decision (ROD). Moreover, BPA committed in that ROD to use the Resource Supply Expansion Program to confirm the supply, cost, and reliability of additional conservation and renewable energy supplies.
PM47 Holbrook, N. Greenhouse Action	***Comment:*** *With BPA's fuel choice program scheduled to run through 1995, why not at least compare the possible benefits of gas-fired generation with fuel choice options?* **Response:** This concern was addressed in BPA's Resource Programs EIS which included a comparison of energy resource types, including gas-fired combustion turbines and fuel switching. This comparison is not within the scope of this EIS.
PM55 Giddings, W. Tahoma Audubon Society	***Comment:*** *Despite testimony before the Northwest Power Planning Council from public utilities, BPA has refused to participate in conservation proposals at a lower cost than this proposal, including one from Snohomish PUD for 240 MW equal in yield to this project.* **Response:** BPA considers a variety of resources for potential acquisition, based on costs, environmental impacts, timing, risk, reliability, effects on the system, and other parameters. BPA is committed to its conservation program and considers all proposals for conservation resources that are demonstrably cost-effective.
PM56 Giddings, W. Tahoma Audubon Society	***Comment:*** *There is no evidence that identifiable conservation and efficiency projects would not be a better choice environmentally.* **Response:** BPA has committed to acquire all cost-effective conservation and efficiency improvements.
T10/1 Giddings, W. Tahoma Audubon Society	***Comment:*** *Action on the project cannot be taken until after the end of the comment period for this EIS, so it is not too late for BPA to conclude that no project, or a different project, would be preferable to this one.* **Response:** BPA has a statutory obligation, if requested, to meet the load growth of its customers. BPA's Resource Programs EIS supports the conclusion that, because of limitations in the supply of cost-effective conservation resources, even aggressive conservation acquisition programs would not provide enough conservation energy to meet high load growth. Within a competitive bidding process, Tenaska Washington II has demonstrated that it can assist in meeting this growing electrical need; and best met our viability, system cost, and environmental criteria.
T18/9 Schullinger, S. Greenpeace	***Comment:*** *A renewable plant can provide a local community with more employment opportunity, zero emissions and would create no upstream development impacts.* **Response:** Renewable resources also can cause significant environmental impacts; for example, wind, geothermal, and hydroelectrical resources are likely to be located in remote areas requiring new transmission corridors and lines resulting in environmental impacts. There can also be impacts from the resources themselves. Refer to BPA's RPEIS for an analysis of the environmental trade offs among resource types.

Comment Information	Comments and Responses
T19/63 Herman, O. Rebound	***Comment:*** *The DEIS does not present an alternative configuration of this project involving a different site for the plant that would allow it to be a more efficient, environmentally beneficial cogeneration facility.* **Response:** The Tenaska Washington II project is proposed to be located in an existing industrial area where needed infrastructure such as substation, gas pipeline, and sewerage system already exist. In a competitive resource selection process, this project has demonstrated that it can help to meet growing electrical needs in the Northwest in the most environmentally and economically sound manner. The project is designed to allow for future cogeneration steam supply should an industry which needs process steam locate in the industrial area.
AFFECTED ENVIRONMENT	
PM6 King, J. None Stated	***Comment:*** *Please consider the true environmental impact on this community as well as finding lasting solutions for the future.* **Response:** The Tenaska Washington II Draft EIS included an analysis of the environmental effects on the natural environment as well as a consideration of social and economic effects on the community. BPA's Resource Programs EIS and ROD support energy resource actions to meet BPA's contractual obligations to serve electrical load, taking into consideration the environmental consequences of those actions.
T23/4 Mork, E. EDB Pierce Co.	***Comment:*** *Project will have a minimal environmental impact. The Frederickson site is intended for industrial development. Project meets all environmental requirements and has gone through an extensive BPA screening of potential generation project candidates.* **Response:** Comment noted.
GEOLOGY AND SOILS	**Geologic Hazards**
T19/14 Herman, O. Rebound	***Comment:*** *Earth shaking in the project area could compound the concern regarding the potential for an ammonia release.* **Response:** The plant buildings, equipment and process systems will be designed to code requirements for Seismic Zone 3.
GEOLOGY AND SOILS	**Soils**
PM33 Giddings, R. None Stated	***Comment:*** *I looked at a lot of construction sites, and these so-called curtains to keep soil from running off the property, didn't work. You go out there after a big rain and the soil will have filled up over there and be running down onto the neighbor's property.* **Response:** A preliminary storm water pollution prevention plan has been developed by Tenaska, including soil erosion control measures to be used during construction. Soil erosion control plans will comply with local, state and federal regulations and must be approved by the appropriate agencies.
T19/40 Herman, O. Rebound	***Comment:*** *There is no discussion in DEIS of how these theorized mitigations (erosion & runoff) will be enforced at the construction and production job site nor is there discussion of efficiency of these purported methods or discussion of more efficient alternatives.* **Response:** The purpose of the EIS is to identify potential impacts and mitigation measures that could be enacted and not to discuss actual implementation, schedules and procedures for those measures. Mitigation measures to be implemented for the project, including practices to be implemented (i.e., types of erosion control material to be used, their location, installation, etc.) will be outlined in the Mitigation Action Plan prepared for this project in the Record of Decision. Soil erosion control will comply with local, state and Federal regulations. Also see responses to comments T19/37 (Page 3-23) and PM33 (Page 3-19).

Comment Information	Comments and Responses
T19/41 Herman, O. Rebound	***Comment:*** *The EIS must include a discussion regarding the potential for the deposition of solids as silt is washed from the project site into normally permeable soils due to erosion.* **Response:** See responses to comments PM26 (Page 3-20) and PM33 (Page 3-19).
HYDROLOGY AND WATER QUALITY	**Groundwater**
PM26 Giddings, R. None Stated	***Comment:*** *I'm really concerned a lot about the groundwater, the aquifer underneath all of this.* **Response:** A hydrogeological assessment has been developed for the project and has been submitted to the Tacoma-Pierce County Health Department for review and approval. The hydrogeological assessment addresses the measures that the plant will incorporate to minimize potential contamination of the aquifer and yet allow the infiltration of uncontaminated storm water to the aquifer.
PM28, PM29, and PM35 Giddings, R. None Stated	***Comment:*** *Ms. Giddings expands on her concerns with groundwater issues and well water.* **Response:** The effect of the proposed project on groundwater wells is described in Volume I, Section 5.11.2, Water Supply, of the Final EIS. Also see response to comment PM26 (Page 3-20).
T11/2 Schmauder, A. Clover Creek Council	***Comment:*** *This amount of water used will likely cause Tacoma to drill other wells to meet water requirements in the future. This may eventually deplete the aquifer.* **Response:** The project is included in the Draft Comprehensive Plan for Pierce County, June 1993. The Draft Comprehensive Plan states, "Finite groundwater and surface water resources exist to meet projected growth requirements for the next 20 years." (Page VIII-52).
T13/2 Evancho, J. TPU	***Comment:*** *Page 4-6, 1st paragraph - statement is not correct. These public wells are under the authority of a number of water purveyors.* **Response:** The following text has been deleted (Section 4.3.1): "These public wells are under the authority of the City of Tacoma Public Utilities." It has been replaced in Volume I of the FEIS, Section 4.3.1, with: "*These public wells are under the authority of a number of water purveyors.*"
T13/6 Evancho, J. TPU	***Comment:*** *Will a groundwater monitoring program be implemented, including adequate characterization of background conditions, to identify any deterioration in groundwater quality which may result from the construction and/or operation of the facility?* **Response:** See response to comment T13/7 (Page 3-21).
T13/7 Evancho, J. TPU	***Comment:*** *The Tacoma Water Division will request that the Tacoma-Pierce County Health Dept. impose, under authority of Pierce County Code Chapter 21.16, monitoring requirements and other appropriate mitigation measures necessary to protect groundwater quality.* **Response:** A hydrogeological assessment has been submitted to Pierce County Health Department for review and approval as required by Pierce County Code, Chapter 21.16. Any additional mitigation measures above those identified in the assessment will be incorporated into the project to comply with Tacoma-Pierce County Health Department requirements.
T17/4 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *This site is NOT underlain by Vashon Till, a protective layer for deep groundwater sources.* **Response:** Volume I, Section 4.2.1 has been revised accordingly.

Comment Information	Comments and Responses
T17/5 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *Most groundwater originating in this basin flows toward "the Narrows," a narrow water channel separating Tacoma from the Gig Harbor Peninsula, NOT toward Commencement Bay.* **Response:** The following text has been deleted from Section 4.3.1: "The overall direction of groundwater movement in central Pierce County is to the north or northwest toward Commencement Bay in Puget Sound." Has been replaced in Volume I, Section 4.3.1, with: *"Most groundwater flow originating in the Clover/Chambers Creek Basin flows northwest toward "The Narrows," a narrow water channel separating Tacoma from the Gig Harbor Peninsula (Figure S-1). Groundwater flow drains into the entire area of "The Narrows" via three stratified units. The most shallow unit is approximately 45 meters (150 feet) below ground level; this is still above sea level, and water drains into the ocean as "surface water." The second unit lies approximately 100 meters (350 feet) below ground level, and the third lies approximately 160 meters (550 feet) below ground level. The majority of groundwater flow enters the ocean below sea level."*
T17/7 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *Groundwater quality in this area has been undergoing degradation.* **Response:** The EIS acknowledges this degradation. See Volume I, Section 4.3.1, Groundwater, Groundwater Contamination. Also see responses to comments T22/7 (Page 3-23), T7/1 (Page 3-40), T22/10 (Page 3-23), and T19/34 (Page 3-22).
T17/9 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *The Tacoma-Pierce County Health Department requires submittal of a hydrogeological assessment, to determine the potential impact to groundwater resources, for every commercial facility proposed within the Aquifer Recharge Area boundary.* **Response:** New paragraph has been added, starting with last sentence in Section 4.3.1, Clover-Chambers Creek Groundwater Management Program. Text now reads as follows: "The Tacoma-Pierce County Health Department is the lead agency responsible for the Groundwater Management Program. The County has adopted a "Critical Areas" designation which includes the area in and around the proposed project site. The area is designated as an "Aquifer Recharge Area" (Pierce County Code Chapter 21.16). The purpose of this designation is to prevent further degradation of groundwater quality through the control of land use activities. The Tacoma-Pierce County Health Department will require submittal of a hydrogeological assessment, to determine the potential impact to groundwater resources, for every commercial facility proposed within the Aquifer Recharge Area boundary." A new paragraph has been added to Section 5.3.2, Impact HY2: "The Tacoma-Pierce County Health Department would require submittal of a hydrogeological assessment to determine the potential impact to groundwater resources (see Volume I, Section 4.3.1). Hydrogeological assessment has been submitted to Pierce County Health Department for review and approval. Any additional mitigation measures above those identified in the assessment will be incorporated into the project to comply with the requirements."
T17/10 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *What effect will particulates and other combustion by-products have on the surrounding groundwater recharge area?* **Response:** No significant effect on groundwater quality would be expected. Under normal operation the proposed Tenaska Washington II project will burn natural gas. Consequently the waste gases from combustion will contain little or no particulate matter. Control measures for CO_2 and NO_x include the use of oxidation catalysts and selective catalytic reduction. During infrequent oil burning the plant will emit larger amounts of particulate matter. A discussion of the circumstances under which oil would be used as fuel is included in response to comment PM46 (Page 3-25). Particulate matter, when emitted, would be primarily carbon. Any fallout onto the ground surface would have no effect on groundwater quality. Particulates would be removed from percolating water as it passed through the soil layers. The other primary combustion products are carbon monoxide and oxides of nitrogen. Carbon monoxide has no significance for water quality. Oxides of nitrogen react in the atmosphere to form nitric acid, which may reach the ground surface with precipitation. The chemical reaction in the atmosphere takes some time, so any nitric acid reaching the ground surface would be widely distributed in the area downwind of the site.

Comment Information	Comments and Responses
T17/12 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *The Frederickson Area is extremely vulnerable to groundwater contamination.* **Response:** Comment noted, and the EIS supports this comment. See Volume I, Section 4.3.1, Groundwater Contamination.
T19/34 Herman, O. Rebound	***Comment:*** *Very large water demand may hasten the depletion and/or degrading of the aquifer.* **Response:** The proposed power plant would use an average of 7.2 million liters (1.9 million gallons) per day of water. The Tacoma Public Utilities will be able to meet this water demand from its existing supplies. It is not expected that the proposed project would affect groundwater quality. Also see response to comment T11/2 (Page 3-20).
T19/36 Herman, O. Rebound	***Comment:*** *The underlying soils are extremely permeable, meaning any release of objectionable substances would be rapidly conveyed into the groundwater.* **Response:** Text has been replaced in Volume I of the FEIS, Section 5.3.2, Impact HY3, last sentence: "...and can block the pore spaces in the soil and result in reduced rates of infiltration." Has been replaced with "...which would be rapidly transported through the permeable soils without proper preventative measures described below." Also, see Section 4.3.1, Groundwater Contamination, which supports the comment that underlying soils are extremely permeable.
T22/5 Veit, K. USEPA Region 10	***Comment:*** *If a sole source aquifer designation is approved, EPA may review and comment on the project pursuant to Section 1424 (e) of the Safe Drinking Water Act.* **Response:** Text has been added to Volume I, Section 4.3.1, Sole Source Aquifer Designation: "The Clover-Chambers Creek aquifer system was designated as a sole source aquifer on December 9, 1993."
T22/5B Veit, K. USEPA	***Comment:*** *The Draft EIS indicates on pages 4-7 and 4-8 that a petition for designation of the Clover-Chambers Creek Basin aquifer system (within which the proposed project site is located) as a Sole Source Aquifer has been submitted to EPA. The designation currently under review covers the larger area encompassing the Central Pierce County Aquifer System. We expect a final decision next month (November).* **Response:** See response to comment T22/5 (Page 3-22).
T22/6 Veit, K. USEPA Region 10	***Comment:*** *Page 4-8 contains a factual error in the first paragraph. The July 1993 event was not a public hearing, but an informational meeting.* **Response:** Text has been replaced in Volume I, Section 4.3.1, Sole Source Aquifer Designation, second-to-last sentence: "EPA took public comments...at a public hearing in July 1993." It has been replaced with "EPA took public comments...*at an informational meeting.*"
T22/7 Veit, K. USEPA Region 10	***Comment:*** *The soils of the site are highly permeable...potential for groundwater contamination from infiltration of contaminants (during) construction and operation...impacts should be in the Final EIS.* **Response:** As noted in Section 5.3.2 of the Draft EIS, wastewaters and chemicals at the proposed project would be managed to prevent groundwater contamination in this area of very permeable soils. The EIS has been revised to include more specific information on the wastewater management and spill prevention systems. Only unpolluted storm water runoff would be allowed to percolate into the ground. Section 5.3.2, Impact HY3 addresses the effect of proposed construction activities on groundwater quality. A hydrogeological assessment has been completed and submitted to Tacoma/Pierce County Health Department. Copies are available upon request. Also see Volume I, Section 5.9.2 in the EIS, and response to comment T7/1 (Page 3-40).

Comment Information	Comments and Responses
T22/10 Veit, K. USEPA Region 10	***Comment:*** *All measures necessary to prevent potential adverse impacts to groundwater resources should be stated as management commitments.* **Response:** The EIS describes the measures planned for the project to prevent groundwater contamination and includes further suggested mitigation measures. The Record of Decision will contain or be accompanied by a Mitigation Action Plan which will provide details of the mitigation measures to be implemented. Also see response to comment T7/1 (Page 3-40).
HYDROLOGY AND WATER QUALITY — **Surface Water**	
PM32 Giddings, R. None Stated	***Comment:*** *These mitigation measures — it says here that the storm water runoff could be controlled.* **Response:** See response to comment PM33 (Page 3-19).
T19/37 Herman, O. Rebound	***Comment:*** *The EIS should contain greater detail regarding mitigation plans, rather than simply state that various actions "could" be taken.* **Response:** Some measures have been incorporated into the proposed project design to reduce potential environmental impacts. These measures have become part of the project as proposed. If the project is approved, the project developer will be committed to their implementation. Other mitigation measures, designed to reduce environmental impacts, will be either conditions of permits and approvals by regulatory agencies, or specified by BPA in its Record of Decision and Mitigation Action Plan.
T19/42 Herman, O. Rebound	***Comment:*** *The DEIS does not describe the status of the project application for a storm water NPDES permit.* **Response:** A Notice of Intent for Construction activity was submitted to the Washington Department of Ecology for a baseline general permit to discharge storm water. According to Ecology, an NPDES permit will not be required for operation of the proposed project. An NPDES permit will be obtained for construction. A preliminary storm water pollution prevention plan has been developed by Tenaska.
T19/46 Herman, O. Rebound	***Comment:*** *The storm water would be channeled to a small area for discharge, there may not be an attenuation of contaminants in the vadose zone.* **Response:** Only unpolluted storm water would be routed to the biofiltration swale and infiltration pond. The system does not rely on pollutant removal in the vadose zone to prevent groundwater contamination.
T19/47 Herman, O. Rebound	***Comment:*** *The DEIS suggested that an impervious liner will be placed in the bioswale. This liner could not be totally impervious; otherwise there would not be seepage from the swale into the groundwater at all.* **Response:** The bioswale would be equipped with an impermeable liner to prevent premature percolation of storm water into the ground. The objective of the design is to maximize contact between storm water runoff and the vegetative elements of the bioswale. Concentrations of silt, nutrients or trace contaminants in the storm water would be reduced in the bioswale before the storm water is routed to the infiltration system. The storm water runoff directed to the bioswale and infiltration system would be primarily from open and parking areas.
T20/1 Tenaska Washington Partner II, L.P.	***Comment:*** *Discussion on NPDES should be updated. Tenaska filed a Notice of Intent for coverage under Storm water Baseline General Permit with Washington Dept. of Ecology on 8/2/93. DOE determined operation of our facility will not require NPDES storm water permit.* **Response:** Status of the NPDES permit has been updated in the FEIS.

Comment Information	Comments and Responses
T22/8 Veit, K. USEPA Region 10	***Comment:*** *Type of information required to support the NPDES application including storm and process water flow schematics and control measures and best management practices should be reflected in the Final EIS* **Response:** See response to comment T19/42 (Page 3-23).
T24/7 Sheets, E. Northwest Power Planning Council	***Comment:*** *Chlorine and other biocides found in the plant cooling water may be released to the atmosphere in the form of cooling tower drift. Deposition of these chemicals in the area surrounding the plant may affect surface water and vegetation.* **Response:** Trace amounts of chorine may be present in cooling tower drift. Concentrations would be comparable to the chlorine concentration of drinking water. Any other water conditioning chemicals in the cooling system would be at very low concentrations and are not expected to affect water quality or vegetation.
AIR QUALITY	
PM42 Holbrook, N. Greenhouse Action	***Comment:*** *Despite all of this, plans by Northwest utility companies could increase carbon dioxide emissions 8 to 20 percent by the year 2013, by their concentration on natural gas turbines for electrical generation.* **Response:** In order to meet its load obligations, BPA is considering multiple solutions such as: acquiring new generating resources (both renewable and thermal), conservation, and efficiency improvements. The impacts of each resource type were studied and evaluated in BPA's Resource Programs Environmental Impact Statement (RPEIS). The RPEIS analyzes the environmental trade-offs of new energy resources within the context of meeting the electrical needs of BPA customers. The impacts are considered in detail, and are evaluated together to determine the cumulative effects of adding various combinations of resources to the existing system. Combustion of natural gas is one of several resource types considered. BPA has found it to be a necessary and logical element of its resource planning over the next few decades. Although the combustion of natural gas will produce carbon dioxide emissions, this has already been considered within the RPEIS as part of the total environmental cost from all resources. In order to minimize impacts of carbon dioxide emissions, BPA required sponsors of competitive resource proposals to develop means to relieve rate payers of the risks associated with carbon dioxide emissions. The Tenaska Washington II proposal goes further in reducing the risks than any other power plant we know of in this country. This is because natural gas emits less carbon dioxide per unit of energy provided than any other fossil fuel, and because the Tenaska Washington II proposal is highly efficient compared to other combustion systems. To the extent that it displaces operation of existing less efficient fossil-fueled power plants, in time it will help to reduce emissions of carbon dioxide.
PM46 Holbrook, N. Greenhouse Action	***Comment:*** *We believe that the extreme cold weather conditions under which the plant would burn oil could also bring periods of air quality emergencies.* **Response:** Tenaska's natural gas purchase contract calls for firm supply; the power plant's gas supply will not be curtailed due to wintertime gas demand by other customers. Tenaska does not expect to burn fuel oil unless there is a failure of the natural gas fuel supply, or BPA requires an emergency restart when the plant is displaced and natural gas is temporarily unavailable. Air quality impact modeling has been conducted for all seasons and times of the day; thus, model results reflect worst-case meteorological conditions.
PM59, T10/5 Giddings, W. Tahoma Audubon Society	***Comment:*** *Looked at from the other side, this means that from half to nearly all of the plant's emissions would remain unmitigated.* **Response:** Efficient emissions controls and proposed mitigation measures will be utilized that will reduce emissions below regulated threshold levels.

Comment Information	Comments and Responses
PM67 Schipper, M. None Stated	***Comment:*** *And by adding a plant, we're just going to be increasing the amount of pollution that we're dealing with.* **Response:** Analyses in this EIS conclude that no unmitigated significant air quality impacts will occur as a result of this project. Furthermore, the project will comply with all applicable air quality laws and regulations.
T12/2 Schmauder, A. Clover Creek Council	***Comment:*** *What will be the long term effect of releasing 6.8 million liters (1.8 million gallons) of water into the air?* **Response:** No significant impact is anticipated. Locally some additional fogging and precipitation (rain/drizzle) could occur. Under most conditions, the cooling tower moisture plume will rise well above ground level. Under cool, clear meteorological conditions the plume will be visible, similar to a cloud.
T18/2 Schullinger, S. Greenpeace	***Comment:*** *While it is true that CO_2 content is less in natural gas than oil or coal, the amounts are still significant enough to be of concern.* **Response:** Comment noted. BPA did not include carbon dioxide in the environmental costs used to rank resources in the RPEIS resource stack because of the uncertain evidence supporting carbon dioxide impacts cost data. However, it was included in the analysis of the environmental effects of resource types. When BPA acquires resources, carbon dioxide emissions are considered in the non-cost portion of the evaluation.
T18/6B Schullinger, S. Greenpeace	***Comment:*** *Carbon sequestration does not sufficiently address the problem that our addiction to fossil fuel has created.* **Response:** Carbon sequestration is discussed in Section 5.4.2 of the EIS under Impact AQ3.
T19/4 Herman, O. Rebound	***Comment:*** *Nitrogen oxides react with hydrocarbon pollution and sunlight to produce low-level ozone. This premise regarding NO_x must be re-addressed in the EIS.* **Response:** See response to comment T27/1 (Page 3-28).
T19/7 Herman, O. Rebound	***Comment:*** *SO_2 emissions from this project may also have a significant adverse impact on Mt. Rainier National Park and either exceed or approach the National Park Service's significance threshold.* **Response:** SO_2 impacts on Rainier were assessed and found to be well under PSD Class I increments and EPA Significant Impact Thresholds. See the EIS Appendix G, Tables 7-4 and 7-2.
T19/8 Herman, O. Rebound	***Comment:*** *The EIS must explain what pollutants make up the other 2 kilograms/hour (4.4 lbs/hour) of VOCs (... considering the TAPS account for less than 1 kilogram/hour [2.2 lbs/hour] of the 4 kilograms/hour [8.8 lbs/hour] total VOC emission).* **Response:** Full specification of the VOC emissions is provided in Table 3-4 of Tenaska's air permit application to PSAPCA.
T19/16 Herman, O. Rebound	***Comment:*** *The EIS should state the parameters and criteria upon which the models (ISCST2) were based, including dispersion during poor air quality and temperature inversion conditions.* **Response:** Parameters and criteria for models are documented in FEIS Appendix G, Section 6.1.1.

Comment Information	Comments and Responses
T19/18 Herman, O. Rebound	***Comment:*** *Cumulative impacts of this and other ammonia sources should be included in the EIS...under adverse conditions...should also include 1-hour maximum impact.* **Response:** This project's ammonia impacts have been found to be insignificant for worst-case stack emissions and worst-case meteorological conditions. Note that hourly meteorological data for all seasons for a 5-year period of record were used from McChord AFB in the dispersion model. As such, worst-case dispersion conditions have been included in the analysis reported in the FEIS. Section 5.4.2, Impact AQ1, and Table 5.4-6 have been revised to report modeled impact results for worst-case 1-hour project impacts: The modeled maximum 1-hour impact is 0.03 ppm (19 $\mu g/m^3$), which is well below the odor threshold. Because impacts are well below odor thresholds and the Washington Department of Ecology ASIL (59.9 $\mu g/m^3$ 24-hour average for individual projects), and because there are no known significant sources of ammonia emissions nearby, cumulative impacts are expected to be insignificant. Also see response to comment T22/2 (Page 3-27) re: cumulative impacts.
T19/19 Herman, O. Rebound	***Comment:*** *The FEIS should correlate emissions, ambient concentrations and dispersion factors with an odor threshold (ammonia in the presence of NO_x and CO).* **Response:** Emissions and dispersion factors have been fully considered in the FEIS impact analysis. Because no significant sources of ammonia are known to exist in the vicinity, existing levels are expected to be low. Also see response to comment T19/18 (Page 3-26). Furthermore, CO and NO_x are not anticipated to influence ammonia impacts.
T19/20 Herman, O. Rebound	***Comment:*** *The DEIS completely fails to address the conversion of ammonia emissions to the formation of NO_x.* **Response:** Tenaska proposes to use ammonia and SCR technology to control NO_x emissions from the power plant. Ammonia does not convert appreciably to NO_x in the atmosphere. It is not an ozone precursor, and there is reason to believe that it has the opposite effect of removing ozone precursors. Ammonia oxidizes very slowly in the atmosphere, and reaction pathways to NO_x are not indicated in the literature. Highly water soluble, it is scavenged quickly by atmospheric water droplets. Furthermore, being one of the only basic gases in the atmosphere, it is very quick to react with acidic gases such as nitrogen oxides. Thus, it appears that ammonia has the effect of removing NO_x ozone precursors from the atmosphere, rather than forming them as the commenter has suggested. (See: Atmospheric Chemistry, Finlace-Pitts and Pitts, John Wiley and Sons, NY, 1986 for further information on the atmospheric chemistry of ammonia.)
T19/60 Herman, O. Rebound	***Comment:*** *The EIS should consider the installation of a water saving, air cooling system as an alternative to simply discharging steam into the open air through cooling towers.* **Response:** The plant utilizes a condenser cooled by water from the cooling tower. Steam from the steam turbine is not discharged to the open air, but is condensed and returned to the boiler in a closed system. An air cooled condenser significantly increases plant fuel use due to decreased efficiency of the power plant cycle and adds significant costs. Air cooled condensers can be used when there is no other alternative such as for arid or desert plant sites.
T22/2 Veit, K. USEPA Region 10	***Comment:*** *The Final EIS should describe the cumulative air quality impacts of the proposed Tenaska project and the existing power plant in the vicinity of the project site.* **Response:** The following explanation has been added to Section 5.4.1: To assess the potential for cumulative impacts, proposed new sources (i.e., not part of the baseline) in the region were reviewed with PSAPCA and Washington Dept. of Ecology; none have been permitted within the project's significant impact area. Unless permitted, proposed sources cannot be included as "real" in cumulative impacts. Thus, significant cumulative impacts are not anticipated with this project. Existing sources, such as the "peaker" power plant nearby, are already included in the baseline that was used to assess project impacts. Thus, including the peaker in cumulative impacts would be to double-count its impacts.

Comment Information	Comments and Responses
T22/4 Veit, K. USEPA Region 10	***Comment:*** *An inconsistency appears in the Draft EIS between page 5-10, and Table 5.4.2 in reference to the number of "hours" vs. "days" fuel oil would be utilized (should apparently be 120 hours).* **Response:** Comment noted. The EIS has been corrected to indicate 120 hours.
T24/11 Sheets, E. Northwest Power Planning Council	***Comment:*** *Air pollutant emissions will be minimized using Best Available Control Technology (BACT). We understand the proposed nitrogen oxide control will be Lowest Achievable Emission Rate (LAER). The last paragraph on p. 3-4 should be modified to convey this.* **Response:** The EIS has been revised to indicate that: ". . .the proposed NO_x control technology goes beyond current BACT requirements, and would satisfy more stringent LAER requirements that do not apply to this project."
T24/11B Sheets, E. Northwest Power Planning Council	***Comment:*** *Equivalents of Tables 5.4-5 and 5.4-6 should be provided for firing on fuel oil.* **Response:** This information is in Section 7.0 of Appendix G. The burning of fuel oil would be no more than 120 hours per year which is a very small percentage of the total fuel used on an annual basis.
T25/1 Wilson, J. LASER	***Comment:*** *The ammonia emission rate of 10 ppm is really an additional emission of 10 ppm of NO_x. Because the ammonia itself will not remain as ammonia, it will oxidize into oxides of Nitrogen. The actual NO_x emission will be nearly tripled to 272 metric tons/year (300 tons/year).* **Response:** Ammonia does not react to form NO_x in the atmosphere. See response to comment T19/20 (Page 3-26).
T25/1B Wilson, J. LASER	***Comment:*** *Therefore, the final EIS should discuss alternative NO_x control technologies such as low-NO_x burners (the new ABB low NO_x burners is reportedly controlling emissions to below 6 ppm NO_x) or overwatering/steam injection to reduce NO_x. These mechanisms will produce the same ultimate control of NO_x, after taking into consideration ammonia/NO_x conversion, without running the risk of transporting and storing and using ammonia.* **Response:** Low-NO_x combustors are available for gas turbines, as the commenter correctly points out. General Electric Company offers such combustors for its Frame 7 engines (proposed for use by Tenaska) that can give performance similar to ABB units as cited in the comment. These combustors significantly decrease NO_x emissions, particularly at high turbine load conditions, but have the side effect of increasing carbon monoxide (CO) and unburned volatile organic compounds (VOC) emissions due to decreased combustion efficiency. Tenaska considered low-NO_x combustor technology during conceptual design studies, but opted for the proven reliability of SCR when combined with combustor steam injection for NO_x control. This proposed approach results in lower out-of-stack NO_x emissions (3 ppm) from the plant than would be achievable with low-NO_x combustors alone (6 ppm cited by the commentor). Also see response to related Comment 19/24. To address this and other commentor's concerns about risks associated with transportation and storage of anhydrous ammonia, Tenaska has decided to use aqueous ammonia instead for the SCR. This will significantly reduce related health and safety risks. Also see responses to comments T19/17 (Page 3-42), T19/21 (Page 3-43), and T19/23 (Page 3-43).

Comment Information	Comments and Responses
T25/4 Wilson, J. LASER	***Comment:*** *Attachment 3, sheet 4 lists 3.6 kilograms/hour (8 lbs/hour) about 27 metric tons/year (30 tons/year) of "sulfur mist" emissions. The DEIS does not describe the impact of these emissions which may actually be sulfuric acid mist emissions.* **Response:** The EIS has been revised to add the following information: Sulfuric acid mist emissions of 4 kilograms/hour (9 lbs/hr) have been estimated by the turbine manufacturer while burning fuel oil. For emergency operation purposes, we have included up to 120 hours of back up fuel oil use per year; this equates to approximately .45 metric ton/year (0.5 ton/year) of emissions. This level is well below the EPA/Washington Department of Ecology PSD significant emission threshold of 6.35 metric tons/year (7 tons/year). Modeled maximum 24-hour impacts (worst-case dispersion assumed to occur the same time as fuel oil use) equal 0.43 $\mu g/m^3$, which is well below the Washington ASIL of 3.3 $\mu g/m^3$ for this compound. No existing or proposed nearby sources are known to significantly contribute to local impacts for this pollutant; thus, cumulative impacts are not an issue. This predicted amount of sulfuric acid mist emissions is not anticipated to contribute significantly to acid rain in the project region.
T25/6 Wilson, J. LASER	***Comment:*** *Tenaska should not be allowed to burn construction debris including but not limited to cleared brush and trees. This site is in a no-burn area.* **Response:** See response to comment T19/13 (Page 3-30).
T27/1 Williams, J. LASER	***Comment:*** *"Photochemical oxidants, mostly as ozone are the product of atmospheric reactions of such contaminants (precursors) as hydrocarbons and nitrogen oxides in the presence of sunlight". We argue that NO_x should be recognized as a ozone precursor in the FEIS.* **Response:** EIS has been revised to add (in Table 5.4-3): PSAPCA has formally recognized NO_x as an ozone precursor in its recently revised air regulations and attainment plans for this marginal non-attainment area for ozone. PSAPCA confirmed the project as a "minor" source of NO_x in its proposed permit for the project.
AIR QUALITY	**Existing Air Quality**
PM1 King, J. None Stated	***Comment:*** *I just want to mention that there's obviously already an air quality problem developed in the area.* **Response:** The current air quality non-attainment situation is marginal, as designated by the state and EPA. Analyses conducted for this EIS find no significant unmitigated impacts.

Comment Information	Comments and Responses
AIR QUALITY	**Regulatory Requirements**
PM39 Holbrook, N. Greenhouse Action	***Comment:*** *We are referring to natural gas — a fuel source that steers us toward ratepayers footing the bill for mitigation of yet another cheap fix for our energy needs.* **Response:** See response to comment PM14 (Page 3-16).
PM40 Holbrook, N. Greenhouse Action	***Comment:*** *Impacts of carbon dioxide regulation and who will pay those costs, the developer or the ratepayer.* **Response:** If CO_2 emissions become regulated in the future and there is a requirement for equipment modifications, then the developer will bear the costs. If there is a tax in the future, then BPA and the developer will renegotiate that issue.
PM44, T10/6 Holbrook, N. Greenhouse Action Giddings, W. Tahoma Audubon Society	***Comment:*** *We understand that Tenaska developers have been unable to obtain insurance against the risk of future CO_2 regulation. Does the insurance industry know something Bonneville does not?* **Response:** Insurance could be purchased but not at a price expected to be cost-effective. Because the timing and costs of any future CO_2 regulations are unknown, the value of insurance for such cost risks is limited. See also response to comment PM40 (Page 3-29).
PM48 Holbrook, N. Greenhouse Action	***Comment:*** *And we believe CO_2 mitigation costs are yet another cost that the ratepayers are at the risk of having to pay for.* **Response:** See response to comment PM40 (Page 3-29). Also note that this project's developer is voluntarily mitigating some of the potential effects of CO_2.
PM66 Lane, S. None Stated	***Comment:*** *How do current air quality measurements compare with the Clean Air Act, and how is a gas-fired plant going to do anything but exacerbate the situation in this region that's currently not meeting up to standards?* **Response:** See response to comment T10/5 (Page 3-25).
T9/11 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *The proposed project is within the Puget Sound Air Pollution Control Authority's urban area which has a burn ban and burning permits are under that agency's regulation.* **Response:** See response to comment T19/13 (Page 3-30).
T10/3 Giddings, W. Tahoma Audubon Society	***Comment:*** *There is no reason to assume that national policy and international agreements will not include a carbon tax during the life of this project.* **Response:** Comment noted.

Comment Information	Comments and Responses
T18/4 Schullinger, S. Greenpeace	***Comment:*** *You fail to recognize that increased industrial activity will certainly make it much more difficult for this area to come into compliance with stricter air quality regulations.* **Response:** The area has formally been designated by Washington Dept. of Ecology and EPA as "marginal non-attainment," meaning that ambient air quality standards are exceeded by a small margin. The situation is not severe, but plans are being developed and implemented to bring the area back into attainment. Discussions with Washington DOE during EIS preparation indicate that the dominant source of air pollution leading to the current non-attainment status is mobile sources (cars, trucks, buses, etc.). PSAPCA's programs to reduce mobile source-related emissions of carbon monoxide and ozone precursors (VOC and NO_x), together with its program requiring stringent emission controls on stationary sources and emission offsets from major stationary sources are expected by DOE to solve the marginal non-attainment situation. The project includes very stringent emission controls to limit CO, NO_x and VOC emissions and has been determined by PSAPCA to be in compliance with its attainment plan to improve air quality in the region.
T19/1 Herman, O. Rebound	***Comment:*** *Cumulative air quality impacts are not evaluated in this DEIS. The potential for localized "hot spots" of high concentrations of criteria and/or toxic pollutants must be examined.* **Response:** See response to comment T22/2 (Page 3-27).
T19/2 Herman, O. Rebound	***Comment:*** *The PSAPCA and PSD thresholds are not designed for the determination of significant impact on air quality for an EIS.* **Response:** These thresholds were developed by EPA, Washington Dept. of Ecology and PSAPCA to test the significance of impacts of individual new sources in non-attainment and attainment areas. BPA believes that this is an appropriate use of established significance criteria for this EIS.
T19/5 Herman, O. Rebound	***Comment:*** *The DEIS fails to provide background levels of CO in Table 6-2. Also fails to address how 100.5 metric tons/year (91.2 tons/year) will not contribute to the already illegal levels.* **Response:** The EIS text and tables have been revised to include CO monitoring results reported by Ecology (1991) measured in Tacoma, expected to overestimate existing conditions in the project vicinity: 19 $\mu g/m^3$ 1-hour maximum and 13 $\mu g/m^3$ 8-hour maximum (see Table 4.4-1). The region is not in attainment of the 8-hour ambient standard (10 $\mu g/m^3$). The project's maximum CO impact under worst-case meteorological conditions has been found to be well below EPA/DOE significant impact thresholds for CO, as reported in Section 5.4.2. (See also Table 5.4-3 and Appendix G). Also see response to comment T19/2 (Page 3-30) for discussion of significance criteria.
T19/9 Herman, O. Rebound	***Comment:*** *The EIS must address this project's contribution to the cumulative impacts and acknowledge that it will delay the area's ability to attain compliance with PSAPCA's standards.* **Response:** See responses to comments T22/2 (Page 3-27) and T18/4 (Page 3-30).
T19/13 Herman, O. Rebound	***Comment:*** *Project is located within the boundaries of PSAPCA's No-Burn Zone for residential and land-clearing fires in the Puget Sound region. This should be discussed in the EIS.* **Response:** During construction of the project, Tenaska will comply with local and state regulations concerning any ban on burning and land clearing fires.

Comment Information	Comments and Responses
T20/7 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-10 Section 5.4.2 Para 3 & 4 - "Tenaska's air permit application was reviewed by PSAPCA & submitted for agency and public comment on August 11, 1993. No comments were received by PSAPCA" (Jay Willenburg, PSAPCA, pers. comm., September 15, 1993).* **Response:** This information has been added to Volume I, Section 5.4.1.
T22/1 Veit, K. USEPA Region 10	***Comment:*** *Pgs 5-15 & 5-16-Proposed Tenaska project is not subject to Prevention of Significant Deterioration (PSD) -not entirely correct. Because project is definec as "synthetic minor" and is subject to Federal enforceable permit conditions, it will not be subject to PSD.* **Response:** Comment has been noted and language in EIS now reflects this clarification, in Volume I, Section 5.4.2, Compliance with Ambient Standards.
T22/3 Veit, K. USEPA Region 10	***Comment:*** *The Final EIS should reflect the latest emission limits and requirements of PSAPCA included in the air permit issued for the proposed project stated in terms of "potential" as opposed to annual averages.* **Response:** Tables 5.4-1 and 5.4-2 reflect the emission rates currently stated in the air permit for the project issued by PSAPCA. The title of Table 5.4-1 has been modified to clarify that maximum emissions are expressed as maximum **potential** hourly emissions. The text has been modified to reflect that the stated emissions limits are those set by PSAPCA in the air permit for the project.
AIR QUALITY	**Global Warming**
PM8 Abraham, C. None Stated	***Comment:*** *Secondly, I wish to address the green-wash of natural gas which is not environmentally friendly like the industry would like us to believe. Natural gas is roughly 80 to 95 percent methane.* **Response:** BPA recognizes that all generating resources, including combustion of natural gas, produce adverse environmental impacts. These impacts were studied and evaluated in BPA's RPEIS, discussed above. BPA attempts to address these concerns in the environmental costs assigned to all generating resource proposals evaluated. Specific costs are assigned to the actual emissions of such pollutants as nitrogen oxides and particulate matter. Because renewable resources typically do not emit these pollutants, environmental costs for gas-fired power plants typically are higher than for renewables. However, even after accounting for higher environmental costs, Tenaska Washington II remains cost-effective. Tenaska Washington II will use the most advanced pollution control equipment available. Emissions of nitrogen oxides will be reduced to their lowest achievable level. Methane emissions will be minimized to small amounts from leakage in the system because most methane is combusted. Only trace amounts of particulate emissions will be released because natural gas has no solid particles. Finally, hydrogen sulfide is removed from natural gas prior to delivery to the pipeline. Pipeline grade natural gas is the cleanest burning of all fossil fuels; its use is encouraged by the President in his Climate Change Action Plan to help reduce air pollutant emissions. Also see response to comment T10/2 (Page 3-33).
PM9 Abraham, C. None Stated	***Comment:*** *Methane is a global warming gas; more than 60 times effective as CO_2 at trapping heat in the atmosphere over a 20-year span.* **Response:** See responses to comments T18/3 (Page 3-33) and PM8 (Page 3-31).
PM17 Lane, S. None Stated	***Comment:*** *The common misinformation provided by the natural gas industry is that of natural gas being a clean-burning fuel which is ridiculous considering that natural gas is 80 to 95 percent methane.* **Response:** See response to comment PM8 (Page 3-31).

Comment Information	Comments and Responses
PM36 Giddings, R. None Stated	***Comment:*** *And of course, there's the global concerns.* **Response:** Comment noted. Also see response to comment T10/2 (Page 3-33).
PM49 Holbrook, N. Greenhouse Action	***Comment:*** *I believe somewhere in one of the BPA reports, they said, "Natural gas is benign." I just don't understand that. There is, within the environmental community, even disagreement over pursuing fuel switching; this needs to be evaluated.* **Response:** BPA was unable to verify the quoted statement. The comment appeared to be made in the context of CO_2 mitigation; see responses to comments PM8 (Page 3-31) and T10/2 (Page 3-33)
PM57 Giddings, W. Tahoma Audubon Society	***Comment:*** *Among the strongest objections to increased reliance on fossil fuel combustion as an energy source, is the concern for carbon dioxide's contribution to potential global warming.* **Response:** Comment noted. See responses to comments PM4 (Page 3-52), T18/6 (Page 3-33), and PM42 (Page 3-24).
PM58, PM60 Giddings, R. None Stated	***Comment:*** *The world's leading atmospheric scientists view global warming as the single greatest threat to the future of humanity and the environment, far more important than any of the air pollutants currently regulated.* **Response:** BPA is also concerned about the potential impacts of global warming and considers this in its resource decisions. See response to comment T18/6 (Page 3-33).
PM63 Schipper, M. None Stated	***Comment:*** *What I'm talking about basically is the long-term costs of putting the carbon dioxide and the methane into the air.* **Response:** BPA recognizes that all generating resources, including renewable resources, produce adverse environmental impacts. These impacts were studied and evaluated in BPA's RPEIS. That document also addressed the environmental impacts associated with combustion of natural gas. Also see response to comment PM42 (Page 3-24).

Comment Information	Comments and Responses
T10/2 Giddings, W. Tahoma Audubon Society	***Comment:*** *Among the strongest objections to increased reliance on fossil fuel combustion as an energy source is the concern for carbon dioxide's contribution to potential global warming.* **Response:** According to the President's Climate Change Action Plan (October 1993), EPA is encouraged to promote the use of natural gas. Burning natural gas is considered a pollution control strategy under the Clean Air Act because it would lower the cost of combatting the severe ozone pollution problem plaguing many U.S. cities in a way that also reduces greenhouse gas emissions. The Presidential plan directs DOE to work with the Federal Energy Regulatory Commission (FERC) to continue to implement reforms that will increase the availability and use of natural gas. The Administration recognizes the environmental, economic, and national security benefits of encouraging the use of natural gas. The President's plan also recognizes electrical transmission and distribution system losses as a target for reducing carbon dioxide emissions. Located near to existing and future users in the southern Puget Sound region, the Tenaska Washington II project would help to reduce electrical line losses by serving nearby users. To the extent that it displaces operation of existing power plants, it would help to reduce greenhouse gas emissions. Thus, the proposed project would be consistent with the current National Climate Change Action Plan on several counts in its endeavors to reduce greenhouse gas emissions such as carbon dioxide. BPA needs to add gas fired CTs as part of its future resource acquisition plans that include multiple resources. BPA would be unable to meet its forecasted deficits without acquiring additional energy supplies. By utilizing a variety of energy resources, BPA retains some flexibility in cost and environmental consequences. Natural gas is one of many resources BPA will consider. As a natural gas resource, the Tenaska Washington II plant produces less carbon dioxide per BTU than other fossil fuel sources, and is more efficient in its operations than most other power plants in the United States. Also see response to comment PM42 (Page 3-24).
T10/4 Giddings, W. Tahoma Audubon Society	***Comment:*** *Our concern is the global environmental impact of increased carbon dioxide emissions.* **Response:** See response to comment PM42 (Page 3-24).
T18/3 Schullinger, S. Greenpeace	***Comment:*** *Natural gas is also 80-95% pure methane, a greenhouse gas twenty times more potent than carbon dioxide over a 100-year span and 60 times more potent over a twenty year span.* **Response:** Most of the methane will be burned in the combustion process and converted to CO_2. See response to comment PM8 (Page 3-31).
T18/5 Schullinger, S. Greenpeace	***Comment:*** *I find it inconceivable that an issue as important and as vital to our common future as global warming should be given such short attention as was demonstrated in the Draft EIS.* **Response:** See response to comment PM42 (Page 3-24).
T18/6 Schullinger, S. Greenpeace	***Comment:*** *The Intergovernmental Panel on Climate Change has declared to stabilize atmospheric concentrations of man-made greenhouse gasses, a global cut in emissions of more than 60% is needed.* **Response:** The Clinton/Gore 1993 Climate Change Action Plan calls for a return of U.S. greenhouse gas emissions to 1990 levels by year 2000 with cost effective domestic actions. One of the actions cited is to encourage the use of natural gas and discourage the use of oil or coal for energy production. BPA's energy acquisition portfolio includes conservation, wind, geothermal, hydro, and biomass resources, efficiency improvements, and gas fired combustion turbines, all of which will assist in achieving the emission goals of the Action Plan.

Comment Information	Comments and Responses
T18/16 Schullinger, S. Greenpeace	***Comment:*** *The Section on global warming should be broadened to include the recommendations made by the IPCC to reduce greenhouse gas emissions by 60 percent.* **Response:** The EIS acknowledges the potential effects of global warming in Section 4.4.4. See response to comment T18/6 (Page 3-33).
T19/38 Herman, O. Rebound	***Comment:*** *The DEIS fails to discuss the possible contribution of this plant's massive steam discharges to global warming.* **Response:** See responses to comments T10/2 (Page 3-33) and T18/6 (Page 3-33).
T19/39 Herman, O. Rebound	***Comment:*** *The EIS should also state whether Tenaska plans to mitigate the emissions of other gasses which contribute to global warming, such as its criteria pollutants and its heated water vapor.* **Response:** Other pollutants will be emitted in minor quantities compared to CO_2. The facility's water vapor emission would have a negligible influence on atmospheric moisture and global climate.
T24/10 Sheets, E. Northwest Power Planning Council	***Comment:*** *The discussion of global warming should be augmented to convey more fully the nature of the issue, as a potential environmental impact.* **Response:** Due to the uncertain scientific evidence concerning the effects of CO_2, an extensive discussion of CO_2, as related to global warming, is not warranted. Also see response to comment PM42 (Page 3-24).
BIOLOGICAL RESOURCES	
T24/6 Sheets, E. Northwest Power Planning Council	***Comment:*** *Tenaska Washington II, is not likely to have a significant effect on resident or anadromous fish associated changes in the operation of the hydro system. May change as additional gas-fired generation is integrated into the regional system.* **Response:** BPA does not believe that the addition of the Tenaska Washington II plant to its system will have any effect on resident or anadromous fish related changes in the operation of the hydrosystem. BPA recognizes that continued additions of non-hydro resources to the system, in terms of matching resources with load, could result in an adjustment to the timing and volume of flows. These changes might affect fisheries. BPA is currently evaluating ways of operating the hydro system, and investigating the potential effects on resident and anadromous fisheries in the Columbia River System Operations Review (SOR). The SOR process will determine the operating requirements necessary to serve the multiple purposes of the Federal facilities, including power generation, fisheries, recreation, irrigation, navigation, and flood control. The resulting decisions on the operating requirements will apply to power operations for all BPA transactions.
BIOLOGICAL RESOURCES — **Vegetation**	
PM30 Giddings, R. None Stated	***Comment:*** *We did a core boring on an oak and came up with 120 years, — and they were telling me tonight that maybe we could save some of these oaks by changing the shape of the berm that goes around the oil storage tank.* **Response:** See response to comment T19/53 (Page 3-35).
T18/14 Schullinger, S. Greenpeace	***Comment:*** *When the gas companies cut the first roads in a virgin forest, they are often followed by logging companies. Once these roads are in, it becomes economical and practical for clearcutting to commence. Ironically, while the destruction of boreal forests that serves as a natural sink for the very pollutants that are emitted during the drilling, processing, and combustion of natural gas is occurring, many companies consider "planting trees" a worthy mitigation measure. What these misguided but doubtless well meaning corporations fail to realize is that no plantation can ever take the place of a forest whose K must remain intact.* **Response:** Comment noted. See response to comment T18/12 (Page 3-41).

Comment Information	Comments and Responses
T19/53 Herman, O. Rebound	***Comment:*** *The EIS should describe the status of the Pierce Co. and WDW review of these oak stands, and list several potential mitigations to be provided by the developer for the loss of these trees.* **Response:** The plant plot plan incorporates the stand of the largest diameter oak trees into the landscaping. Small seedling oaks will be transplanted on-site or made available to the Clover Creek Community Council for their local stream bank restoration projects. Pierce County has been advised of the oak trees on the site.
BIOLOGICAL RESOURCES	**Floodplains/Wetlands**
T17/8 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *The wetland area bordering the south side of 192nd Street East is the surface of the local groundwater table. Fluctuation in the water table throughout this area have been documented to be as much as 15 feet during a one (1) year period.* **Response:** Construction and operation of the proposed project is not expected to affect the wetland area south of the site. Water table fluctuations are typically 1.3 to 1.5 m (4.5 to 5 feet) during the year (Volume I, Section 4.3.1).
BIOLOGICAL RESOURCES	**Wildlife and Wildlife Habitat**
PM31 Giddings, R. None Stated	***Comment:*** *I noticed some omissions in there that possibly could be on that property as far as birds and animals and so on. They didn't mention the field mice when there's probably about five thousand million of them out there.* **Response:** The list of species provided indicates those species or recognizable signs observed at the project site. A list of "potential" species or migrants would include several hundred species. The "field mice" R. Giddings refers to are actually voles, and are referenced in Volume I of the FEIS, Section 4.5.3.
PM34 Giddings, R. None Stated	***Comment:*** *The wildlife dies when they cover up the ground. -- it gets killed out in the street where all the animals are all migrating away from the property -- and it just dies because there's no place for it to go. The habitat is full.* **Response:** See Section 5.5.2, Impact BR2 and Impact BR4, for the anticipated degree of these impacts.
T18/13 Schullinger, S. Greenpeace	***Comment:*** *Gas companies are completely fragmenting and destroying the majority of the grizzly bear's habitat by putting in seismic lines and cutting roads into the wilderness (reference to oil & gas exploration in Canada).* **Response:** Comment noted. See response to comment T18/12 (Page 3-41).
T20/8 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-26 Impact BR4 - It should be noted that this impact applies to the gas line, water line and sewer line corridor also.* **Response:** This information has been included in the EIS text.
BIOLOGICAL RESOURCES	**Sensitive Species**
T15/1 Norwood, S. Washington Dept. of Natural Resources	***Comment:*** *Table 4.5-1, page 4-19 - The state status given for Aster curtus is incorrect. Aster curtus is listed by the state as sensitive.* **Response:** The EIS has been corrected to reflect that *Aster curtus* is listed as sensitive by the Washington Natural Heritage Program (1990)
T15/2 Norwood, S. Washington Dept. of Natural Resources	***Comment:*** *Page E-5, (re: white-top aster) has a statement that no evidence of Idaho fescue was observed at the project site. Contradictory to this statement, Table E-1 on the following page lists Idaho fescue as one of the plants observed at the Tenaska Site.* **Response:** The EIS has been corrected to indicate the presence of Idaho fescue.

Comment Information	Comments and Responses
T19/54 Herman, O. Rebound	***Comment:*** *The EIS should also reference WDW's most recent endangered and threatened species list and state the presence of any habitat that potentially will be impacted by this project proposal.* **Response:** The following was added to the EIS at the end of Section 4.5.4. "In addition to those sources listed above, a review of the Washington Department of Wildlife publication entitled "Management Recommendations for Washington's Priority Habitat and Species" was reviewed for potential sensitive habitat (i.e., habitat which is either sensitive and/or habitat which supports sensitive species) within the project site. No sensitive habitat was determined present for the project site. A review of sensitive species indicated that several species could be associated with habitat found within the project area. These species include the Columbia white-tailed deer (*Odocoileus hemonius columbiannus*), pileated woodpecker (*Dryocopus pileatus*), western bluebird (*Silalia mexicana*) and western gray squirrel (*Sciurus griseus*). Although the project site supports habitat for these species, it is unlikely that any of these species would rely on this area as prime habitat because of the disturbed nature of the surrounding area and because the amount of forested area is small and relatively isolated. The closest siting of any of the species listed above is that for the Western bluebird which has been sited roughly 3.2 km (2 miles) west of the project site; however, these species are nesting in artificial nest boxes and not in natural cavities. The project site does not support natural cavities. It is highly unlikely that any sensitive species use this area either for migration, nesting or as a prime feeding area and no sensitive habitats are located here."
LAND USE AND COMMUNITY CHARACTER	
T20/3 Tenaska Washington Partner II, L.P.	***Comment:*** *It should be noted that the Tenaska Washington II project is specifically included in the Draft Comprehensive Plan for Pierce County, June 1993.* **Response:** This information has been included in Volume I, Section 4.6.1, Planning Background and Zoning Designations.
LAND USE AND COMMUNITY CHARACTER **Existing Land Uses**	
PM13 Abraham, C. None Stated	***Comment:*** *I do not want this natural gas plant anywhere near where I live.* **Response:** Comment noted.
HISTORY AND ARCHAEOLOGY **Survey Results**	
T8/1 Whitlam, R. Washington Dept. of Community	***Comment:*** *We have reviewed the National and State Registers of Historic Places and the Washington State Archaeological and Historic Sites Inventories, and no resources are indicated in the identified project area.* **Response:** This information has been included in Volume I, Section 4.7.6.
SOCIOECONOMICS AND PUBLIC SERVICES	
PM22 Schipper, M. None Stated	***Comment:*** *I really question that this is the cheapest way to supply energy here in the Northwest.* **Response:** In a competitive resource acquisition process, this project has demonstrated that it can help to meet electrical needs in the Northwest in the most environmentally and economically sound manner.
PM23 Schipper, M. None Stated	***Comment:*** *The fossil fuels industry in this country is subsidized with our tax money.* **Response:** Comment noted.
PM61 Giddings, W. Tahoma Audubon Society	***Comment:*** *I submit that society cannot afford this project.* **Response:** Comment noted.

Comment Information	Comments and Responses
PM62, T10/7 Giddings, W. Tahoma Audubon Society	***Comment:*** *It is the ratepayers who are at risk for the potential costs of addressing the risk of further dependence on fossil fuels to be assumed by humanity and the global environment as a whole.* **Response:** BPA agrees that these risks are real and has examined them regarding the expected current and future cost of operating Tenaska Washington II compared to alternative sources of power. BPA's system consists of more than 7200 aMW of firm hydro energy, more than 700 aMW of firm nuclear energy, more than 300 aMW of firm conservation energy, and no natural gas energy yet in place. In this context, excessive dependence on the use of fossil fuels does not appear to be a significant risk.
PM64 Schipper, M. None Stated	***Comment:*** *And how can you figure cost without thinking about the global cost, the health care cost, and the cost of the future?* **Response:** BPA recognizes that no power generation facility is environmentally benign. An exhaustive evaluation of environmental impacts and associated costs for different kinds of power generation facilities was completed for BPA's Resource Program EIS.
T18/7 Schullinger, S. Greenpeace	***Comment:*** *While the EIS would have us believe that the proposed project will have a beneficial impact on the local community (in terms of employment), this impact would obviously be minimal at best.* **Response:** Anticipated impacts of the proposed project on local employment are addressed in Section 5.8.2. Approximately 23 to 24 permanent operating staff would be expected to be hired from the existing local workforce, resulting in a net positive effect on local employment conditions.
T19/33 Herman, O. Rebound	***Comment:*** *The EIS must explain these costs (hookup of the proposed facility to the County sewer system), the needed infrastructure improvements, and the possible impacts on other rate payers.* **Response:** See response to comment T19/27 (Page 3-39).
T19/56 Herman, O. Rebound	***Comment:*** *The EIS should consider: housing for temporary workers, the ability of communities to provide services, source of the workforce (local vs. out of state), workers' pay and benefits, and the impacts to the state and local community.* **Response:** With the exception of workers' pay and benefits, which are outside the scope of this EIS, these concerns are addressed in Section 5.8.2 of the FEIS.
T24/12 Sheets, E. Northwest Power Planning Council	***Comment:*** *Section S.6.2 states there is no evidence in the EIS to suggest that the proposed project is controversial. Impact of the plant on the Columbia River Fish and Wildlife, global warming risks, effects of fuel oil and ground vibration should be included.* **Response:** The FEIS analyzes all known environmental impacts potentially associated with the proposed project.
SOCIOECONOMICS AND PUBLIC SERVICES **Employment**	
PM68 Holbrook, N. Greenhouse Action	***Comment:*** *Do we want a project taking up that much airshed providing what I would consider to be a handful of jobs?* **Response:** Comment noted.
T18/8 Schullinger, S. Greenpeace	***Comment:*** *Renewable resources can employ up to 5 times the number of people as can fossil fuels for every unit of electricity generated.* **Response:** The Tenaska Washington II Project best met BPA's selection criteria for environment, viability, and system cost in the competitive bidding process.

Comment Information	Comments and Responses
T19/58 Herman, O. Rebound	***Comment:*** *The EIS should address whether or not workers who have been trained through Washington State approved apprenticeship programs will be employed in the construction of this project.* **Response:** Construction workers will be trained by the contractors in safety and work practices. This training may include apprenticeship programs.
T23/3 Mork, E. EDB Pierce Co.	***Comment:*** *Proposed construction schedule will generate 225 - 250 jobs over 18 mo. period. Permanent jobs in operating plant are also of highly skilled variety with relatively good salaries. Operation will provide high quality jobs - capable of supporting families.* **Response:** Comment noted.
SOCIOECONOMICS AND PUBLIC SERVICES	**Tax Revenues**
PM21 Lane, S. None Stated	***Comment:*** *Wind, geothermal and solar energy, are currently economically viable if not forced to compete with an industry that is subsidized with our tax dollars to keep the price of fossil fuel artificially low.* **Response:** Renewable resources such as wind, geothermal, and solar are included in BPA's resource planning. BPA is actively pursuing cost-effective and environmentally sound renewable resources.
T20/9 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-32 Para Impact SE2 - It should be noted that the $1 million for property taxes and $1 million for a state gas use tax are ANNUAL amounts.* **Response:** The text of Impact SE2 in Section 5.8.2 has been modified to note that the estimated taxes would be *annual* amounts, as follows: "Tenaska has estimated *annual* taxes for the proposed project at approximately..."
SOCIOECONOMICS AND PUBLIC SERVICES	**Fire Protection**
T7/4 Wienholz, W. Pierce Co. Fire Prevention Bureau	***Comment:*** *The large fire flow requirement, provisions of foam fire protection and need to handle ammonia as a flammable gas are not clearly identified in the Code.* **Response:** See responses to comments T7/3 (Page 3-40) and T7/5 (Page 3-39).

Comment Information	Comments and Responses
T7/5 Wienholz, W. Pierce Co. Fire Prevention Bureau	***Comment:*** *We feel that it is important to establish these needs (fire flow requirement, foam fire protection and ammonia handling) for mitigation of fire protection/health and safety impacts.* **Response:** The fire protection system for the generation facility will be designed in conformance with National Fire Protection Association (NFPA) 850, Recommended Practice for Fire Protection for Electric Generating Plants and Uniform Fire Code. The system's design will be reviewed with the local fire department to ensure conformance with applicable codes and standards. All equipment installed in the plant for fire protection will be compatible with the local fire department's firefighting equipment. The fire protection system will include a fire water loop and monitors, CO_2 fire extinguishing systems for the gas turbine, fuel oil tank foam system, sprinkler systems for various areas of the plant, and portable fire extinguishers. A fire water system will be provided to protect plant facilities against fire. The fire water system will be supplied from the Tacoma Public Utilities water system. The system will include a fire water supply loop, fire hydrants, fire monitors, and hoses located at appropriate locations. Hose connections at hydrants will be compatible with the local fire department's firefighting equipment. Fire hoses will be sized for two-man operation. The gas turbine will be protected by an automatically-actuated carbon dioxide system. It will consist of temperature-sensing devices, spray nozzles, carbon dioxide tank, and all required interconnecting piping and wiring. When actuated, an alarm or indication at the control panel will be activated. The control room, the battery room, cooling tower, turbine lube oil systems, and the motor control room will be protected by dry pipe-water sprinkler systems. Upon actuation, an alarm or visual indicator will be activated at the control panel. Portable fire extinguishers will be provided throughout the plant and within buildings or structures. The type and number of extinguishers will be determined during final engineering. Fire extinguishers will be sized for one-man operation. All plant personnel will undergo scheduled in-house basic firefighting training to prepare them for emergency firefighting duties. In case of fire or an emergency, the shift foreman will be responsible for organizing the fire brigade and for notifying the appropriate authorities. The plant will be equipped to handle minor personnel injuries by providing a first-aid station and safety shower-eye wash stations in strategic locations in the plant. Major personnel injuries or emergencies will be handled by a hospital at Tacoma using outside ambulance services to transport patients.
T19/27 Herman, O. Rebound	***Comment:*** *The EIS should analyze in detail the environmental impacts of this and other utility construction work, and outline the costs, the scope of work required, the sources of funding, and the impact to rate payers.* **Response:** Section 4.11 describes the proximate locations of water supply and sewer facilities to the proposed project site. Environmental impacts of utility construction work would be minimal as work would be performed in an existing industrial area. Volume I, Section 5.11.2, of the FEIS notes that there is agreement between Tacoma Public Utilities and Tenaska on the supply of water and funding from Tenaska. No impacts to ratepayers are anticipated because costs of utility construction work, etc. is included in the purchase price for the resources.
T26/1 Eustace, J. U.A. Local No. 82	***Comment:*** *Did not see any discussion in the DEIS regarding the fire controls through the use of appropriate sprinkler systems...considering the use and storage of large amounts of natural gas, fuel oil, ammonia, and other toxic materials at the power plant site.* **Response:** See response to comment T7/5 (Page 3-39).
T26/2 Eustace, J. U.A. Local No. 82	***Comment:*** *We understand that a fuel oil fire at a O'Brien Energy Power Plant back east killed two workers. This illustrates the need to plan and discuss fire prevention measures such as sprinklers.* **Response:** See response to comment T7/5 (Page 3-39).

Comment Information	Comments and Responses
PUBLIC HEALTH AND SAFETY	
PM19 Lane, S. None Stated	***Comment:*** *The community based around the proposed plant site should not be made to pay for the few jobs provided with their health and their children's health.* **Response:** Comment noted.
PM24 Schipper, M. None Stated	***Comment:*** *There will be accidents. It might not be right here. But if we're building more gas plants, there will be accidents, there will be health care costs.* **Response:** Accidents associated with gas-fired generation plants are not considered to be more likely than accidents associated with other fossil-fuel burning facilities. Considering the project will be new and will be required to meet all current health and safety regulations, accidents would be prevented to the maximum extent possible.
PM51 Iverson, E. None Stated	***Comment:*** *Mr. Iverson expressed deep concerns about the dangers and health and safety issues related to natural gas.* **Response:** The Department of Transportation oversees the natural gas pipeline industry and has developed regulations to assure safety in the design, construction, testing, operation, and maintenance of those facilities. The DOT monitors compliance through inspection plans and enforcement actions. The major cause of pipeline accidents is outside force damage from construction or excavation equipment. In the unlikely event of an accident, if significant quantities of gas are released into the atmosphere from a rupture of a pipe wall, the gas will burn if ignited and can explode in a confined space. Like other forms of energy, natural gas can be dangerous if not handled properly. However, because natural gas is considerably lighter than air, it will rise and tends to disperse rapidly. Consequently, natural gas would not form a cloud. In fact, natural gas is routinely and safely vented to atmosphere under carefully controlled conditions to allow routine maintenance of pipelines.
T7/1 Wienholz, W. Pierce Co. Fire Prevention Bureau	***Comment:*** *Our greatest concern is with Impact HS3: "Hazardous substances used or generated during power plant operations could be spilled and released to the environment."* **Response:** As noted in the Mitigation Measures for this Impact, a Spill Prevention Containment and Countermeasures Plan will be developed for the project. The Plan will be developed in accordance with local, state and federal requirements and guidelines and will be submitted to the appropriate agencies for review and approval.
T7/2 Wienholz, W. Pierce Co. Fire Prevention Bureau	***Comment:*** *The large fuel oil storage tank presents the potential for a serious fire problem requiring large quantities of water for an extended period.* **Response:** Tacoma Public Utilities (TPU), as part of the Certificate of Water Availability Includes fire water service. The design of the final fire protection system will comply with Pierce County Fire Prevention Bureau regulations and requirements and within the constraints of water availability from TPU.
T7/3 Wienholz, W. Pierce Co. Fire Prevention Bureau	***Comment:*** *The storage handling and use of other hazardous materials such as ammonia will ignite and burn, it will be handled as both a corrosive and a flammable gas.* **Response:** The storage, handling and use of hazardous materials will be reviewed with the Pierce County Fire Prevention Bureau and other appropriate agencies. Aqueous ammonia will be used for the project.
T9/5 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Hazardous substances used or generated during power plant operations could be spilled and released to the environment.* **Response:** See responses to comments T24/1 (Page 3-45) and T7/1 (Page 3-40).

Comment Information	Comments and Responses
T13/5 Evancho, J. TPU	***Comment:*** *Page 3-7, On-Site Fuel Storage - Given the highly permeable nature of the soils at this site, we would suggest the Department of Ecology Guidelines for spill containment be followed (encl) which calls for concrete diking or impervious containment dike.* **Response:** See response to comment T17/1 (Page 3-41).
T17/1 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *The secondary containment structures for the fuel oil storage tanks (35,000 barrels) should be designed to contain a "worst case" spill.* **Response:** The secondary containment structures are designed to contain a worst-case spill, which constitutes an entire spill or failure of the fuel storage tank. Such a spill would be contained within a bermed area, sized to contain the full content of the fuel oil tank plus one foot freeboard. An impervious lining will be placed within the diked areas to prevent fuel from entering the soil. Normally, the diked area would drain clean storm water runoff into the storm water bioswale. If an oil contamination occurs, a valve will redirect the runoff from this area into the oil/water separator.
T17/3 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *Containment or monitoring features should be included to determine leakage by the fuel tank piping system.* **Response:** The fuel oil piping within the containment berm will be above ground. Piping from the berm to the plant will be located in a concrete lined trench with removable covers. The piping system will be visually monitored for leaks.
T17/11 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *A hazardous Materials Handling Plan and Spill Prevention Control and Counter Measure Plan should be submitted for review to this Department and approved by the appropriate agencies prior to final building approval or occupancy.* **Response:** See response to comment T7/1 (Page 3-40).
T18/12 Schullinger, S. Greenpeace	***Comment:*** *If a blowout should occur at any of the wells (natural gas wells in Canada containing H2S), the effect on a densely populated area would be deadly.* **Response:** Comment noted. The Canadian Federal and Provincial environmental laws and regulations apply to gas exploration and mining in Canada.
T18/15 Schullinger, S. Greenpeace	***Comment:*** *Recommendations for the Final EIS: 1) Cumulative impacts be broadened to include the upstream effects of processing, transportation and exploratory drilling of natural gas; 2) The above impacts be considered and studied before making the final assessment on the Tenaska II Washington Generation Project.* **Response:** It is considered inappropriate to adopt these recommendations pursuant to Executive Order No. 12114 regarding the extraterritorial application of NEPA, and DOE's guidelines for implementation of this order. 46 Fed. Reg. 1007-1010 (1981). Also see response to comment T18/12 (Page 3-41).
T19/3 Herman, O. Rebound	***Comment:*** *Any contribution to already unhealthy air pollution levels should be characterized as significant, especially on projects where large tonnages of additional pollutants are involved.* **Response:** BPA finds that the project will not cause significant impacts and that the project is consistent with PSAPCA plans to improve regional/local air quality. See responses to comments T19/2 (Page 3-30) and T18/4 (Page 3-30).

Comment Information	Comments and Responses
T19/6 Herman, O. Rebound	***Comment:*** *No discussion is contained in the DEIS regarding mobile sources (construction equipment, trucks, etc.) on the aggregate pollution contribution of this project.* **Response:** The FEIS has been revised to reflect the following: Vehicular/equipment engine exhaust emissions will be minor and temporary during construction. Air quality impacts will be temporary during construction. The project will not generate significant vehicle trips compared to the existing traffic levels in the area. Vehicular and equipment exhaust emissions during project operations will, thus, have a minor incremental/cumulative impact locally and regionally.
T19/10 Herman, O. Rebound	***Comment:*** *It appears from these studies that ANY increase in PM-10 and TSP levels will cause an adverse health impact. This is a significant impact that should have been discussed in the EIS.* **Response:** DEIS findings show insignificant impact with respect to air quality standards and significance thresholds. These standards and thresholds were developed to protect public heath. Also see responses to comments T19/2 (Page 3-30) and T18/4 (Page 3-30).
T19/11 Herman, O. Rebound	***Comment:*** *The DEIS fails to model 1-hr maximum concentrations of PM-10. We suggest 1-hr concentrations be modeled because of the serious implication of increasing already elevated PM-10 levels, as shown by these recent studies.* **Response:** Modeled 24-hour and annual impacts demonstrate compliance with all applicable ambient standards and demonstrate impacts below significance thresholds. Modeling of 1-hour impacts would serve no further purpose.
T19/12 Herman, O. Rebound	***Comment:*** *Other sources of PM-10 and TSP from this project which should be discussed in the EIS: 1) construction, 2) construction traffic, 3) cooling towers.* **Response:** Construction activity and traffic would have temporary localized impacts from onsite dust generation. Proposed mitigation measures to control dust generation are discussed in response to comment T19/57 (Page 3-44). The dust will be primarily natural soil materials and is not anticipated to result in significant long-term impacts. The proposed cooling towers would have the potential to emit up to 5 pounds per hour of dissolved solids (minerals) in water mist, based on conservative estimates of mist emissions and dissolved solids content by Tenaska and its equipment vendors. Tenaska has committed to install "mist eliminators" to reduce the amount of mist emissions to the air. To the extent that mist droplets remain suspended in the air in dry weather, some of the mist will dry to small solid particulate matter. However, such particulate matter is not expected to have a significant air quality impact. Cooling towers are not considered to be significant sources of particulate matter by PSAPCA and the Development of Ecology for air quality permitting.
T19/15 Herman, O. Rebound	***Comment:*** *EIS fails to provide information regarding amounts (of ammonia release).* **Response:** Ammonia emissions (13.6 kilograms/hour [30 lbs/hour] from the SCR "ammonia slip") has been added to Table 5.4-5.
T19/17 Herman, O. Rebound	***Comment:*** *The EIS should contain an analysis of a worst case controlled spill (ammonia).* **Response:** In order to reduce the potential risk to public health related to the project, Tenaska has decided to use aqueous ammonia, instead of anhydrous, for input to the proposed air pollution control equipment (NO_x SCR). Aqueous ammonia remains a liquid when spilled/released; it can be contained and removed by normal spill prevention and response procedures, and does not release significant amounts of gaseous ammonia into the atmosphere, compared to the anhydrous form. Tenaska and its suppliers will comply with all applicable engineering and operational safety requirements. Thus, transportation, transfer, storage and use of aqueous ammonia is not expected to pose a significant health risk.

Comment Information	Comments and Responses
T19/21 Herman, O. Rebound	***Comment:*** *The DEIS omits any consideration of the possible consequences of transporting, piping, storing and emitting hundreds of thousands of pounds of ammonia at this facility each year.* **Response:** See response to comment T19/17 (Page 3-42).
T19/22 Herman, O. Rebound	***Comment:*** *The DEIS does not compute the likelihood of a truck accident (involving ammonia).* **Response:** The calculation of potential accidents associated with hauling ammonia is not within the scope of this EIS. The trucking companies must comply with applicable regulations. The project will use aqueous ammonia, thus minimizing any hazards in the event of an accident.
T19/23 Herman, O. Rebound	***Comment:*** *The EIS for this project should discuss the use of ammonia in its aqueous form, rather than anhydrous ammonia.* **Response:** See response to comment T19/17 (Page 3-42).
T19/24 Herman, O. Rebound	***Comment:*** *The DEIS fails to discuss a possible alternative project configuration that would include a NO_x control system that does not use ammonia.* **Response:** Tenaska has considered and adopted the use of aqueous ammonia as an alternative to anhydrous ammonia. Selective Catalytic Reduction (SCR) has been found to be an efficient, reliable, and environmentally acceptable method of controlling NO_x emissions from combined-cycle gas turbine power plants at numerous locations in the US and other countries. Earlier in its preliminary design evaluations, Tenaska considered other methods of NO_x control, including alternative gas turbine combustor designs, but found that these technologies did not achieve the same high level of NO_x control as their proposed approach. BPA finds that Tenaska's review of alternatives and selection of SCR is sufficient for this EIS. See response to comment T19/17 (Page 3-42).
T19/35 Herman, O. Rebound	***Comment:*** *The EIS must fully discuss this concern regarding the area's present and future water supply (concerning contamination by pollutants).* **Response:** Tacoma Public Utilities is responsible for water supply planning. Wastewaters from the proposed project will be conveyed to the Pierce County sewage treatment plant. Only unpolluted surface water runoff will be allowed to percolate into the groundwater.
T19/43 Herman, O. Rebound	***Comment:*** *This configuration of storm water management has several negative implications which are not discussed in the DEIS: fuel oil storage area is connected to an infiltration system.* **Response:** This fuel storage area drains to a sump equipped with a shut-off valve which is normally closed. After a storm water in the sump would be checked for presence of oil. If uncontaminated, the water will be routed to the infiltration system. Otherwise, it is routed to the oil/water separator and the Pierce County sewer.
T19/44 Herman, O. Rebound	***Comment:*** *The DEIS does not contain an adequate discussion regarding treatment systems for oil and grease from this site.* **Response:** The plant will incorporate a system of oil/water separators to collect wastewater for the removal of oil and grease prior to any discharge. See the revisions to Impact HY2, Section 5.3.2 in EIS, for a more detailed description of the wastewater treatment system.

Comment Information	Comments and Responses
T19/45 Herman, O. Rebound	***Comment:*** *There is no mention of special runoff handling considerations for areas containing toxic materials, such as ammonia.* **Response:** The plant will incorporate a chemical collection sump and neutralization tank for the collection, handling and neutralization of wastewater from chemical storage and containment areas. See the revisions to Impact HY2, Volume I, Section 5.3.2 in FEIS, for a more detailed description of the wastewater treatment system.
T19/51 Herman, O. Rebound	***Comment:*** *The EIS must identify and describe the use of appropriate chemical treatment of its cooling tower system to stifle development of the relevant bacteria (concern about Legionnaires Disease).* **Response:** The following practices recommended by Betz Industrial would be followed at the Tenaska Washington II Generation Project: "Betz Laboratories has carefully followed industrial, institutional, and governmental activity associated with the control and eradication of Legionnaire's Disease Bacterium. Although cooling towers have not been linked positively to the transmission of the disease, it seems prudent to minimize the growth and development of this organism and the accretion of other species of microorganisms in recirculating water cooling towers, evaporative condensers and in other water systems. The body of data generated to date suggests the following recommended practices for the operation of a cooling system: 1) Maintain conventional slime and algae control in accordance with standard, effective water treatment practices. Maintain overall system cleanliness. 2) Thoroughly clean and flush the entire cooling water loop on a regular basis. Include a halogen disinfection before and after cleaning. 3) Consider regular elevated halogenation at extended contact times. A minimum of 1.5 µg/l HOBr or HOCl should be maintained for 24 to 48 hours. 4) Since diverse physical, chemical and biological conditions that may exist in operating cooling water systems can affect bactericidal action, it is recommended that the cooling water system be analyzed for the presence of *L. pneumophila* prior to and after treatment. 5) Maintain best available mist elimination technology in the cooling tower proper."
T19/52 Herman, O. Rebound	***Comment:*** *Greater description of the composition and effects of this chemical (DCL 500) is needed in the EIS, including a reproduction of the MSDS for DCL 500.* **Response:** A description of DCL 500 is provided in Section 5.9.2 in the EIS. Since DCL 500 is a stable, inert synthetic insulating liquid used in underground electric transmission lines, the MSDS does not list any adverse health risks under normal conditions/use. A copy of the MSDS is included in Appendix G in the FEIS.
T19/57 Herman, O. Rebound	***Comment:*** *The EIS should address this project's implementation of best available control technology and construction techniques in order to assure public health and safety and the mitigation of environmental impacts.* **Response:** Text has been added to Section 5.4.2, Impact AQ1, explaining: The emission controls proposed for the power generation facility meet or exceed current BACT. The high-efficiency selective catalytic reduction unit proposed to control nitrogen oxide emissions to 3 ppm is more efficient than devices recently determined to be BACT for similar sources in Washington and it achieves control levels specified in very stringent LAER (lowest achievable emission rate) determinations in other states. Furthermore, the oxidation catalyst proposed to control CO emissions will also reduce VOC emissions. It satisfies BACT requirements, as determined by PSAPCA. Section 2.3.5 of Tenaska's air quality permit application to PSAPCA describes emission controls proposed for the power plant. Tenaska will also comply with any PSAPCA requirements for watering to control dust at the site during construction. In general, the construction contractor(s) will be required to water site roads and active construction areas whenever dry soil conditions and construction vehicle/equipment activity lead to significant visible dust emissions. In addition, access roads and parking areas will be graveled to further aid in reducing dust emissions during construction. During plant operations, main roads and parking areas on the property will be paved.

Comment Information	Comments and Responses
T20/5 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-6 Sect. 5.3.2 fuel oil storage area will be lined with impervious material & bermed. Precipitation from this area will be checked for oil content & either routed to oil-water separator, if necessary, or to the bioswale & infiltration pond for disposal.* **Response:** The clarification has been added to Section 5.3.2, Impact HY1.
T22/9 Veit, K. USEPA Region 10	***Comment:*** *Construction and operational-phase measures to prevent and clean up spills of petroleum products and chemicals should be better documented and stated as commitments in the Final EIS.* **Response:** See responses to comments PM33 (Page 3-19), T19/45 (Page 3-44), T22/7 (Page 3-23), T13/7 (Page 3-21), and T19/37 (Page 3-23).
T24/1 Sheets, E. Northwest Power Planning Council	***Comment:*** *The project in operation will employ potentially hazardous materials; on-site handling and disposition of these materials will introduce possibly significant environmental risks to the site and surrounding region.* **Response:** Each of the potentially hazardous liquid materials that will be used at the proposed project will be located within structures designed to contain the full capacity of the tank, plus 6 inches to one foot of freeboard. Process equipment areas will be surfaced and curbed, with drains directed to a sump. Sump pumps will be provided to deliver water collected in the sump to either a neutralization tank or an oil/water separator. Oil removed from the water in the separator will be collected and disposed of by a qualified contractor. Water from the oil/water separator will be collected in a plant sump. Water from the plant sump will be combined with cooling tower blowdown and sent to the Pierce County sanitary sewer system. Water from the neutralization tank will discharge to the cooling tower basin. An SPCC plan will be prepared and submitted for approval. Chemicals used in the operation of the plant will be procured from commercial sources. These vendors will provide, or will contract, for transportation of these chemicals from the supplier's facility to the plant. The vendor or contracted carriers are licensed and regulated by state agencies, and are liable for the safe and proper handling and transport of these materials. Their responsibilities end with the delivery and off-load of these chemicals at the plant site into properly permitted on-site storage facilities. Also see response to comment T7/1 (Page 3-40).
T24/2 Sheets, E. Northwest Power Planning Council	***Comment:*** *Serious groundwater and stream contamination could result from improper or accidental release of these materials.* **Response:** Wastewaters from the proposed project will be conveyed to the Pierce County sewage treatment plant. Only unpolluted surface water runoff will be allowed to percolate into the groundwater.
T24/3 Sheets, E. Northwest Power Planning Council	***Comment:*** *Element of the affected environment (soils, groundwater, surface waters, habitat, traffic and transportation) that could impact or be impacted by hazardous material releases should be described in Section 4.* **Response:** An analysis of potential impacts to the affected environment due to release of hazardous substances is provided in Section 5.9 of the FEIS.
T24/4 Sheets, E. Northwest Power Planning Council	***Comment:*** *The scope of the analysis should be expanded to include possible soil, groundwater and surface water contamination and biological impacts.* **Response:** An analysis of the potential for hazardous substances to be released into the environment is provided in Section 5.9 of the EIS. Potential impacts and suggested mitigation measures regarding soil, groundwater and surface water contamination by the release of hazardous substances that would be used during construction are outlined in Section 5.9.2. Also discussed are the anticipated methods for storage of hazardous substances associated with plant operations. Materials would be contained in a bermed area if there is a release, precluding impacts to soil, groundwater or surface water. Additionally, Section 5.3.2 discusses potential discharge of water pollutants. The text has been modified in order to clarify the off-site transport and handling of hazardous substances in conformance with the standards outlined in the Federal Resource Conservation and Recovery Act (RCRA).

Comment Information	Comments and Responses
T25/2 Wilson, J. LASER	***Comment:*** *If ammonia is ultimately used, the plant should consider aqueous ammonia, rather than anhydrous ammonia, to reduce the risks from a release.* **Response:** Aqueous ammonia will be used for the project. The FEIS has been changed to reflect the use of aqueous ammonia.
T25/3 Wilson, J. LASER	***Comment:*** *The DEIS fails to provide a risk assessment of the effects of a large release of natural gas, fuel oil, acid, caustics, and ammonia. All these substances will be stored in large amounts at this site.* **Response:** See responses to comments T19/45 (Page 3-44), T7/3 (Page 3-40), T7/1 (Page 3-40), and T24/1 (Page 3-45).
PUBLIC HEALTH AND SAFETY **Phase I Environmental Site Assessment**	
T19/48 Herman, O. Rebound	***Comment:*** *The EIS must provide results of tests conducted on soil and groundwater samples, as well as detailed results of the groundwater monitoring wells adjacent to this site.* **Response:** Former land use and current conditions at the site do not warrant concern for potential soil or groundwater contamination. Therefore, soil and groundwater sampling will not be conducted. For a more complete description of the groundwater monitoring results, see the report prepared by ENSR Consulting and Engineering for Tenaska, Phase 1 Site Assessment (ENSR 1993), and the Dames and Moore geotechnical reports (1980 and 1993).
TRAFFIC AND TRANSPORTATION	
T19/55 Herman, O. Rebound	***Comment:*** *The EIS must discuss the proposed project's contribution and impact on these already intolerable levels (of traffic), both during construction and operation phases.* **Response:** All potential significant impacts are discussed in this EIS.
TRAFFIC AND TRANSPORTATION **Growth Trends**	
T20/10 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-45 Para Impacts - It should be noted that the plant will operate near capacity whenever it is running & that the output is not dependent upon the manpower on site.* **Response:** Volume I, Section 5.10.3, Impact T2, has been modified as follows: "However, because the proposed power plant would run on a 24-hour schedule, several shifts would be established for power plant operation." The following has been deleted: "...because different amounts of power would be produced at different times of the day...". It should be noted that the plant will operate near capacity whenever it is running and that the output is not dependent upon the manpower at the site.
ENERGY AND UTILITIES	
PM15 Lane, S. None Stated	***Comment:*** *The fact remains that fossil fuel is a finite resource, and dependence on such forms of energy dictates that we will also remain dependent on foreign imports.* **Response:** BPA and other northwest utilities have a long history of power purchase agreements, exchanges, and other transactions with Canada. In all cases, contractual terms, international law, and treaty provisions protect all parties to the transaction. Nation-states are interdependent for goods and services. Foreign import of fossil fuel is only one example.
T9/3 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *There is insufficient and inconsistent information which needs to be clarified about the types of waste to be generated by the proposal and about the handling of the waste in regards to disposal and recycling.* **Response:** See responses to comments T9/8 (Page 3-51) and T9/9 (Page 3-51).

Comment Information	Comments and Responses
T11/3 Schmauder, A. Clover Creek Council	***Comment:*** *Can the steam be entered into a closed system! Then the water could be reused. Heat could also be removed and used for productive uses. Could a second steam turbin be added?* **Response:** See responses to comments T19/60 (Page 3-27), T19/61 (Page 3-50), T19/62 (Page 3-17), and PM53 (Page 3-52).
T20/11 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-64 Sect 5.17 The project will use approximately 1.3 million cubic meters (45 million cubic feet) of natural gas per day and approximately 6.8 million liters (1.8 million gallons) of water per day. Life of project estimates for resources consumed cannot be determined because total operating days not known.* **Response:** This information has been included in Volume I, Section 5.17.
T24/8 Sheets, E. Northwest Power Planning Council	***Comment:*** *The Draft EIS states that the consumption of natural gas and fuel oil cannot accurately be determined at this time. We believe that estimates of annual hours of operation on fuel oil can be made.* **Response:** See response to comment T20/11 (Page 3-47). Operation on fuel oil is limited to a maximum of 120 hours annually; however, there is no scheduled plan to operate on fuel oil.
T24/14 Sheets, E. Northwest Power Planning Council	***Comment:*** *The first paragraph on page 5-13 draws a comparison with Texas plants which have never operated on fuel oil. The comparability of these plants is questionable.* **Response:** See response to comment T24/8 (Page 3-47).
ENERGY AND UTILITIES	**Water Supply**
PM50 Iverson, E. None Stated	***Comment:*** *They're going to use 380,000 liters (100,000 gallons) of water a day; the people of Tacoma and Pierce County will probably be on ration.* **Response:** See responses to comments T19/26 (Page 3-48) and T11/2 (Page 3-20).
PM52 Schmauder, A. Clover Creek Council	***Comment:*** *Council members are concerned about the amount of water that is going to be consumed by this project.* **Response:** Comment noted. Also see responses to comments T19/26 (Page 3-48) and T11/2 (Page 3-20), Section 5.11.2 in the EIS.
T11/1 Schmauder, A. Clover Creek Council	***Comment:*** *We are concerned about the 6.8 million liters (1.8 million gallons) of water consumed daily over 20 years.* **Response:** See response to comment T11/2 (Page 3-20).
T13/1 Evancho, J. TPU	***Comment:*** *"Water supply needs would be met with the existing available resources from City of Tacoma Public Utilities." - should be clarified by adding the following: Additional facilities will be required to be constructed to bring adequate supply to the site.* **Response:** This information has been included in the FEIS.
T13/3 Evancho, J. TPU	***Comment:*** *Page 5-47, 2nd paragraph - Suggest this be revised to indicate that water service is planned and is not presently provided.* **Response:** Volume I, Section 5.11.2, Impact EU1, has been revised. Also see response to comment T19/26 (Page 3-48).

Comment Information	Comments and Responses
T13/4 Evancho, J. TPU	***Comment:*** *Page 7-2 Persons Consulted - Linda McCrea is employed with Tacoma Public Utilities, Water Division, not the Pierce County Utilities.* **Response:** Section 7.2 of the EIS has been changed to reflect this information.
T13/8 Evancho, J. TPU	***Comment:*** *Has the proposed facility integrated water re-use and other conservation techniques to minimize the need for public water supplies? Conservation features incorporated into your design should be detailed in the Environmental Impact Statement.* **Response:** See responses to comments T19/50 (Page 3-50) and T19/61 (Page 3-50).
T17/6 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *The public wells and water systems within the "4.8 kilometer (3 mile) radius" are individually owned or owned by the private water system purveyors, not by the Tacoma Public Utilities Water Division.* **Response:** The text of the EIS has been changed to reflect this information in Section 4.3.1, Groundwater.
T19/25 Herman, O. Rebound	***Comment:*** *The EIS should indicate when these peak hour consumption requirements (water usage) are likely to occur and the impacts to other users and rate payers.* **Response:** The peak hour water consumption requirements are most likely to occur when the ambient temperature is above 85°F.
T19/26 Herman, O. Rebound	***Comment:*** *The EIS should contain an analysis of the impacts that its water requirements will have on future development.* **Response:** This analysis is included in Volume I, Section 5.11.2, Impact EU1: "The City of Tacoma has indicated that it is willing to continue supplying the needs of Tenaska past the present capacity with the understanding that Tenaska would help fund a new water supply line to the area when and if needed. Additional water supply would be provided with the construction of an additional trunk line from a local reservoir and possibly from local wells. If wells were used in the area, they would be dug at approximately 305 meters (1,000 feet) in depth, far below local wells currently supplying residents in the area and contained within a separate aquifer. No impacts to the shallower aquifer are anticipated from this action. In addition, use of these deeper wells would be primarily limited to periods when water supply from the Green River and local reservoirs was limited for some reason (e.g., rupture in the supply line or drought) (Linda McCrea, City of Tacoma, pers. comm., March 29, 1993). These sources are expected to provide sufficient water for expected development including the proposed project." Also see response to comment T11/2 (Page 3-20).
ENERGY AND UTILITIES	**Sanitary Sewer**
T9/1 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Operation of the proposed project could increase the discharge of water pollutants.* **Response:** See discussion in Volume I, Section 5.3.
T9/2 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Currently there is a 162 meter (530 feet) extension of 25-centimeter (10-inch) sewer extending north from the existing 61-centimeter (24-inch) sewer line in 192nd Street East towards the subject property in the future proposed roadway identified as 50th Avenue East.* **Response:** This information has been included in the FEIS Volume I, Section 4.11.2
T9/4 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Will air pollutant stripping produce a wastewater discharge to the sanitary sewer?* **Response:** The air pollution control equipment for the project does not utilize water; therefore, no wastewater will be discharged from the air pollution control equipment.

Comment Information	Comments and Responses
T9/6 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Any potential discharge (accidental or planned) of any of the items listed in the table may require pretreatment prior to discharge into the sanitary sewer system.* **Response:** See the revisions to Impact HY2, Volume I, Section 5.3.2 in the FEIS. The plant will incorporate pretreatment of potential discharges of the items listed in Table 5.9-1 prior to discharge into the sanitary sewer system.
T9/10 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *There is reference to aqueous wastes generated which would be discharged into the City of Tacoma sewage system. This is incorrect, it will be discharged to Pierce County's sewage system.* **Response:** The FEIS has been changed to reflect this information in Volume I, Section 5.3.2, Impact HY2.
T17/2 Harp, B. Tacoma-Pierce Co. Health	***Comment:*** *Water from the containment structure should be treated for disposal through the sanitary sewer system.* **Response:** The storm water collection system for the fuel oil storage area will be designed to discharge uncontaminated storm water to the biofiltration swale and infiltration pond. If the storm water is determined to be contaminated by fuel oil, it will be diverted to an oil/water separator. The clean water from the separator will be discharged to either the biofiltration swale/infiltration pond or plant wastewater sump. If the storm water is too contaminated by fuel oil to be discharged to either the biofiltration swale/infiltration pond or wastewater sump, a licensed firm experienced in handling and disposing of this type of waste will be utilized to collect and dispose of the contaminated storm water.
T19/28 Herman, O. Rebound	***Comment:*** *The EIS requires a clarification regarding the disposition of the 380,000 liters (100,000 gallons) of process, cooling and sanitary waste water per day. Discharged to Pierce County sewage system or City of Tacoma sewage system?* **Response:** The plant wastewater will be discharged to the Pierce County sewage system. See response to comment T9/10 (Page 3-49).
T19/29 Herman, O. Rebound	***Comment:*** *The EIS must detail the pollution content of the waste water discharge for this project proposal. This discharge may not comply with laws and regulations, which prohibit discharges of cooling water into the Pierce County sewer system.* **Response:** The plant will be designed and permitted to comply with the Pierce County regulation for wastewater discharges to the sewer system. Pierce County regulations prohibit the discharge of once-through cooling water to the sewer system. There is no discharge of once-through cooling water from the project.
T19/30 Herman, O. Rebound	***Comment:*** *The EIS must provide detailed account of these chemicals and explain how they will be treated and ultimately disposed of.* **Response:** The bromine included in the list is used as a cooling water algicide. The phosphonate/agole mixture is used as a corrosion inhibitor in the cooling water. These chemicals will be diluted and added to the cooling tower to control corrosion and algal growth. The cooling tower blowdown will be controlled to meet the Pierce County regulations for discharge of wastewater to the sewer system.
T19/31 Herman, O. Rebound	***Comment:*** *The EIS must address how the proposed facility's waste water discharge will impact Tacoma's sewage treatment system which currently is in non-compliance.* **Response:** The proposed facility will not discharge wastewater to Tacoma's sewage treatment system. The plant wastewater will be discharged to the Pierce County sewage treatment system and will comply with the Pierce County regulations for wastewater discharge.

Comment Information	Comments and Responses
T19/32 Herman, O. Rebound	***Comment:*** *The EIS must address the potential impacts (heavy metal pollutants) proposed project will contribute to the Pierce County facility (sewage treatment).* **Response:** The facility will be designed and operated to comply with Pierce County regulations for the discharge of heavy metal pollutants to the sewage treatment system.
T19/50 Herman, O. Rebound	***Comment:*** *The device (a demineralizer) is not described in the DEIS and its waste stream is not estimated and characterized.* **Response:** The plant will utilize a demineralizer system consisting of carbon filters, and anion, cation and mixed bed exchange units to supply boiler makeup water. The demineralizer system will generate approximately 227,000 liters (60,000 gallons) per day of wastewater which will be discharged to a neutralization tank and then will be used as part of the makeup water supply to the cooling water. This is an example of water conservation measures included in the project.
T19/61 Herman, O. Rebound	***Comment:*** *The EIS should consider a water recovery method (used in Rhode Island) that treats and reuses its blowdown water, rather than discharging this as effluent.* **Response:** The plant will incorporate water conservation methods. This includes recycling the demineralizer regeneration wastewater and boiler blowdown water to the cooling tower. Also, the plant will operate the cooling tower system at 15 cycles of concentration in lieu of the normal industry practice of 8-10 cycles of concentration. This substantially reduces the quantity of makeup water required for the plant. Systems like the referenced system located in Rhode Island have been used at sites with no alternative acceptable receiving water body or public sewage system. Such systems generate solid wastes, reduce plant reliability and are costly.
T20/6 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 5-8 Impact HY2 - Please add: "The waste water discharge meets all of the volume and effluent quality requirements of the Pierce County Utilities Sanitary Sewer System. No need was found for additional waste water treatment or volume reduction through evaporation or reverse osmosis processes."* **Response:** This information has been included in Section 5.3.2, Impact HY2.
T26/3 Eustace, J. U.A. Local No. 82	***Comment:*** *The discharge of storm water from the plant site will affect the county sewer system...the storm water will be discharged onto the ground through a swale system, it is likely that this storm water will infiltrate the county sewer lines.* **Response:** Sanitary sewage collection systems are prone to inadvertent infiltration of storm water in those areas where the water table is perched near or above the level of the sanitary system. The Tenaska Washington II project site is, however, located in an area with highly permeable soil and a water table which would be lower than that of the sanitary sewage collection system. Therefore, no impacts from storm water infiltration on the sewage system are anticipated.
ENERGY AND UTILITIES	**Storm Drainage**
PM27 Giddings, R. None Stated	***Comment:*** *I'm concerned about the amount of water that will be recharged back into the ground. The problem with putting the sewers in here was that the water wasn't getting back into the ground to recharge the aquifer.* **Response:** The majority of the storm water which falls on the site will be discharged through a biofiltration swale and infiltration pond, where it will infiltrate into the ground.

Comment Information	Comments and Responses
T9/7 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Any materials discharged from outside of any proposed buildings would not be allowed to include storm water runoff.* **Response:** Uncontaminated storm water from the fuel oil storage tank containment will be discharged and disposed of in the biofiltration swale and infiltration pond. Contaminated storm water from the fuel oil storage berm will be diverted to an oil/water separator. The cleaned water will then discharge to either the wastewater sump or the biofiltration swale. If the storm water is too contaminated for discharge to either the biofiltration swale or plant sump, then a licensed firm experienced in handling and disposing of this type of waste will be utilized to collect and dispose of the contaminated storm water. Storm water from the ammonia containment will be discharged to the chemical waste sump and then to the neutralization tank. See the revisions to Impact HY2.
ENERGY AND UTILITIES	**Solid Waste Disposal**
T9/8 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *Not enough information in the subject DEIS has been provided to determine the types and amount of waste to be generated for disposal and recycling. An appropriate mitigation to solid waste disposal would be the development of a solid waste management plan.* **Response:** Office wastes will be sorted for recycling. This material includes packaging material, office paper, and lunchroom waste. Other waste which will be handled on an individual basis separate from the recycling program include worn equipment parts, sediment periodically collected from sumps and basins, used lubricating oils, and used demineralizer resins. Disposal of these infrequent and low volume wastes will be contracted with licensed firms specializing in the handling and disposal of waste materials. Spent catalyst from the pollution control equipment will be returned to the manufacturer for regeneration or disposal.
T9/9 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *The DEIS needs to clarify whether the proposed development intends to dispose of generated waste at other undesignated facilities out-of-county or in-county.* **Response:** The project will comply with Pierce County Flow Control Ordinance (Ordinance #90-4) and other regulations for the disposal of solid waste at approved solid waste handling facilities. If certain special wastes (i.e., used oils, sediment, etc.) cannot be handled by Pierce County designated facilities, the project will comply with applicable sections of the Flow Control Ordinance for approval of other undesignated out-of-county or in-county facilities for disposal of this type of waste.
T9/12 Ordonez, R. Pierce Co. Dept of Utilities	***Comment:*** *The Solid Waste Plan supports the recycling of such waste, not burning. An appropriate mitigation would be to recycle as much of the land clearing debris as possible.* **Response:** The reference to "burning and dumping" permits in Section 6.17, Permits, in Volume I of the FEIS has been deleted. Land clearing debris will not be burnt. (See response to comment T19/13 [Page 3-30]). If appropriate companies can be located that will accept the land clearing debris, the project will utilize their services for the disposal of the debris.
T19/49 Herman, O. Rebound	***Comment:*** *The EIS should describe the destiny of the various solid wastes generated by this project subsequent to 1996, including but not limited to the waste catalysts from the pollution control devices, which may contain hazardous metals.* **Response:** In addition to the wastes identified in Impact EU1 of the EIS, spent catalysts will be returned to the manufacturer for regeneration or disposal as appropriate. Other wastes such as used lubrication and hydraulic oils and sediment from the cooling tower and plant wastewater sumps will be collected and disposed of by licensed firms handling this type of materials. Also see responses to comments T9/8 (Page 3-51) and T9/9 (Page 3-51).

Comment Information	Comments and Responses
T24/5 Sheets, E. Northwest Power Planning Council	***Comment:*** *Risks associated with handling and disposition of air pollution control catalysts should be assessed. These can be considered hazardous because of their heavy metal content.* **Response:** Spent catalyst from the air pollution control equipment will be returned to the manufacturer for regeneration or disposal.
T25/5 Wilson, J. LASER	***Comment:*** *This plant may be using a regeneration system to treat its water. These kinds of systems may involve backwash and the production of solid waste containing high concentrations of toxic materials. This should be in the EIS.* **Response:** See responses to comments T19/61 (Page 3-50), T19/29 (Page 3-49), and T19/50 (Page 3-50).
ENERGY AND UTILITIES	**Electricity**
PM53 Schmauder, A. Clover Creek Council	***Comment:*** *Consider either a second turbine to help use up some of that steam heat, and get that 6.8 million liters (1.8 million gallons) of water into a loop where we don't have to expend it; and in the process, remove the excess heat and use it for industries and residential uses.* **Response:** The existing steam turbine for the project is designed to exhaust to a condenser at 6.35 centimeters (2.5 inches) Hg at 42°C (108°F). A second steam turbine is not possible. Hot water or steam can be supplied to other users. See responses to comments T19/60 (Page 3-27), T19/62 (Page 3-17), and T19/61 (Page 3-50) re water usage and steam supply to industry.
T19/59 Herman, O. Rebound	***Comment:*** *The alternative of burying power lines associated with this project should be selected.* **Response:** The preferred alternative for electric integration of this proposed plant is the use of underground transmission lines from the plant to the South Tacoma Substation.
T20/4 Tenaska Washington Partner II, L.P.	***Comment:*** *"Tenaska Power Partners, Inc." should be changed to "Tenaska Washington Partners II, L. P." throughout the document.* **Response:** "Tenaska Power Partners, Inc." has been changed to "Tenaska Washington Partners II, L.P." throughout the document.
T23/2 Mork, E. EDB Pierce Co.	***Comment:*** *The proposed Tenaska plant is in the center of the area that uses most of the power. Power generation at this location will be a very significant contribution in limiting potential voltage sag and economic curtailments that would result from a transmission line failure.* **Response:** Comment noted.
ENERGY AND UTILITIES	**Natural Gas**
PM4 King, J. None Stated	***Comment:*** *No matter what technical arguments the natural gas industry can formulate in favor of this plan, the fact is that gas is more polluting and much more expensive than the public is led to believe.* **Response:** BPA's Resource Programs EIS included an analysis of the environmental trade-offs among a variety of energy resources, including conservation, renewables, cogeneration, combustion turbines, nuclear, coal, and clean coal, as well as a comparison of costs and operating characteristics. Both the potential environmental effects and the costs of gas-fired combustion turbines were considered in reaching a decision to meet load obligations through a mix of conservation, renewables, and thermal generation, including cogeneration and combustion turbines.

Comment Information	Comments and Responses
PM10 Abraham, C. None Stated	***Comment:*** *I understand in your Section 6(c) report, the natural gas for this plant will be supplied by three Canadian sources.* **Response:** Comment noted.
PM11 Abraham, C. None Stated	***Comment:*** *From my understanding, about a third of natural gas from Canada is critically sour, meaning it comes out of the ground containing more than one percent hydrogen sulfide, a deadly toxic gas.* **Response:** See responses to comments PM12 (Page 3-53) and T18/14 (Page 3-34).
PM12 Abraham, C. None Stated	***Comment:*** *0.1 percent hydrogen sulfide is enough to cause instantaneous death in one breath. Exposure to 0.01 percent is enough to cause death or serious illness in children or elderly people, if exposure lasts more than a few hours.* **Response:** The natural gas delivered to the site will contain less than one-quarter grain of hydrogen sulfide per 100 cubic feet of gas.
PM16 Lane, S. None Stated	***Comment:*** *There's only enough natural gas to satiate current consumption rates in the United States for 16 years.* **Response:** Natural gas supply in the U.S. has been in considerable surplus for most of the 1980s. As a result, exploration and development efforts for new resources have been at a low level. The natural gas surplus is now diminishing and economic incentives to explore for new reserves are developing. In addition, technological advances, such as 3-D seismic, have helped locate new reserves in existing fields. Other gas resources, such as tight gas sands, will come into play to a greater degree as gas prices increase. Canada has an abundance of natural gas which is being exported to the East coast, West coast, and Midwest portions of the U.S. BPA believes there will be a supply of natural gas well beyond the 16 year period mentioned.
PM43 Holbrook, N. Greenhouse Action	***Comment:*** *Nowhere in this analysis is there a recognition of the cumulative effects of gas generation and its effect on the Northwest.* **Response:** The EIS discussed cumulative air quality impacts in the Frederickson Industrial Area in Section 5.18. In addition, BPA's Resource Programs EIS (February 1993) analyzed the potential regional impacts of BPA adding almost 2000 aMW of gas-fired generation to the existing power system. See response to comment T18/10 (Page 3-53).
T18/1 Schullinger, S. Greenpeace	***Comment:*** *Greenpeace is opposed to the use of natural gas as an energy source, particularly when it is used inefficiently in a combustion turbine.* **Response:** Comment noted. Also see response to comment PM8 (Page 3-31).
T18/10 Schullinger, S. Greenpeace	***Comment:*** *Those impacts that are addressed within the statement pertain only to localized impacts instead of those upstream effects that occur with the transport, processing and exploratory drilling of natural gas.* **Response:** BPA's Resource Program EIS included an evaluation of these impacts for resource types available for meeting expected load obligations, including the utilization of natural gas. See response to comment T18/14 (Page 3-34).
T18/11 Schullinger, S. Greenpeace	***Comment:*** *One-third of all natural gas found in Canada is sour.* **Response:** See response to comment PM12 (Page 3-53).

Comment Information	Comments and Responses
ENERGY AND UTILITIES	**Back-Up Fuel Oil**
PM45 Holbrook, N. Greenhouse Action	***Comment:*** *We believe a more detailed description of the supply availability of No. 2 fuel oil is warranted. Each utility must analyze its own specific situation for back-up fuel availability when needed for power generation.* **Response:** Several terminals are available for delivery of no. 2 fuel oil in the Tacoma/Seattle area. Fuel oil would be delivered by truck from terminal to the site. Three terminals in the Tacoma area and their distance from the site are U.S. Oil - 19 kilometers (12 miles); ARCO - 35 kilometers (22 miles); and Texaco - 43 kilometers (27 miles). Since the project has contracted for firm gas supplies and firm transportation, fuel oil would be used in the event of a gas pipeline shutdown, or an emergency restart from being displaced as requested by BPA. Also see response to comment T24/8 (Page 3-47).
T24/13 Sheets, E. Northwest Power Planning Council	***Comment:*** *The final paragraph of page 5-10 implies that fuel oil will definitely be used for 120 hours annually. Not so. Fuel oil is expected to be used ONLY as necessary.* **Response:** For modeling purposes, some 120 annual hours of operation on back-up fuel oil were assumed. This covers the event where the plant might be required to operate when the gas-fuel supply is unavailable. Also see response to comment T24/8 (Page 3-47).
NOISE	
T24/9 Sheets, E. Northwest Power Planning Council	***Comment:*** *Vibration as a potential consequence of combustion turbine combined-cycle power plant operation should be assessed.* **Response:** Mechanical vibration produced by the drive-train of the gas turbine should be minimal to nonexistent. The rotating shaft and blades are extremely well-balanced to minimize required maintenance and to maintain equipment availability and reliability. In unusual circumstances, due to electric transmission system instabilities, some temporary vibration may be induced in the turbine generator. If this condition is prolonged, electrical protection equipment will function and the generator will disconnect from the transmission system until the instability is corrected. In addition, some vibration may be associated with water circulating pumps, lubricating pumps, etc., but nothing of significance. It is not expected that vibrations from plant equipment will be felt by population located near the industrial area.
VISUAL QUALITY	
PM54 Schmauder, A. Clover Creek Council	***Comment:*** *What will that look like in the wintertime? The steam plume? Will there be some visual effects that the neighbors are going to be complaining about?* **Response:** The plume will be visible as a cloud rising above the cooling towers. The plume will appear largest under clear skies when the air is cool and moist. Generally, cool, moist conditions are associated with hazy, cloudy, or foggy skies which will obscure the visibility of the plume.
T12/1 Schmauder, A. Clover Creek Council	***Comment:*** *Will the plant produce a plume of steam? Will the steam have a visual effect in the winter during the cold weather?* **Response:** The plant will release steam very infrequently and only during abnormal operating (upset) conditions and maintenance operations. Normally steam stays within the facility's closed loop steam systems. Under unusual circumstances on the electric transmission system which required emergency shutdown of the gas turbine, some steam may be temporarily vented to reduce steam pressure within the turbine system. Also see response to comment PM54 (Page 3-54) regarding cooling tower visible plume.
T12/3 Schmauder, A. Clover Creek Council	***Comment:*** *Will the plant produce a plume of steam?* **Response:** Yes, see responses to comments PM54 (Page 3-54) and T12/1 (Page 3-54).

Comment Information	Comments and Responses
ENVIRONMENTAL CONSULTATION, REVIEW, AND PERMIT REQUIREMENTS	
T20/2 Tenaska Washington Partner II, L.P.	***Comment:*** *Tenaska will apply for a construction permit prior to the start of construction.* **Response:** Comment noted.
T20/12 Tenaska Washington Partner II, L.P.	***Comment:*** *Pg 6-11; Sect. 6.17 Permits - Add the five permits listed to this section.* **Response:** Section 6.17, Permits, has been revised to include these additional five permits: 1) Review per Section 309 of the Clean Air Act by the Environmental Protection Agency. 2) Industrial Waste Discharge Permit from the Washington Department of Ecology. 3) Natural Gas Import Authorizations from the FERC. 4) Determination of Exempt Wholesale Generator from the FERC. 5) Critical Area Review by Pierce County.

3.4 COMMENT DOCUMENTS

3.4.1 Written Comments

Section 3.4.1 contains the comment documents used to prepare this Comment Report. All comment letters and cards that were received as well as the transcript from the public meeting are included. Comments from these documents are marked and annotated with the Comment ID number for reference.

The letters and cards in Section 3.4.1 are consecutively ordered by document number (T7 through T27). The document number is annotated on the lower right hand corner of each page of the document for easy reference. Comments within a document are consecutively numbered. Table 3.4-1 precedes the letters and cards and lists the document numbers and the corresponding authors.

3.4.2 Oral Comments

Table 3.4-2 precedes the public meeting transcript and lists the commenters and their comments and location of comments by transcript page number. Comments in the transcript are consecutively numbered (PM1 through PM62).

TABLE 3.4-1
Written Comments Key

Document No. *	Author
T7	Pierce County Fire Prevention Bureau - Wayne Wienholz
T8	Washington State Department of Community Development - Robert Whitlam
T9	Pierce County Department of Utilities - Robin Ordonez
T10	Tahoma Audubon Society - William Giddings
T11	Clover Creek Council - Al Schmauder
T12	Clover Creek Council - Al Schmauder
T13	Tacoma Public Utilities - Jane Evancho
T14	U.S.D.A. Soil Conservation Service - James Moore
T15	Washington State Department of Natural Resources - Sandy Norwood
T16	Daniel Meek
T17	Tacoma - Pierce County Health Department - Brad Harp
T18	Greenpeace - Sally Schullinger
T19	Rebound - Otto Herman
T20	Tenaska Washington Partners II, L.P.
T21	Tacoma Public Utilities - Richard Curtice
T22	U.S. Environmental Protection Agency - Kathy Veit
T23	Economic Development Board for Tacoma - Pierce County - Erlig Mork
T24	Northwest Power Planning Council - Edward Sheets
T25	LASER - Jim Williams
T26	U.A. Local No. 82 - James Eustace
T27	John Williams

* T1 - T6 are written comments received during the scoping process and were addressed in the development of the DEIS.

Pierce County
Fire Prevention Bureau

2401 South 35th Street
Tacoma, Washington 98409-7494
(206) 591-7230 • FAX (206) 591-3131

WAYNE A. WIENHOLZ
Fire Marshal

August 13, 1993

RECEIVED BY EPA
TENSKA-2-7
AUG 20 1993
AREA DISTRICT

LYNN W. BAKER
ACTING PUBLIC INVOLVEMENT MANAGER
P.O. BOX 12999
PORTLAND, OREGON 97212

RE: TENASKA WASHINGTON II GENERATION PROJECT
Fire Prevention Bureau Comments

Dear Ms. Baker:

We appreciate the opportunity to provide comments on the draft environmental impact statement for the Tenaska Generation Project. With reference to Section 4.8.5, please note that the Fire Prevention Bureau is now a division of the Pierce County Department of Emergency Management.

Our greatest concern is with Impact HS3: "Hazardous substances used or generated during power plant operations could be spilled and released to the environment." T7/1

- Fuel oil storage: The large fuel oil storage tank presents the potential for a serious fire problem requiring large quantities of water for an extended period. At least 6000 gpm should be provided for a period of not less than 6 hours. In addition, foam fire protection shall be provided in accordance with Section 79.510 of the Uniform Fire Code. T7/2

- Other hazardous materials: The storage, handling and use of other hazardous materials such as anhydrous ammonia, sulfuric acid, caustic soda and bromine shall be in accordance with Article 80 of the Uniform Fire Code. Because ammonia will ignite and burn, it will be handled as both a corrosive and a flammable gas. T7/3

The large fire flow requirement, provisions of foam fire protection and need to handle ammonia as a flammable gas are not clearly identified in the Code. Therefore we feel that it is important to establish these needs for mitigation of fire protection/health and safety impacts. T7/4 T7/5

If you have any questions, you may call Assistant Fire Marshal Russ Henderson at (206) 596-2754. Our business hours are from 7:30 AM to 4:30 PM, Monday through Friday.

Sincerely,

Wayne A. Wienholz
Fire Marshal

WAW/RLH
cc: Pierce County FPD #7
AFM Russ Henderson
FAWPFILES\TENASKA.RLH

T7

STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY DEVELOPMENT
OFFICE OF ARCHAEOLOGY AND HISTORIC PRESERVATION
111 21st Avenue S.W. • P.O. Box 48343 • Olympia, Washington 98504-8343 • (206) 753-4011 • SCAN 234-4011

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-8
RECEIPT DATE
AUG 20 1993
AREA

August 18, 1993

Ms. Lynn W. Baker
Acting Public Involvement Manager
Post Office Box 12999
Portland, OR 97212

Log: 081093-32-BPA
Re: BPA EIS - Tenaska WA II Generation Project

Dear Ms. Baker

We have reviewed the materials forwarded to our office for the above referenced project. A search of our records, including the National and State Registers of Historic Places and the Washington State Archaeological and Historic Sites Inventories, indicates no resources included in or eligible for inclusion in the National Register of Historic Places have been recorded in the identified project area. T8/1

These comments are based on the information available at the time of this review. Should additional information become available, our assessment may be revised. In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity should be discontinued and this office notified.

Thank you for the opportunity to comment on this project. A copy of these comments should be included in subsequent environmental documents. If I can be of further assistance, I can be reached at (206) 753-4405.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist

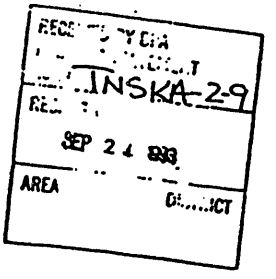
RGW:aa

T8

Pierce County
Department of Utilities

DONALD T. PERRY, P.E.
Director

9116 Gravelly Lake Drive S.W.
Tacoma, Washington 98499-3190
(206) 593-4050 • FAX (206) 582-9146



September 21, 1993
U-36055

Lynn W. Baker, Acting Public Involvement Manager
P O Box 12999
Portland OR 97212

Subject: Tenaska Washington II Generation Project
Draft Environmental Impact Statement
Site Address: 192nd Street East (Frederickson Industrial Park)
Parcel Number: A Portion of 03-19-36-4-027

Dear Mr. Baker:

The Pierce County Department of Utilities has a number of comments for inclusion in the final environmental impact statement for the Tenaska Washington II Generation Project which must be addressed to the department's satisfaction prior to issuance of sanitary sewer discharge permits. The following is a list of comments that must be addressed:

1. Page 5-8, Impact HY2, Operation of the proposed project could increase the discharge of water pollutants - The waste stream from the facility could affect the County's ability to meet discharge standards. Pretreatment of the facility's wastewater may be required to meet local limits for metals. Discharges of concern would be demineralizer regeneration wastewater (metals), boiler and cooling system cleaning wastewater (metals & biocides), and air pollutant stripping equipment wastewaters (if any - was not discussed in the document). T9/1

2. Page 4-44, 4.11.2 Sanitary Sewer - There is reference to a 24-inch sewer line located at 1,400 feet south of the proposed site. Currently, there is a 530 extension of 10-inch sewer extending north from the existing 24-inch sewer line in 192nd Street East towards the subject property in the future proposed roadway identified as 50th Avenue East. T9/2

3. Page 4-44, 4.11.4 Solid Waste Disposal - There is insufficient and inconsistent information which needs to be clarified about the types of waste to be generated by the proposal and about the handling of the waste in regards to disposal and recycling. Solid Waste Plan/Recycling: Pierce County has adopted and the Washington Department of Ecology has given final approval to the Tacoma-Pierce County Solid Waste Management Plan. The plan sets a goal to achieve a 50% waste reduction and recycling rate by 1995 and the County has adopted and implemented a number of recycling programs to achieve that rate. Policies to achieve that goal recognize that source separation of waste is a fundamental strategy and T9/3

T9

encourage industries to develop waste management plans and implement recycling programs for the waste they generate.

4. Page 5-17, Compliance with standards for air toxics - Will air pollutant stripping produce a wastewater discharge to the sanitary sewer? If so, some type of an acceptable pretreatment device must be reviewed and approved by the Washington State Department of Ecology and the Pierce County Department of Utilities prior to discharge into the sanitary sewer system. T9/4

5. Page 5-36, Impact HS3, Hazardous substances used or generated during power plant operations could be spilled and released to the environment. Hazardous material may be produced from air pollution control equipment and from wastewater pretreatment equipment, if it is required for compliance with local limits. Pretreatment to remove metals would result in metals sludges, which would most likely be a hazardous material. "If contamination from the fuel oil tank does occur, the runoff can be redirected into the oil/water separator for eventual discharge into the sanitary system". If a discharge to the sanitary sewer system were allowed, it would have to be directed to an enhanced coalescing plate oil/water separator. T9/5

6. Page 5-37, and 5-47, Table 5.9-1, Major Hazardous Substances Stored at the Proposed Power Plant - Any potential discharge (accidental or planned) of any of the items listed in the table may require pretreatment prior to discharge into the sanitary sewer system. In addition, for any materials discharged from outside of any proposed buildings would not be allowed to include stormwater runoff. Ordinance 91-190S, Section 13.04.040, Unlawful Use of Public and Private Sanitary Sewer Systems, paragraph C, specifically prohibits the discharge of storm drainage into the sanitary sewer system. T9/6 T9/7

7. Page 5-38, Impact HS3, Mitigation Measures - There is reference to a Spill Prevention Containment and Countermeasure Plan could be instituted. Depending on the type of connection to the sanitary sewer system and the spill potential into floor drains (if any are proposed), the Department of Utilities will require the plan as part of the pretreatment review process.

8. Page 5-48 & 5-49 Solid Waste Disposal - The document indicates that waste would "likely" be collected by LeMay Disposal and disposed at the Land Recovery Landfill which is the Hidden Valley Landfill. There is no discussion with regard to recycling programs and indicates an intent to burn a potentially recyclable material. Not enough information in the subject DEIS has been provided to determine the types and amounts of waste to be generated for disposal and recycling. An appropriate mitigation to solid waste disposal would be the development of a solid waste management plan and the implementation of a source-separation recycling program. In addition, the State legislature amended RCW 19.27 to require that all new commercial/industrial and multi-family development provide outdoor space for container storage of recyclable materials. There are a number of companies which provide recycling collection service in Pierce County, including the franchised solid waste collection companies. With regard to long-term disposal, Pierce County has entered into an T9/8

agreement to allow temporary transport of some waste out-of-county by Land Recovery, Incorporated, to extend the life of the privately owned Hidden Valley Landfill. The County has also begun a landfill siting process for a County-owned Landfill. Pierce County has adopted a Flow Control Ordinance (Ordinance #90-4) which provides for the designation of solid waste handling facilities and makes unlawful the handling of solid waste at facilities other than those designated. The list of approved facilities is published each year. The DEIS needs to clarify if the proposed development intends to dispose of generated waste at other undesignated facilities out-of-county or in-county. Provisions within the Flow Control Ordinance require approval from the County of such activity. T9/9

9. Page 6-8, 6.16.2 Water - The initial paragraph states that a Spill Prevention Control Countermeasure Plan is submitted to Ecology for review and to the Tacoma-Pierce County Health Department for approval of compliance with regulatory requirements. It should be pointed out that the Pierce County Department of Utilities may also be included in the review and approval of the spill prevention program if there is a potential for spillage to occur into the sanitary sewer system. In the second paragraph, there is reference to aqueous wastes generated would be discharged to the City of Tacoma sewage system. This is incorrect, it will be discharged to Pierce County's sewage system. Both the County and Tenaska are responsible for compliance with the Clean Water Act not the City of Tacoma since the electrical generation facility is regulated as a categorical industry under 40 CRF 423 with specific discharge standards. T9/10

10. Page 6-11, 6.17 Permits - An Industrial Discharge Permit will be required for the facility in accordance with the Pierce County Department of Utilities Industrial Pretreatment Program. There is also reference on this page for "burning and dumping" permits from the Washington Department of Natural Resources. The proposed project is within the Puget Sound Air Pollution Control Authority's (PSAPCA) urban area which has a burn ban and burning permits are under that agency's regulations. Land clearing debris is not identified in previous sections as a generated waste although it is recognized that a certain amount of land clearing will be necessary to construct the proposed facility. The Solid Waste Plan supports the recycling of such waste, not burning. An appropriate mitigation would be to recycle as much of the land clearing debris as possible. There are a number of private businesses which recycle/compost land clearing and other organic debris in the County and certain types of source-separated land clearing debris can be accepted at the Landfill for composting in the County's Yard Waste Composting Facility. T9/11 T9/12

11. Page 7-2, 7.2 Persons Consulted - Jim Landon and Sally Sharrard's name are incorrectly spelled in the document. Steve Elseth and Linda McCrea are not employed by Pierce County Department of Utilities. We believe they are employed by the City of Tacoma Water Division.

This concludes our comments with regard to the subject Draft Environmental Impact Statement. The owner should also be aware that sanitary sewer capacity is presently available for the proposed usage on the property. However, capacity is limited and all remaining capacity in the County's sanitary

sewer system will be sold on a first-come, first-served basis at the time the connection charges are paid in full. The County cannot guarantee how long that capacity will be available when the owner decides to purchase it.

Should you have any questions or require any additional information, you may contact me at your earliest convenience.

Very truly yours,

ROBIN R. ORDONEZ, P.E.
Manager of Engineering

RRO/cmb
Cors\U36055.RRO

cc: Charles Alton, Environmental Coordinator, Office of Energy Resources
RAE, P O Box 3621, Portland OR 97212

RECEIVED BY BPA
PUBL. INVOLVEMENT
LOG: TNSKA-2-10
RECD:
SEP 24 1993
AREA: DISTRICT

Comments on Draft EIS, Tenaska Washington II

William Giddings September 8, 1993

My name is William Giddings, I reside at 12211 C Street South in Parkland, and I am appearing on behalf of the Tahoma Audubon Society. I teach environmental chemistry; however, the university for which I work is in no way responsible for my comments this evening.

The Draft EIS makes it clear that this is a project-specific proceeding, not addressing explicitly any alternative means of supplying energy which are higher in priority under the 1991 Northwest Conservation and Electric Power Plan: conservation and efficiency improvements, renewable resources, and high efficiency cogeneration. Despite testimony from public utilities and public interest groups that the Bonneville Power Administration had refused to participate in conservation proposals at a lower cost than this proposal, including one from Snohomish PUD for 240 megawatts equal in yield to this project, the Northwest Power Planning Council on August 11 adopted a Record of Decision that this project is consistent with Section 6(c) of the Power Plan. Although that issue may appear to be settled, the EIS nonetheless speaks to a number of the concerns involved in those proceedings, making them still relevant to this evening's public hearing. T10/1

The required No-Action Alternative paragraph concludes that unless BPA contracts for purchase of the power to be generated by this project, it is unlikely that it will be built, unless another customer for that much power should be found. Action on the project cannot be taken until after the end of the comment period for this EIS, so it is not too late for BPA to conclude that no project, or a different project, would be preferable to this one. The testimony at the July 12 Northwest Power Planning Council showed in detail how Bonneville policies and procedures, not questions of cost effectiveness or feasibility, have resulted in failure to implement conservation and efficiency improvements for more energy and at a lower cost than this project. Although the environmental impact of this project may be considered "relatively benign" compared with a comparably sized coal fired generating facility, there is no evidence that identifiable conservation and efficiency projects would not be a better choice environmentally. T10/1

Among the strongest objections to increased reliance on fossil fuel combustion as an energy source is the concern for carbon T10/2

dioxide's contribution to potential global warming. Although the United States Congress did not enact a proposed energy tax this session, that is no reason to assume that national policy and international agreements will not include a carbon tax during the life of this project, or even before it comes on line. Whatever the tax structure may do to the economic viability of the project, the reason for our concern is the global environmental impact of increased carbon dioxide emissions. Tenaska has recognized the importance of this question in its proposed carbon sequestering offset program. A range of 7 to 50% of carbon dioxide sequestering is proposed, depending upon the mix of specific forest preservation and reforestation programs in the Pacific Northwest, Russia, and/or Costa Rica. Looked at from the other side, this means that from half to nearly all of the plant's emissions would remain unmitigated. While we applaud the approach, and Tenaska's willingness to address the problem, a 7% offset appears woefully inadequate. Offsets for criteria air pollutants in non-attainment areas must exceed 100%. Many of the world's leading atmospheric scientists view global warming as the single greatest threat to the future of humanity and the environment, far more important than any of the air pollutants currently regulated. Before the final EIS is written, a more conclusive commitment to an offset exceeding 50% and approaching 100% should be demanded. If that is found to be too expensive, I submit that society cannot afford this project. The Oregon Public Utilities Commission recently adopted a range for analysis of $10 to 40 per ton of CO_2 emitted. It is noteworthy that insurance companies would not provide coverage against carbon risks associated with this project, nor is Tenaska assuming the risk -- it is the ratepayers who are at risk for the potential costs of addressing the risk of further dependence on fossil fuels assumed by humanity and the global environment as a whole.

T10/3

T10/4

T10/5

T10/6

T10/7

RECEIVED BY BPA
TNSKA-2-11
REC SEP 24 1993
AREA CT

U. S. DEPARTMENT OF ENERGY
Bonneville Power Administration

COMMENT FORM

Please mail to BPA Public Involvement, P. O. Box 12999, Portland, OR 97212

BPA would like your comments or questions regarding the Tenaska II project and the content of the draft Environmental Impact Statement. You are welcome to fill in this form, write a letter, or use any other format appropriate to convey your ideas. The comment period closes October 4, 1993.

8 Sep 93

We are concerned about the 1.8 million gallons of water consumed daily over 20 years. This amount of use will likely cause Tacoma to drill other wells to meet water requirements in the future. This may eventually deplete the aquifer. TII/1 TII/2

Can the steam be entered into a closed system? Then the water could be reused. Heat could also be removed and used for productive uses. TII/3
- Could a 2nd Steam turbin be added.?

Name Al Schmauder -
Organization Clover Creek Council.
Mailing Address 1602 129th St E
City Tacoma State WA Zip 98445

(g:mtgcommt.doc 9/7/93)

TII

RECEIVED BY BPA
TNSKA-2-12
SEP 24 1993
AREA DISTRICT

U. S. DEPARTMENT OF ENERGY
Bonneville Power Administration

COMMENT FORM

Please mail to BPA Public Involvement, P. O. Box 12999, Portland, OR 97212

BPA would like your comments or questions regarding the Tenaska II project and the content of the draft Environmental Impact Statement. You are welcome to fill in this form, write a letter, or use any other format appropriate to convey your ideas. The comment period closes October 4, 1993.

8 Sep 93

Will the plant produce a plume of steam? T12/3

What will be the long term effect of releasing 1.8 mil. gallons of water into the air? Will the steam ~~effect~~ have a visual effect in the winter during the cold weather? T12/1 T12/2

Name Al Schmauder
Organization Clover Creek Council
Mailing Address 1602 129th ST E
City Tacoma State WA Zip 98445

(g:mtgcomnt.doc 9/7/93)

Tacoma Public Utilities

Mark Crisson
Director

3628 South 35th Street
P.O. Box 11007
Tacoma, WA 98411-0007

Divisions
Light
Water
Belt Line

October 1, 1993

RECE[illegible] BY DPA
PU[illegible]
L[illegible] TNSKA-2-13
RE[illegible]
10/04/93
AREA: DISTRICT

Public Involvement Manager
Department of Energy
Bonneville Power Administration
PO Box 12999
Portland, Oregon 97212

RE: Tenaska Washington II Generation Project Draft Environmental Impact Statement

Dear Sir:

The Water Division has reviewed the Draft Environmental Impact Statement on the proposed Tenaska project and has the following comments with regard to the discussion of water supply and water service:

page S-8 statement "Water supply needs would be met with the existing available resources from the City of Tacoma Public Utilities." This should be clarified by adding the following - Additional facilities will be required to be constructed to bring adequate supply to the site. Tenaska will be required to contribute to the cost of this construction. T13/1

page 4-6, 1st paragraph:". . . there are 450 private and 45 public water supply wells within a 4.8 kilometer (3-mile) radius of the proposed site. These public wells are under the authority of the City of Tacoma Public Utilities." This statement is not correct. These public wells are under the authority of a number of water purveyors. T13/2

page 5-47, 2nd paragraph ". . . The City of Tacoma has indicated that they are willing to continue supplying the needs of Tenaska past the present capacity with the understanding that Tenaska would help fund a new water supply line to the area when and if needed. These include: increased withdrawal from local T13/3

reservoirs and the Green River and the development of new well(s) from deeper aquifer sources. Additional water supply would most likely come from local reservoirs."

Suggest this be revised to indicate that water service is planned and is not presently provided. Water supply options to meet the area's future needs should also be clarified to read: ". . . The City of Tacoma has indicated that they are willing to assure supply for Tenaska will be available with the understanding that Tenaska would help fund a new water supply line to the area when and if needed. Additional water supply to the area would most likely be provided with the construction of an additional trunk line from a local reservoir and possibly from local wells." T13/3

page 7-2 Persons Consulted - Linda McCrea is employed with Tacoma Public Utilities, Water Division, not the Pierce County Utilities. T13/4

Water Quality Impacts:
page 3-7, On-Site Fuel Storage - The proposal states that "fuel oil would be stored on-site in an approximately 5,565 cubic meter (35,000-barrel) tank surrounded by an earthen dike. The volume enclosed by the dike would be sufficient to contain the contents of the tank if it failed." The Water Division has had recent experience with fuel oil spills in the Fredrickson area. Given the highly permeable nature of the soils at this site. We would suggest that the Department of Ecology Guidelines for spill containment be followed (enclosed) which calls for concrete diking or impervious containment dike. T13/5

Groundwater Quality Monitoring: Will a groundwater monitoring program be implemented, including adequate characterization of background conditions, to identify any deterioration in groundwater quality which may result from the construction and/or operation of the facility? T13/6

Aquifer Protection Area Development Regulations: Since the proposed project is located within an Aquifer Recharge Area designated by Pierce County under requirements of the State Growth Management Act (Chapter 36.70A RCW), the Tacoma Water Division will request that the Tacoma-Pierce County Health Department impose, under authority of Pierce County Code Chapter 21.16 T13/7

(Aquifer Recharge Areas), monitoring requirements and other appropriate mitigation measures necessary to protect groundwater quality. T13/7

Water Use Efficiency - Conservation: Has the proposed facility integrated water re-use and other conservation techniques to minimize the need for public water supplies? We are aware that cooling water for the proposed plant goes through multiple cycles. This and other conservation festures incorporated into your design should be detailed in the Environmental Impact Statement. T13/8

Thank you for the opportunity to comment on the subject document. Please feel free to contact me at 591-9738 with questions regarding these comments.

Sincerely yours,

Linda McCrea

for Jane C. Evancho
Resource Planning Manager

Enclosure

smc

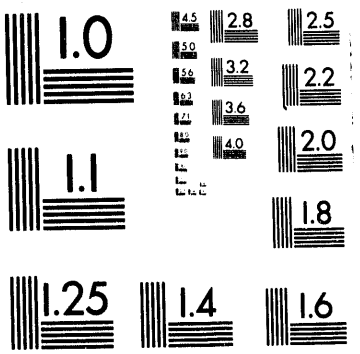
cc: Steve Marek, TPCHD
Ken Merry

GUIDELINES TO PREVENT, CONTROL AND CONTAIN SPILLS FROM THE BULK STORAGE OF PETROLEUM PRODUCTS

Water Quality Planning and Management Section
Office of Water Programs
Department of Ecology
Olympia, WA 98504

August 1983

WDOE 83-8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2 of 3

This isolation may be accomplished by the use of concrete or asphalt berming along with grading of the ground surface to provide the desired drainage patterns. Caution: Asphalt is not compatible with gasoline and solvents. The effectiveness of asphalt as a barrier may be significantly reduced over time due to the actions of solvents and sunlight.

Efficient collection of oil contaminated storm water may require changes in the grading or surfacing of potentially contaminated areas. This may include regrading to change runoff patterns and/or resurfacing, to improve runoff and eliminate oil saturation of the surrounding area, and to reduce potential contamination of ground and surface waters. In addition, a system of catch basins and piping may be needed.

TREATMENT

Once the oily contaminated water is collected, the minimum treatment necessary for the removal of oils is a gravity oil/water separator.

For further information on the design details of gravity-type separators, refer to the Department of Ecology's "Guidelines for the Design of Gravity Oil/Water Separators."

The effluent discharged from any oil removal/treatment facility must contain no visible oil and no more than 15 parts per million total oil on a daily maximum.

Further treatment of the storm waters may be required depending on its characteristics, the location of bulk facility, and the nature and proximity of the ground and surface waters.

SPECIAL CONTROL PROVISIONS

In addition to the above features, there are several areas where specific provisions are available to control the loss of product. Some of the following design or operation provisions are required, others are only recommended, but all are reasonable and practical methods of control and containment.

Above-Ground Tanks

Steel tanks are preferred, but are subject to corrosion and electrolysis. Steel tanks must be periodically tested to verify the integrity of the steel. Number each tank clearly and identify the product type stored within.

All tanks should be located on a reinforced concrete pad that rests on a well drained and compacted footing. Curbing and flooring should extend at least three feet around the product pump(s). Spillage and spray from the pump should be collected periodically and handled in an acceptable manner.

Concrete diking or an impervious containment dike, completely surrounding above-ground storage tanks, must be provided to impound spillage from a tank. Within the containment dike, an impervious floor must be provided

to keep the oily waters and spillage from entering the waters of the state. The dike must impound a minimum volume equal to the volume of the largest single tank inside the dike, plus 10 percent for storm water. The tanks should be located no closer than five feet to the dike. Expansion joints should be constructed out of a material that is compatible with the stored product(s).

A sump to collect the storm water should be provided inside the dike and ahead of a lockable drain valve. This drain should be sized for rapid draining of the area. This valve should be closed when not being used to drain the area. This valve should be open only under close supervision. When the area is drained, the valve should be closed and locked again.

Provisions should be made to drain off the storm water while preventing the escapement of spilled product. For example, a down turned elbow incorporated in the sump meets these provisions.

High level alarms are available to help prevent spills due to accidental over-filling. Installed alarm systems should be periodically tested to ensure that they function properly.

Below-Ground Tanks

If below-ground tanks are used, a leak detection system, such as monitoring wells, should be incorporated in the facility. The testing results should be recorded in the plant's operation and maintenance records.

All below-ground tanks, lines, and piping should be provided with cathodic protection provisions.

Storage tanks and lines must be routinely tested for integrity, as electrolysis and corrosion tend to weaken the metal. Routine pressure or vacuum tests should be performed on the storage tanks and distribution lines. The early detection of leaks helps to reduce the loss of the product and the contamination of surrounding soils and surface and ground waters.

Tank Water Draw-off

Water drawn from petroleum storage tanks must be inspected for oil before discharging. If the waters are oily, they should be routed through a gravity oil/water separator before release. The water draw-down valve should be locked and plugged at all times, except when it is being used. When open, the valve must be manned at all times.

Barrel Storage

Barrels used to store petroleum products must be securely stoppered and stored in an upright position. The storage area should be covered and curbed or otherwise constructed to contain spillage. Drip pans should be used to collect drips from all barrels. An impervious floor surrounding and underneath the storage area(s) must be provided to retain the oily waters and spillage on site. An exception to this requirement may be allowed depending on soil type, product type, and depth to ground water.

T13

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
10923 CANYON ROAD EAST
PUYALLUP, WA. 98373
PHONE #(206) 536-2804

DATE: October 1, 1993

To: Lynn Baker, Acting Public Involvement Manager
P. O. Box 12999
Portland, OR 97212

Thanks for the opportunity to review and make comments on the Draft Environmental Impact Statement (DEIS) for The Tenaska Washington II Generation Project.

I have reviewed the Draft Environmental Impact Statement (DEIS) for the Tenaska Washington Generation Progect and I have no comments.

James E. Moore
District Conservationist

CC: Ron Shavlik, AC, Olympia,WA
Ross R. Lahren, SRC, Spokane, WA

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-14
RECEIVED
10/04/93
AREA: DISTRICT

T14

WASHINGTON STATE DEPARTMENT OF
Natural Resources

JENNIFER M. BELCHER
Commissioner of Public Lands

KALEEN COTTINGHAM
Supervisor

October 4, 1993

RECEIVED BY BPA
PUBLIC INVOLVEMENT
LOG: TNSKA-Z-15
RECEIVED:
10/04/93
AREA: PROJECT

Lynn W. Baker
Acting Public Involvement Manager
Bonneville Power Administration
PO Box 12999
Portland OR 97212

SUBJECT: Tenaska Washington II Generation Project - DEIS

We have reviewed the DEIS for the Tenaska Washington II Generation Project and have the following comments:

- Table 4.5-1, page 4-19. The state status given for Aster curtus is incorrect. Aster curtus is listed by the state as sensitive. The Department of Natural Resources definition of sensitive is a vascular plant taxon that is vulnerable or declining, and could become endangered or threatened in the state without active management or removal of threats. T15/1

- Page E-5, (re: white-top aster) contains a statement that no evidence of Idaho fescue (often associated with Aster curtus) was observed at the project site. Contradictory to this statement, Table E-1 on the following page lists Festuca idahoensis (Idaho fescue) as one of the plants observed at the Tenaska Site. T15/2

I hope that you will find these comments useful.

Sincerely,

Sandy Norwood

Sandy Norwood, Environmental Review Coordinator
Washington Natural Heritage Program
Division of Land & Water Conservation
PO Box 47047
Olympia, WA 98504-7047
(206) 902-1667

DANIEL W. MEEK
ATTORNEY & CONSULTANT
1935 N.E. CLACKAMAS STREET
PORTLAND, OREGON 97232

OFFICE
(503) 281-2201
MODEM/TELECOPIER
(503) 281-2282

October 4, 1993

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-16
RECEIPT DATE
10/04/93
AREA: DISTRICT

Public Involvement Manager
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97212

RE: Comment on BPA Draft EIS: Proposed Tenaska-Washington II Generation Project (DOE/EIS-0194)

Dear BPA:

The following are comments on the BPA Draft EIS: Proposed Tenaska-Washington II Generation Project (DOE/EIS-0194) prepared for SESCO, Inc.

The Draft EIS is deficient in its failure to consider alternatives to the project, such as increased conservation. BPA is not acquiring all available cost-effective conservation. This issue is discussed in the enclosed two documents, which are to be included as part of these SESCO comments: T16/1

1. Testimony of Richard Esteves, vice-president, SESCO, Inc., before the Bonneville Power Administration Task Force of the Committee on Natural Resources, U.S. House of Representatives, July 12, 1993.

2. Letter dated September 23, 1993, from Daniel Meek to Peter DeFazio, Chair, Task Force on BPA, U.S. House of Representatives (with 3 attachments).

Please let me know how to obtain copies of comments filed by others on this Draft EIS. Thank you.

Sincerely,

Daniel Meek

T16

Letter from Daniel W. Meek was followed by four attachments. Interested parties may obtain copies of these by calling BPA's document request line at 1-800-622-4520. The attachments include:

1. Letter to Peter DeFazio, Chair, Taskforce on BPA, dated September 23, 1993, from Daniel Meek.

2. Memorandum dated January 21, 1993, from Pam Brandis, Public Utilities Specialist, Program Evaluation Section-RPEB (BPA), to Ruth Ann James, Public Utilities Specialist, Resource Demand Section-RPED and Fev Pratt, Section Chief, Programs Section-RM (both of BPA).

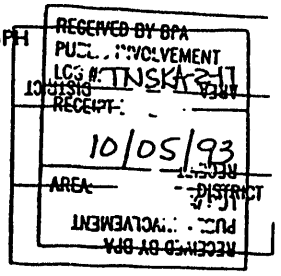
3. Journal Article: Joskow, Pauland Marron, Donald, "What Does a Negawatt Really Cost? Further Thoughts and Evidence." The Electricity Journal, July 1993.

4. Testimony of Richard Esteves, Vice President SESCO, Inc., before the BPA Taskforce of the Committee on Natural Resources U.S. House of Representatives, July 12, 1993.

TACOMA-PIERCE COUNTY
HEALTH DEPARTMENT

Board of Health
KAREN VIALLE, Chair - Tacoma Mayor
DOUG SUTHERLAND, Vice-Chair - Pierce County Executive

Director of Health
FEDERICO CRUZ-URIBE, MD, MPH



Lynn W. Baker
Acting Public Involvement Manager
Bonneville Power Administration
P.O. Box 12999
PORTLAND, OREGON 97212

RE: Tenaska Washington II Generation Project Draft Environmental Impact Statement Comments.

Dear Ms. Baker:

The Tacoma-Pierce County Health Department is in receipt of the above noted document. After reviewing this document, the Health Department would like to offer the following comments:

3.1.2 Proposed Facilities

The secondary containment structures for the fuel oil storage tanks (35,000 barrels) should be designed to contain a "worst case" spill. This includes storm water collection calculations. T17/1

Water from the containment structure should be treated for disposal through the sanitary sewer system (use the sanitary sewer system to eliminate any chance of a spill discharging through the storm system). Containment or monitoring features should be included to determine leakage by the fuel tank piping system. T17/2 T17/3

4.2.1 Geology and Soils

Regionally the Vashon Till acts as a protective layer for deep ground water sources. However, the Steilacoom Gravel at this site is not underlain by Vashon Till. The till unit in this area was eroded by recessional outwash channels. The stratigraphy beneath this site consists of Vashon Recessional Outwash overlying a Vashon Advance Outwash unit. T17/4

4.3 Ground Water

Ground water flow direction within the Clover/Chambers Creek Basin is not toward Commencement Bay. Most ground water originating in this basin flows toward "The Narrows", a narrow water channel separating Tacoma from the Gig Harbor Peninsula. T17/5

4.3.1 Ground Water

The public wells and water systems within the "3 mile radius" area are not owned by the Tacoma Public Utilities Water Division. These wells are individually owned or owned by private water system purveyors. T17/6

Ground water quality in this area has been undergoing degradation. Documentation of this fact has been ongoing since approximately 1985. T17/7

The wetland area bordering the south side of 192nd St. East is the surface of the local ground water table. Fluctuation in the water table throughout this area has been documented to be as much as 15 feet during a one (1) year period. T17/8

The Health Department agrees that this area has very little protection from potential ground water contamination.

Ground Water Regulations

Pierce County has adopted a "Critical Areas" designation which includes the area in and around this site. The designation is for an "Aquifer Recharge Area" (Pierce County Code Chapter 21.16). The purpose of this chapter is to prevent further degradation of ground water quality through the control of land use activities. The Tacoma-Pierce County Health Department requires submittal of a hydrogeological assessment, to determine the potential impact to ground water resources, for every commercial facility proposed within the Aquifer Recharge Area boundary. T17/9

5.4.2 Impacts and Mitigation Measures

The surrounding land surface and subsurface is composed primarily of sands and gravels. This material has a negligible effect in remediating surface contaminants. What effect will particulates and other combustion by-products have on the surrounding ground water recharge area? Keep in mind that this region is a prime recharge area for the City of Tacoma's wells and other local water system wells. T17/10

6.16 Hazardous Waste

Agreed. A hazardous Materials Handling Plan and Spill Prevention Control and Counter Measure Plan should be submitted for review to this Department. Approval by the appropriate agencies should be required prior to final building approval or occupancy. T17/11

The Fredrickson area is extremely vulnerable to ground water contamination. This Department cannot emphasize sufficiently the importance of protecting this resource. Every effort must be made to control hazardous material spills, leakage, and all other possible sources of contamination. T17/12

If you have any questions regarding these comments, please contact me at (206) 596-2851.

Sincerely,

Brad D. Harp, Hydrogeologist
Environmental Health Specialist III
Water Resources Section

cc: Jane Evoncho, Tacoma Public Utilities Water Division

ADELAIDE • AMSTERDAM • ANCHORAGE • AUCKLAND • BOSTON • BRUSSELS • BUENOS AIRES • CHICAGO • COPENHAGEN • DUBLIN
FORT LAUDERDALE • GOTHENBERG • HAMBURG • LEWES – U.K. • LONDON • LUXEMBOURG • MADRID • MONTREAL • OSLO • PALMA DE MALLORCA
PARIS • ROME • SAN FRANCISCO • SAN JOSE – COSTA RICA • SEATTLE • STOCKHOLM • SYDNEY • TORONTO • VANCOUVER • VIENNA
WASHINGTON • WORLD PARK BASE – ANTARCTICA • ZURICH

GREENPEACE

Greenpeace USA • 4649 Sunnyside Ave N • Seattle WA 98103 • Tel (206) 632-4326
• Fax (206) 632-6122 •

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-18
RECEIVED
10/06/93
AREA DISTRICT

Lynn W. Baker
Acting Public Involvement Manager
P.O. Box 12999
Portland, OR 97212

September 31, 1993

Dear Ms. Baker,

On behalf of Greenpeace, I am submitting comments on the Draft Environmental Impact Statement for the proposed Tenaska II Washington Generator. As the Northwest Energy/Climate Change Campaigner for Greenpeace, I am deeply concerned about the environmental impacts of this proposed project.

The following pages are written with the intent to provide BPA with a more detailed analysis of those environmental impacts of the proposal that have not been considered in the Draft Environmental Impact Statement (EIS). Specifically, these impacts include the upstream effects of the exploratory drilling, processing and transportation of natural gas. Additionally, there are certain sections of the EIS that, in my opinion, fail to address significant issues in the manner their gravity warrants.

To begin with, Greenpeace is opposed to the use of natural gas as an energy source, particularly when it is used inefficiently in a combustion turbine. While much has been said of the qualities of natural gas that appear to make it a friendly, benign resource, all of the negative aspects inherent in any fossil fuel are routinely ignored. While it is true that CO2 content is less in natural gas than oil or coal, the amounts are still significant enough to v concern. In fact, in Canada, the CO2 content in raw gas has been estimated at 7-14%, a figure that the National Energy Board admits is conservative. T18/1 T18/2

Natural gas is also 80-95% pure methane, a greenhouse gas twenty times more potent than carbon dioxide over a 100-year span and 60 times more potent over a twenty year span. While the lifespan of methane within the atmosphere is much shorter than that of carbon dioxide, the cause for concern is much greater if one considers that global warming feedback mechanisms will probably happen within decades. Seen in this light, it is a wonder that natural T18/3

RECYCLED PAPER

T18

gas has gotten such a clean bill of health. These are hardly the only reasons gas is far from being the safe, environmentally sound fuel; the cumulative impacts from the exploratory drilling and the processing of raw gas are ingredients for a truly destructive form of energy and an area I will address later in my comments.

With regard to specific points made in the Draft EIS, I will simply deal with each section in chronological order.

5.4. Air Quality

The proposed site for the Tenaska facility lies in a region that has been designated as a nonattainment area for CO and Ozone. While your figures show that the gas plant will not make an individual contribution that exceeds current air quality standards, you fail to recognize that increased industrial activity will certainly make it much more difficult for this area to come into compliance with stricter air quality regulations. T18/4

Impact AQ3 - Global Warming

I find it inconceivable that an issue as important and as vital to our common future as global warming should be given such short attention as was demonstrated in the Draft EIS. While admittedly leadership on this subject has certainly not been forthcoming from our present administration, there is no reason for a federal body not to show some initiative and address the threat of climate change with the concern the issue merits. T18/5

The Intergovernmental Panel on Climate Change (IPCC), an international body made up of 300 leading climatic scientists has declared that in order to stabilize atmospheric concentrations of man made greenhouse gases, a global cut in emissions of more than 60% is needed. In other words, the only way to truly halt climate change is to prevent it; a move that will not be accomplished by building yet another fossil fuel fired plant. Carbon sequestration does not sufficiently address the problem that our addiction to fossil fuels has created. Planting trees in response to emissions is a simplistic and easy out for those who cannot accept the responsibility to change their habits. T18/6 T18/6B

5.8 Socioeconomics

While the socioeconomic of a proposed project may not appear to have any significant impact on what is commonly thought of as environment (trees, rivers, cute and fuzzy animals), the issue has a great deal to bear on the urban environment, a place in which local citizens must live to the best of their ability. The

effect such a project will have on the employment rate must be one of first consideration, especially in a depressed economy.

The Draft EIS states that approximately 275 construction jobs and 30 permanent positions will be created with the proposed project. Out of the 30 permanent positions there is the strong possibility that half the workers will be coming in from outside the region. While the EIS would have us believe that the proposed project will have a beneficial impact on the local community, this impact would obviously be minimal at best. T18/7

In comparison, here are some statistics on the impacts energy efficiency and renewable resources have on both our economy and employment rates. Renewable resources have the advantage over fossil fuels in the employment sector. They can employ up to 5 times the number of people as can fossil fuels for every unit of electricity generated. For every $1 million invested in energy efficiency and renewables, 20-30 job years are created. For example, the Luz company built four 80 MW solar thermal plants and generated approximately 500 job years. In operation, the plant still continues to provide more jobs than does a gas fired plant of equivalent size. T18/8

Clearly, a renewable plant can provide a local community with more employment opportunity, zero emissions and would create no upstream develpment impacts. I do not see such an alternative anywhere within the Draft EIS. T18/9

5.15 & 5.18 Significant Adverse Environmental Effects That Cannot Be Avoided and Cumulative Impacts

The Draft EIS fails to take into consideration the entire range of cumulative impacts upon the environment that are associated with this project. Those that are addressed within the statement pertain only to localized impacts instead of those upstream effects that occur with the transport, processing and exploratory drilling of natural gas. These effects cannot be avoided and are significantly adverse. This is a grave oversight on the part of the authors who wrote the report. T18/10

I will limit my remarks to the effects on Canada's environment, as much of the gas we use in the United States comes from that country. As you are no doubt already aware, there is currently a burst of development in British Columbia and Alberta. Natural gas reserves are estimated at 4 trillion cubic feet (tcf) in Alberta and 10tcf in B.C. The pressure to exploit this resource is enormous and to date, the National Energy Board has never turned down a request for a permit to drill. However, evidence proves that this surge is not in either provinces' best interest.

* 1/3 of all natural gas found in Canada is sour. This term is T18/11

used when the raw gas has a content of hydrogen sulfide (H2S), an extremely toxic substance, over 5 parts per million (ppm). H2S can be smelled at .02 ppm and at 5ppm, depending on provincial regulations, there are instant evacuation laws in effect for local communities. At 200 ppm you lose your sense of smell, at 500 ppm severe respiratory distress occurs which can cause permanent damage to the system, loss of reasoning and death within 4 hours of continuous exposure, and at only 1,000ppm, death is instantaneous.

In Calgary, Occidental Petroleum is seeking permits to drill just outside the city limits for gas that is 35% H2S. If a blowout should occur at any of the wells, the effect on a densely populated area would be deadly. T18/12

* Most of the estimated reserves are located in the Northern Rockies Ecosystem, a region that stretches from the border of Montana, continues up through Alberta and ends in the Northeast corner of British Columbia. This region is the habitat for a wide variety of wildlife including the endangered grizzly bear. By putting in seismic lines and cutting roads into the wilderness, gas companies are completely fragmenting and destroying the majority of the grizzly bear's habitat. T18/13

* When the gas companies cut the first roads in a virgin forest, they are often followed by logging companies. Once these roads are in, it becomes economical and practical for clearcutting to commence. Ironically, while the destruction of boreal forests that serves as a natural sink for the very pollutants that are emitted during the drilling, processing and combustion of natural gas is occurring, many companies consider "planting trees" a worthy mitigation measure. What these misguided but doubtless well meaning corporations fail to realize is that no plantation can ever take the place of a forest whose K must remain intact. T18/14

These are only a few examples of the cumulative impacts that occur because of our expanding use of natural gas. There are many more equally substantial effects that were equally absent from the Draft EIS.

In closing, I would like to make a few recommendations for the Final EIS.

1. That your definition of cumulative impacts be broadened to include the upstream effects of processing, transportation and exploratory drilling of natural gas. T18/15

2. That the above impacts be considered and studied before making the final assessment on the Tenaska II Washington Generation Project.

3. That the section on global warming be broadened to include the recommendations made by the IPCC to reduce greeenhouse gas emissions by 60%. T18/16

I cannot consider any EIS, final or otherwise, complete without the consideration of the above comments. Cumulative impacts must include the effects this proposal has on the environment as a whole, not just our small portion of it. Global warming is not the insignificant issue this statement would have us believe; We must not respond to it by continuing to rely on fossil fuels as our main source of energy and ignoring the viable alternatives of renewables and energy efficiency. I urge you to take all these comments into consideration when writing the final report; indeed I firmly believe it is your responsibility to the citizens not only of this region, but also of Canada, to do so.

If you have any questions or would like further information, please do not hesitate to contact me. I can be reached at the regional office in Seattle at 206-632-4326. Thank you for your consideration.

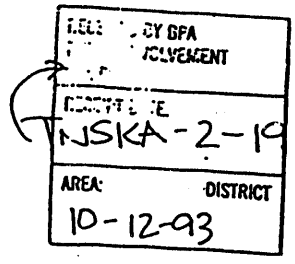
Sincerely,

Sallie Schullinger
Greenpeace Energy/Climate Change Campaign

T18

REBOUND

• The Seattle/King County Building & Construction Trades Council •



October 4, 1993

Public Involvement Manager
Bonneville Power Administration
P.O. Box 12999
Portland, OR 97212

Dear Public Involvement Manager:

This letter is submitted in response to your request for comments on the Draft Environmental Impact Statement (DEIS) for the proposed Tenaska - Washington II Generation Project. REBOUND is responding on behalf of its members who reside in the communities surrounding this proposed development and who will be affected by the impacts created by this project.

Specific Comments

AIR QUALITY

1. Cumulative air quality impacts are not evaluated in this DEIS. Pollution plumes from other nearby pollution sources, such as the Puget Power gas fired power plant, the Washington Natural Gas compressor station and other industrial activity either currently in operation, under construction or under permit review in the Frederickson area, must be overlaid with the pollution plume from the Tenaska proposal to determine the cumulative localized air quality impacts from the operation of all the facilities. The potential for localized "hot spots" of high concentrations of criteria and/or toxic pollutants must be examined. T19/1

2. The DEIS states that the project's air emissions of hundreds of thousands of pounds of pollutants annually will not be significant because the total will not exceed thresholds established by the Puget Sound Air Pollution Control Authority (PSAPCA) or similar federal Prevention of Significant Deterioration (PSD) thresholds.

Those PSAPCA and PSD thresholds, however, are designed to determine if the project's air pollution emissions merit a more detailed level of review for the purposes of determining the conditions of its air permit, and are not designed for T19/2

2700 First Avenue, #103 Seattle, Washington 98121 1-800-244-9178, (206) 441-7364 or 441-0455

T19

the determination of significant impact on air quality for the purposes of discussion in an EIS. Given the current air quality conditions for the proposed project area (non-attainment for CO and ozone), the definition of what constitutes a significant impact should be conservatively construed. Any contribution to already unhealthy air pollution levels should be characterized as significant, especially on projects where large tonnages of additional pollutants are involved. T19/2 T19/3

The following must be considered significant and the EIS must contain an appropriate discussion:

A. Ozone – This plant will emit over 130 tons per year of ozone precursors (NO_x and VOCs) in an area that already has unhealthy ozone levels. Table 5.4-3 contains a "Note," which states, "NO_x is not included because it is not currently considered to be an ozone precursor." Nitrogen oxides, however, react with hydrocarbon pollution and sunlight to produce low-level ozone. This premise regarding NO_x must be re-addressed in the EIS. T19/4

. The DEIS is deficient for not even mentioning NO_x in the formation of ozone and completely omitted this in its Table 7-1. The emission of 98.9 tpy of NO_x is nearly 99% of the PSD/PSAPCA threshold of 100 tpy.

. This plant will emit 37 tpy of volatile organic compounds (VOC), which is 93% of the PSD/PSAPCA threshold for this pollutant.

B. This plant will emit 91.2 tpy of CO, which is 91.2% of the PSD/PSAPCA threshold for this pollutant. Currently, air quality standards for this contaminant are in non-attainment for this area. The DEIS fails to provide representative background levels of CO in Table 6-2. It also fails to address how 91.2 tpy will not contribute to the already illegal levels of air pollution for this particulate. T19/5

C. No discussion is contained in the DEIS regarding mobile sources (including truck traffic from suppliers and commuter traffic from plant employees) and construction equipment on the aggregate pollution contribution of this project. T19/6

D. In addition, even by the Air Pollution Authority Standards, this project will emit a significant amount of SO_2, according to Table 5.4-4, which shows an exceedance of the 3 hour and the 24 hour limit for SO_2 emissions under certain conditions.

SO_2 emissions from this project may also have a significant adverse impact on Mt. Rainier National Park. Table 7-4 shows a maximum SO_2 impact at Mt. Rainier of .4 ug/M^3 as a 3 hour average, and .1 as a 24-hr. average. These T19/7

levels either exceed or approach the National Park Service's significance threshold for a 24 hr. SO_2 average, which is .07, compared to the project's impact of .10, and for a SO_2 3 hr average, which is .48, compared to the project's impact of .4. [1] T19/7

E. The facility will emit about 4 kilos/hour of VOCS. TAPs are a subset of VOCs. Table 5.4-5 of the DEIS, a list of TAPS emitted by the project, accounts for less than 1 kilo/hour of these VOCs. The EIS must explain what pollutants make up the other 2 kilo/hr of VOCs. T19/8

F. The DEIS states on page 5-15, that the proposed facility will not contribute to a delay in the area's ability to attain compliance with PSAPCA's ambient air quality standards. There is no factual or analytical basis for this conclusion. However, the EIS must address this project's contribution to the cumulative impacts and acknowledge that it will delay the area's ability to attain compliance with PSAPCA's standards. T19/9

3. This plant will emit over 50 tons per year (tpy) of PM-10 from its exhaust stacks. PM-10 is fine particulate that is capable of being drawn deep into the lungs and is highly damaging to human health.

Recently published studies[2] demonstrate that PM-10 and total suspended particulate (TSP) are more harmful than previously considered. In one study of the Seattle area, days of high particulate concentrations in the air were correlated with increased hospital visits for asthma. In another series of similar studies, days of high particulate concentrations were correlated with days of high death rates in Santa Clara, California; Steubenville, Ohio; Birmingham, Alabama; and Philadelphia, Pennsylvania, among seven separate studies on this topic. Recently, particulates have been convincingly implicated in harm to pulmonary function.

Some important conclusions from these studies are that harmful health effects occur even when particulate concentrations are far, far below the legal limits. There is no apparent particulate threshold for adverse health effects, and harmful health effects are apparently caused by very minor increase in particulate concentrations.

It appears from these studies that <u>any</u> increase in PM-10 and TSP levels will cause an adverse health impact. This is a significant impact that should have been discussed in the EIS. T19/10

A. The DEIS fails to model 1-hr maximum concentrations of PM-10, T19/11

[1] SO2 significance levels for the NPS taken from 5/20/91 letter from NPS to EPA's Bill Lamason.

[2] "Particulate Air Pollution and Hospital Emergency Room Visits for Asthma in Seattle." Schwartz, Slater, Larson, Pierson and Koenig. <u>American Review of Respiratory Diseases</u>, V. 147, pp. 826-831. 1993.

supplying 24-hr averages instead. We suggest 1-hr concentrations be modeled because of the serious implication of increasing already elevated PM-10 levels, as shown by these recent studies. T19/11

B. In addition to the power plant exhaust, there are other sources of PM-10 and total suspended particulate (TSP) from this project which should be discussed in the EIS:

. Construction will create about 1 ton of TSP per acre of disturbance per month. Given 7 acres of disturbance on the average, an additional 100 tons of TSP will be emitted during 1.5 years of construction. T19/12

. Construction equipment, truck and car traffic related to this project, both in the construction and operation stages, will be an additional PM-10 and TSP source.

. In addition, the cooling towers are PM-10 and TSP sources, to the degree which the cooling water contains solids, which are emitted from the cooling tower exhaust as particulate. A large power plant using water high in solids content can emit many tons of PM-10 and TSP per year.

C. The DEIS states that this project may need a burning permit from the Washington State Department of Natural Resources for elimination of site clearing debris. This proposed project, however, is located within the boundaries of PSAPCA's No-Burn Zone for residential and land-clearing fires in the Puget Sound region. This should be discussed in the EIS. T19/13

AMMONIA

The proposed power generation project will use, handle and transport large amounts of anhydrous ammonia. Table 5.9-1 indicates that anhydrous ammonia will be stored in a 12,000 gallon tank at the plant site.

Ammonia is included in the EPA's list of extremely hazardous chemicals. It is highly toxic and can form a lethal, ground-hugging cloud if spilled. Under certain conditions, it is highly explosive.

The proposed power plant will be located in a known earthquake high risk area which is rated as a seismic Zone 2. Possible earth shaking in the project area could occur (DEIS p. 4-3 and p. 5-4). These conditions compound the concern regarding the potential for an ammonia release. T19/14

1. The DEIS states on page 5-17, that the proposed plant would "...emit some ammonia," but fails to provide information regarding amounts. This should be addressed in the EIS. T19/15

2. The DEIS states on page 5-17 that modeling utilizing the ISCST2 dispersion model on ambient ammonia concentrations resulting from plant operations was conducted. The EIS should state the parameters and criteria upon which the models were based, including consideration of dispersion during poor air quality and temperature inversion conditions during the winter months. T19/16

3. The EIS should contain an analysis of a worst case uncontrolled spill, including the amount of area that would be impacted by a deadly concentration of ammonia vapors the time required to reach those distances under worst case climatic conditions. T19/17

4. The cumulative impacts of this and other ammonia sources in the area which contribute to an ambient ammonia level should be included in the EIS. The discussion should evaluate the possibility of the ammonia threshold being exceeded under adverse air quality mixing conditions. In addition to the computation of a 24-hour possible ammonia concentration that is contained in the DEIS, the EIS should also include a 1 hour, short term ammonia concentration created by the plant's emissions, in combination with emissions from other sources in the area. T19/18

5. The DEIS states that ammonia concentrations emitted at this facility will not be detectable as an odor. However, it also indicates that ammonia will be emitted at 10 parts per million (ppm). This area is in non-attainment for NO_x and CO, which inhibits dispersion rates. The EIS should correlate emissions, ambient concentrations and dispersion factors with an odor threshold. T19/19

6. The DEIS completely fails to address the conversion of ammonia emissions to the formation of NO_x. There is evidence that ammonia released into the atmosphere quickly combines with other elements in the direct creation of NO_x molecules. Thus, the release of ammonia at 10 ppm is synonymous to the emission of 10 parts of NO_x per million parts of ammonia. This must be thoroughly addressed in the EIS, as well as the impact of ammonia emissions in relationship to the project's total NO_x discharge, and a comparison to PSD/PSAPCA threshold limitations should be provided. T19/20

7. The DEIS omits any consideration of the possible consequences of transporting, piping, storing and emitting hundreds of thousands of pounds of ammonia at this facility each year. Table 5.1-1 fails to include a reference to ammonia as a hazardous substance. Discussion under Impact HS3 is cursory, at best. There is no safety and control factor in Section 5.14, and there is no other discussion of ammonia contained in the Public Health and Safety section of the DEIS. The EIS for this project should include a full evaluation of ammonia impacts and mitigation measures, including, but not limited to, a risk analysis and an emergency contingency plan. T19/21

8. According to data analyzed from the U.S. Department of Transportation's

Hazardous Material Incident Reporting System from 1982 to 1991, transportation related incidents involving spills of anhydrous ammonia were reported to number 584 nationwide. Two deaths were related to these incidents, as well as 81 injuries and 3,125 people were evacuated. ("America's Poisons on the Move". The Los Angeles Times. 9/20/92.)

However the DEIS for this project does not compute the likelihood of a truck accident. There are no comments on the number of truck trips bearing ammonia, the possible size of any ammonia releases from a truck accident or the neighborhoods and businesses that would be threatened by a release. These must be addressed in the EIS. T19/22

The EIS should also detail the surface transportation routes along which tanker trucks delivering ammonia will travel, as well as alternate routes to minimize health and environmental hazards.

9. When spilled, anhydrous ammonia, a liquefied gas, turns very quickly into a gas that rapidly, in a ground-hugging cloud, travels downwind. Aqueous ammonia, a liquid solution, releases less gas into the air.

In 1991, Southern California Edison, in conjunction with California's South Coast Air Quality Management District (AQMD), conducted a study which concluded it would be safer to store ammonia in its aqueous form because it is a substantially lower risk. Edison's application for ammonia was precisely the same as that required for the Tenaska project proposal. Water was removed from the solution as it is being injected into the catalytic system. Subsequent to the study, the AQMD began to require the use of aqueous ammonia on all future selective catalytic systems.

To adequately address public safety concerns, the EIS for this project should discuss the use of ammonia in its aqueous form, rather than anhydrous ammonia T19/23

The EIS should also provide alternative ammonia storage methods.

10. The DEIS fails to discuss a possible alternative project configuration that would include a NOx control system that does not use ammonia. There are several in the pollution control marketplace. T19/24

One procedure is known by the trade name SCONOx, for instance. EPA certified tests have show that this system can reduce NOx and CO emissions to below 2 ppm NOx and below .5 ppm of CO. It relies on oxidation and an adsorber system of specially designed carbon pellets and coated alumina beads. (Journal of Commerce, July 16, 1993, p. 6B). An additional advantage to a system of this nature is that it does not produce a hazardous waste in the form of spent catalyst, as does the pollution control system proposed for the Tenaska project.

The EIS should provide a thorough evaluation of such alternate pollution control technology.

WATER USE AND WASTE WATER DISCHARGE

1. The DEIS states that the water use requirement for this project proposal will be 1.9 million gallons per day. However, in its application to the City of Tacoma Public Utilities, Tenaska indicates a peak day consumption of 2.25 million gallons per day, along with an additional 120,000 gallons per hour for fire protection. The EIS should indicate when these peak hour consumption requirements are likely to occur and the impacts to other users and rate payers. T19/25

2. The DEIS also fails to place this extremely high water use in context. The Tenaska plant alone could use about 5% of the Tacoma Utility's water. It could use as much water as nearly 7000 households of four.[3] The EIS should contain an analysis of the impacts that its water requirements will have on future development. T19/26

3. This large water demand will require extensive construction by Tacoma Public Utility in order to service this proposed plant. The EIS should analyze in detail the environmental impacts of this and other utility construction work, and outline the costs, the scope of work required, the sources of funding, and the impact to rate payers. T19/27

4. The EIS requires a clarification regarding the disposition of the 100,000 gallons of process, cooling and sanitary waste water per day. Page 5-8 of the DEIS states that it will be routed to the Pierce County sewage system, while page 6-8 states that it will be discharged to the City of Tacoma's sewage system. T19/28

5. The EIS must detail the pollution content of the waste water discharge for this project proposal. T19/29

6. There are indications that this discharge may not comply with laws and regulations, which prohibit discharges of cooling water into the Pierce County sewer system, as illustrated in the following memo:

> "Non-contact once through cooling water is generally not allowed to be discharged to the sanitary sewer." (Memo from Pierce County Department of

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[3] This is assuming Tenaska's maximum water use of 2.25 million gallons per day, taken from Tenaska's letter to Tacoma Public Utilities dated 5/6/93, and also assuming water use for a household of four as 348 gallons/day, which is taken from Standard Handbook of Environmental Engineering, McGraw-Hill, 1990, p. 5.1. In fact, since Tacoma households have cut their water use drastically because of recent drought, our estimate of Tenaska's water use vs. household water use may be conservative. We arrived at Tenaska using 5% of Tacoma's water by comparing the 2.25 million gallon per day (MGD) figure with Tacoma's average daily use, minus the demand of the Simpson Paper mill, which was a daily average of 45.44 MGD for "general" water use.

Utilities' Steve Thompson to Tacoma Utilities' Jane Evancho, September 22, 1993)

The EIS must explain how this conflict between the DEIS' declaration that cooling water will be discharged to the sewer and the applicable regulations which prohibit this type of discharge will be resolved.

7. The above quoted memo also states that most cooling water has inhibitor and algaecide chemicals added, but the DEIS' list of water treatment chemicals (Table 5.9-1) does not contain any reference to inhibitors or algaecides. The EIS must provide detailed account of these chemicals and explain how they will be treated and ultimately disposed of. T19/30

8. The EIS must provide the status on the litigation by Washington State Department of Ecology and the Environmental Protection Agency against the City of Tacoma sewage treatment system regarding its non-compliance with biological oxygen demand requirements and how this proposed facility's waste water discharge will impact this situation. T19/31

9. Pierce County has experienced ongoing problems regarding the accumulation of metal pollutants in its treatment plant sludge. The Federal EPA has, in the past, submitted strong objections to the County regarding this sludge and has threatened to hold up issuance of new water permits to the County over this and other issues.

The EIS must address the potential impacts that this proposed project will contribute to the Pierce County facility. T19/32

10. The hookup of the proposed Tenaska facility to the County sewer system will require a large capital expenditure by the County. The EIS must explain these costs, the needed infrastructure improvements, and the possible impacts on other rate payers. T19/33

11. Despite the serious threats to the County's current aquifer status, this project will add a very large demand on the City's water supply. This urban area is on the verge of requiring additional well drilling and the possible drawdown of this sole source aquifer, even without this project proposal (DEIS p.4-44). This very large water demand may hasten the depletion and/or degrading of the aquifer. The EIS should analyze this issue. T19/34

12. Regarding the current City well system, well 12-A is a Superfund site, and 4 other city wells (2-B, UP-10, Tide Flats, and Dash Pt.) have all been tested as exceeding the maximum contaminant level for one or more pollutants in their water. The EIS must fully discuss this concern regarding the area's present and future water supply. T19/35

GROUNDWATER

1. The underlying soils are extremely permeable, meaning any release of objectionable substances would be rapidly conveyed into the groundwater. (DEIS, p.4-4) This is a potentially serious problem since the County derives the majority of its drinking water from the aquifer, which is awaiting classification as a sole source aquifer, and is already designated as a Groundwater Management Area (sections 4-6 to 8). T19/36

There is no discussion of the use of separators or other treatment measures in the DEIS under Impacts HY2 and HY3. The EIS should contain greater detail regarding mitigation plans, rather than simply state that various actions "could" be taken. T19/37

GLOBAL WARMING

1. The DEIS fails to discuss the possible contribution of this plant's massive steam discharges to global warming. Heated water vapor is widely recognized as a contributor to the global warming problem (California Energy Commission, 1991). T19/38

2. Tenaska proposes to mitigate only from 7 to 50% of the CO_2 emitted by this project, and fails to enumerate the sequestration methods. The EIS should also state whether Tenaska plans to mitigate the emissions of other gasses which contribute to global warming, such as its criteria pollutants and its heated water vapor. If such mitigation is planned, the methods to be used should be presented and discussed. T19/39

EROSION AND RUNOFF

1. Erosion from 7.2 or more acres of cleared, bared ground can be a significant problem during the 1.5 year period of construction. Over one million gallons or rain may fall on this exposed site in an average November alone.[4] So-called "standard" erosion measures such as silt fencing, straw bales, and temporary seeding are suggested. During construction, equipment may be tarped, supplies kept in covered areas, and fuel and oil stored in above ground tanks over impermeable surfaces.

However there is no discussion in the DEIS of how these theorized mitigations will be enforced at the construction and production jobsite, nor is there discussion of the efficiency of these purported methods, or discussion of more efficient alternatives, in the face of this very large rainfall. These factors must be fully analyzed in the EIS. T19/40

2. Erosion may not create mud slides at this site, but the EIS must include a discussion regarding the potential for the deposition of solids as silt is washed from the project site into normally permeable soils due to erosion. T19/41

3. The DEIS does not describe the status of the project application for a stormwater T19/42

[4] 7.2 acres times 326,000 gallons per acre foot times .48 foot (5.7 inches is the average rainfall in November, 4-9)

T19

NPDES permit, nor does the DEIS provide information regarding the typical conditions of a stormwater NPDES permit for this type of facility. The stormwater NPDES may allow a certain amount of degrading of groundwater quality. Stormwater NPDES conditions should be described in the EIS so that the public can ascertain the permitted adverse impacts from stormwater runoff. T19/42

4. The DEIS clams that stormwater from the site will be discharged to the surface through a roof drain infiltration system, a fuel oil storage area infiltration system, and a bioswale and retention-infiltration pond for the rest of the site.

This configuration of stormwater management has several negative implications which are not discussed in the DEIS: T19/43

. If the fuel oil storage area is connected to an infiltration system, then any leaks from the fuel oil tanks could be released to the surface.

. Contaminants, such as oil spills from the fuel oil storage area, debris from the project roofs, and oil, grease, and solvents from vehicles or maintenance activities conducted on the remainder of the site, may all be discharged to the surface through the proposed stormwater management plan. The DEIS does not contain an adequate discussion regarding treatment systems for oil and grease from this site (DEIS P. 5-8). T19/44

. There is no mention of special runoff handling considerations for areas containing toxic materials, such as ammonia. T19/45

. Since the stormwater would be channeled to a small area for discharge, there would be a resulting concentrated, swift flow to this spot, thus increasing the downward flow to groundwater, as opposed to having this flow diffused over a large area and the slow infiltration which occurs under natural conditions. If there is a concentration of this runoff, there may not be an attenuation of contaminants in the vadose zone. T19/46

An EIS for this proposed project is incomplete without a thorough evaluation of the above concerns.

5. The DEIS suggested that an impervious liner will be placed in the bioswale. This liner could not be totally impervious; otherwise there would not be seepage from the swale into the groundwater at all. The EIS must contain a clarification and an engineering description of this liner. T19/47

HAZARDOUS WASTE

1. Hazardous wastes have been found at sites and in groundwater very close to the location of the proposed power plant (within one mile). Nearby land uses include industrial and manufacturing facilities which utilize a variety of hazardous waste

substances, such as solvents, metals, arsenic, oils, and possibly PCBs. These facilities include a power plant, substation, compressor, a refined petroleum products pipeline and natural gas line, wood products facilities, The Boeing Company, a plastics composite plant, and truck and rail traffic.

Because this site is located within an industrialized area, toxic materials may have been dumped there, or transported to this property by wind and water movement after nearby spills and releases. A Tacoma Utility official has stated there was a toxic spill near the plant site in the last year.

The DEIS provides little indication of site examination, other than a brief document review. The EIS must provide results of tests conducted on soil and groundwater samples, as well as detailed results of the groundwater monitoring wells adjacent to this site (DEIS pp. 4-34, 6-10). T19/48

2. The DEIS noted that the existing area landfill is operating under a 5 year extension, which is due to expire in 1996, or about the time this power plant comes on line. The EIS should describe the destiny of the various solid wastes generated by this project subsequent to 1996, including but not limited to the waste catalysts from the pollution control devices, which may contain hazardous metals. T19/49

3. This plant will use a demineralizer, which may generate waste materials. The device is not described in the DEIS and its waste stream is not estimated and characterized (DEIS p.5-47). This must be detailed in the EIS. T19/50

LEGIONNAIRES DISEASE

The DEIS table of materials stored on site did not list any biocides known to be effective against Legionnaires Disease. This disease breeds in moist, warm climates, including cooling towers such as those to be used in this project proposal. This disease has been known to spread through the discharge of steam from cooling towers.[5] The EIS must identify and describe the use of appropriate chemical treatment of its cooling tower system to stifle development of the relevant bacteria. T19/51

HAZARDOUS MATERIALS

The DEIS mentions a chemical called DCL 500 that is used during placement of underground power lines. Greater description of the composition and effects of this T19/52

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5 "Legionella in Power Station Cooling Waters." Bonnell and Rippon. Lancet. August 10, 1985. pp. 327-8.

"Prevalence of Antibodies to Legionella Pheumophia Among Workers Exposed to A Contaminated Cooling Tower". Buehler, Kurritsky, Gorman, Hightower and Broome. Archives of Environmental Health. July/August 1985. pp 207-10.

chemical is needed in the EIS, including a reproduction of the MSDS for DCL 500, so that the public can evaluate any threat from this material. T19/52

HABITAT MITIGATION

The DEIS fails to describe possible mitigation measures for the destruction of potentially critical Oregon oak stand habitat (4-16). The EIS should describe the status of the Pierce County and Washington Department of Wildlife (WDW) review of these oak stands, and list several potential mitigations to be provided by the developer for the loss of these trees. The EIS should also reference WDW's most recent endangered and threatened species list and state the presence of any habitat that potentially will be impacted by this project proposal. T19/53 T19/54

TRAFFIC MITIGATION

The construction and operation of this facility will increase already congested traffic in the nearby area. (DEIS p.4-41) There is currently an "E" traffic level of service in this area, which is characterized as "intolerable delay." The EIS must discuss the proposed project's contribution and impact on these already intolerable levels, both during construction and operation phases. The EIS should address alternative mitigation measures, such as road improvement, additional mass transit, and car pooling assistance. If one mitigation includes the payment of mitigation fees to Pierce County, the EIS must outline how these fees will be applied. T19/55

SOCIO-ECONOMIC IMPACTS

The EIS should contain a discussion of socio-economics, which should consider the impacts of this proposed project on human issues, both during the construction and operational phases, and should include, but not be limited to: the availability of housing for temporary workers; the ability of communities to provide services (social, health and emergency services) and estimated mitigation fees; whether workers will be hired locally or from out of state; whether or not workers will be paid area standard wages and benefits; and the fiscal impacts to the communities and to the State of Washington. T19/56

The EIS should address this project's implementation of best available control technology and construction techniques in order to assure public health and safety and the mitigation of environmental impacts. Quality control is a factor of employing workers who are highly trained, skilled and reliable. The EIS should address whether or not workers who have been trained through Washington State approved apprenticeship programs will be employed in the construction of this project. T19/57 T19/58

POWER LINE ALTERNATIVE

The alternative of burying power lines associated with this project should be T19/59

selected. T19/59

ALTERNATIVE TECHNOLOGIES

The following technology alternatives have not been addressed in the DEIS. A thorough evaluation should be conducted and a discussion presented in the EIS. Given the potential human and environmental benefits of employing these technologies in this project proposal, it would be totally insufficient to disregard consideration of these processes as unfeasible. Rather, an extensive environmental benefit and resource preservation analysis should be presented and weighed against the economic impacts to the project.

1. Air Cooling Alternative. This alternative configuration would mitigate the global warming, water use and water discharge impacts of this project proposal.

There are several power plants, including two plants currently in operation and one that is permitted and under construction, in Wyoming, and one operating plant in South Africa, which use extensive air cooling mechanisms to recondense their steam back into water for reuse in their power plant cycle.

Tenaska's water usage could be reduced through the installation of an air cooling system as an alternative to simply discharging steam into the open air through cooling towers. T19/60

2. Water Recovery Alternative. This alternative would follow the example of an operating power plant in Rhode Island that treats and reuses its blowdown water, rather than discharging this as effluent. If this alternative configuration for the handling of blowdown water were installed at this proposed project, considerable water could be saved and effluent reduced. T19/61

This water would then be available for re-use in the plant, or for recharging the aquifer.

COGENERATION ALTERNATIVE

The DEIS fails to discuss any reason why the Tenaska power plant could not be sited next to an industrial host which would serve as a customer for this plant's spent steam. If the Tenaska II Generation Project was to pipe its steam to an industrial facility, after utilizing the steam to spin its turbines, that steam customer facility would be able to use the steam (which is currently proposed to be released into the atmosphere) for its production or heating processes. That facility's boiler operation would be curtailed, thus creating an environmental benefit. T19/62

In fact, Tenaska's current power plant at the British Petroleum refinery near Ferndale, is a cogeneration facility. This demonstrates that cogeneration is a feasible and economic technology in the Northwest region for this particular developer.

The DEIS, however, does not present an alternative configuration of this project, involving a different site for the plant that would allow it to be a more efficient, environmentally beneficial cogeneration facility. This is a major flaw which should be overcome in the EIS. Discussion of project alternatives, such as an alternative cogeneration site, is the heart of the EIS process. T19/63

REBOUND appreciates the opportunity to comment on this DEIS. Please continue to send REBOUND copies of further environmental documents and notices of public proceedings regarding this project.

Sincerely,

Otto W. Herman, Jr.
Director

opeiu8
afl-cio

T19

TENASKA WASHINGTON PARTNERS II, L.P.

407 North 117 Street
Omaha, NE 68154

Telephone: (402) 691-9500
Fax (402) 691-9526

October 1, 1993

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-20
10|12|93
AREA: DISTRICT

Lynn W. Baker
Acting Public Involvement Manager
Bonneville Power Administration
P. O. Box 12999
Portland, Oregon 97212

SUBJECT: Tenaska Washington II Generation Project Draft Environmental Impact Statement

Dear Ms. Baker:

We appreciate the opportunity to review and comment on the Tenaska Washington II Draft Environmental Impact Statement. First, a few general comments on the Draft Environmental Impact Statement.

The discussion on NPDES should be updated for recent events. Tenaska filed a Notice of Intent for coverage under the Storm Water Baseline General Permit with the Washington Department of Ecology on August 2, 1993. After a review of the application the DOE determined that the operation of our facility will not require an NPDES storm water permit. Attached is the DOE response of August 30, 1993 discussing the NPDES. Tenaska will apply for a construction permit prior to the start of construction. T20/1 T20/2

It should be noted that the Tenaska Washington II project is specifically included in the Comprehensive Plan Draft for Pierce County, June 1993. T20/3

The following are comments on specific items in the Draft EIS:

First Page Para Abstract

"The plant would be developed, owned and operated by Tenaska Power Partners, Inc." "Tenaska Power Partners, Inc." should be changes to "Tenaska Washington Partners II, L. P." This change should be made throughout the document. Tenaska Washington Partners II, L. P. is the entity named in the Power Agreement attached to the Letter of Intent between Bonneville Power Administration and Tenaska Power Partners, L. P. T20/4

TENASKA

Pg 5-6 Section 5.3.2

The description of the fuel oil drainage system in the third paragraph could be clarified by noting that the fuel oil storage area will be lined with impervious material and bermed. Precipitation from this area will be checked for oil content and either routed to the oil-water separator, if necessary, or to the bioswale and infiltration pond for disposal. T20/5

Pg 5-8 Impact HY2

The following statements should be added: "The waste water discharge meets all of the volume and effluent quality requirements of the Pierce County Utilities Sanitary Sewer System. No need was found for additional waste water treatment or volume reduction through evaporation or reverse osmosis processes." T20/6

Pg 5-10 Section 5.4.2 Para 3 and 4

The following statement should be added: "Tenaska's air permit application was reviewed by PSAPCA and submitted for agency and public comment on August 11, 1993. No comments was received by PSAPCA." (Jay Willenburg, PSAPCA, pers. comm., September 15,1993). T20/7

Pg 5-26 Impact BR4

It should be noted that this impact applies to the gas line, water line and sewer line corridor also. T20/8

Pg 5-32 Para Impact SE2

It should be noted that the $1 million for property taxes and $1 million for a state gas use tax are annual amounts T20/9

Pg 5-45 Para Impacts

The second sentence gives the impression that the power generated would vary by the time of day and the amount of staffing. It should be noted that the plant will operate near capacity whenever it is running and that the output is not a function of the manpower on site. T20/10

T20

TENASKA

Pg 5-64 Section 5.17

Although the amount of resources consumed over the life of the project cannot be accurately determined at this time because the total operating days cannot be determined it can be noted that the project will used approximately 45 million cubic feet of natural gas per day and approximately 1.8 million gallons of water per day. T20/11

Pg 6-11 Section 6.17 Permits

The list of permits should be expanded to include:

Review per Section 309 of the Clean Air Act by the Environmental Protection Agency

Industrial Waste Discharge Permit from the Washington Department of Ecology T20/12

Natural Gas Import Authorizations from the Federal Energy Regulatory Commission

Determination of Exempt Wholesale Generator from the Federal Energy Regulatory Commission

Critical Area Review by Pierce County

Thank you for this opportunity to comment on this document. Please feel free to call me with questions regarding these comments.

Sincerely,

Thomas E Hendricks

Thomas E. Hendricks
Vice President

Attachment

9310013a.b

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. BOX 47600 • Olympia, Washington 98504-7600 • (206) 459-6

August 30, 1993

Mr. Michael C. Lebens
Tenaska Washington Partners II, L.P.
407 N 117th St
Omaha, NE 68154-2570

Dear Mr. Lebens:

RE: Notice of Intent (NOI) for Coverage Under the Storm Water Baseline General Permit

Facility\Site Name: .Frederickson Generation Project
Address: Tacoma, WA

The Washington Department of Ecology has reviewed your application (NOI) for coverage under the Storm Water Baseline General Permit. Based upon our interpretation of federal regulations, your facility/site is not required to apply for coverage for the reason(s) indicated below:

> The operations of your facility will not require an NPDES storm water permit. However, if more than five acres is disturbed during construction, a notice of intent for construction activity must be submitted to the Department of Ecology 30 days prior to the start of construction.

Regardless of our interpretation, if you wish to have your facility/site covered under the permit, please notify us by letter, or call (206) 438-7614.

Unless you contact us at the above telephone number, we will consider your application withdrawn. Please be aware that you are still responsible for compliance with other water quality laws and regulations, such as Water Quality Standards. Therefore, you should take reasonable measures to reduce the potential for surface water or ground water pollution caused by your facility/site.

If conditions at your facility/site change (for example, a change of primary industrial activity), you should re-evaluate whether you need to apply for coverage under this permit.

Please call us at the same telephone number listed above if you have any questions.

Sincerely,

Edward O'Brien

Edward O'Brien, Supervisor
Industrial Storm Water Unit
Water Quality Program

Enclosure

NOTICE OF INTENT

For Baseline General Permit to Discharge Storm Water Associated with

Industrial Activity

ECOLOGY

-1103

UBI No. _____

DOR No. _____

Mark only one item

1. ☐ Existing Facility
2. ☒ New Facility
3. ☐ Change of Information

(Please print in ink or type)

POSTED

I. OPERATOR

Name	Mailing Address	City	Zip + 4	Contact Person	Phone No.
Tenaska Washington Partners II, L.P.	407 North 117th Street	Omaha, Nebraska	68154-2570	Michael C. Lebens	(402) 691-9515

II. OWNER/REPRESENTATIVE OF FACILITY

Name	Mailing Address	City	Zip + 4	Contact Person	Phone No.
Same As Operator					

III. FACILITY ADDRESS

Facility Name	Street Address	City	Zip + 4	Phone No.	County
Frederickson Generation Project		Tacoma			Pierce

IV. BILLING ADDRESS:

☒ Owner ☒ Operator ☐ Facility ☐ Other (below)

Name	Address	City	Zip + 4	Phone No.
Same As Operator				

Legal Description (if no address for site)

Parcel 60-3, Frederickson Industrial Area, Pierce County, Washington

V. RECEIVING WATER INFORMATION

A. Does your facility's storm water discharge to: (check all that apply)

1. ☐ Storm sewer system; name of storm sewer system (operator): _____
2. ☐ Directly to surface waters of Washington state (e.g., river, lake, creek, estuary, ocean)
3. ☐ Indirectly to surface waters of Washington state
4. ☒ Directly to ground waters of Washington state: ☐ dry well ☒ drainfield ☐ other

B. Name(s) of receiving water(s): _____

Initial discharge is to an unnamed receiving water? ☐ Yes ☐ No

C. Location of Discharge(s):

Quarter SE Section 36 Township 19 North Range 3 East

POSTED

VI. INDUSTRIAL ACTIVITY INFORMATION

A. SIC Code(s) (Post PRIMARY SIC in No. 1)

1. 4911 2. ____ 3. ____ 4. ____

B. Type of business: Electric Power Generation

C. Areas with industrial activities at facility: (check all that apply)

1. ☐ Manufacturing Building
2. ☒ Material Handling
3. ☒ Material Storage
4. ☐ Hazardous Waste Treatment, Storage, or Disposal (Refers to RCRA, Subtitle C Facilities Only)
5. ☒ Waste Treatment, Storage, or Disposal
6. ☒ Application or Disposal of Wastewaters
7. ☒ Storage & Maintenance of Material Handling Equipment
8. ☐ Vehicle Maintenance
9. ☐ INACTIVE Areas Where Significant Materials Remain
10. ☒ Access Roads & Rail Lines for Shipping & Receiving
11. ☒ Other Steam and Power Generation

T20

Additional Information Needed:

Total size of site with industrial activity (in acres)	9	
Total impervious area (including rooftops) (in acres)	2.5	
Has a storm water pollution prevention plan been developed? (Preliminary)	☒ Yes	☐ No
Are storm water discharge data available?	☐ Yes	☒ No
Are data available on impact of storm water on water quality or sediments?	☐ Yes	☒ No

I. MATERIAL HANDLING/MANAGEMENT PRACTICES

Types of materials handled and/or stored outdoors: (check all that apply)

1. ☐ Solvents
2. ☐ Scrap Metal
3. ☒ Petroleum or Petrochemical Products
4. ☐ Plating Products
5. ☐ Pesticides
6. ☐ Hazardous Wastes
7. ☒ Acids or Alkalies
8. ☐ Paints/Coatings
9. ☐ Woodtreating Products
10. ☒ Other Toxics (Please list) Anhydrous Ammonia

Identify existing management practices employed to reduce pollutants in industrial storm water discharges: (check all that apply)

1. ☒ Oil/Water Separator
2. ☒ Containment
3. ☒ Spill Prevention
4. ☐ Surface Leachate Collection
5. ☒ Overhead Coverage
6. ☐ Recycling/Source Reduction
7. ☒ Detention Facilities
8. ☒ Infiltration Basins
9. ☒ Operational BMPs
10. ☒ Vegetation Management
11. ☒ Other (Please list) Biofiltration Swale

VIII. REGULATORY STATUS (check all that apply)

A. ☐ NPDES Permit
Permit No. _____

B. ☐ State Waste Discharge Permit
Permit No. _____

C. ☒ Air Notice of Construction, Permit, or Order
Agency: Puget Sound Air Pollution Control Agency

D. ☐ State/USEPA Hazardous Waste ID No.
_____

X. STATE ENVIRONMENTAL POLICY ACT (SEPA) (Applies only to NEW INDUSTRIAL FACILITIES)

Has SEPA review been completed? ☐ Yes ☒ No ☐ Exempt
Agency issuing DNS, Final EIS, or Exemption: Bonneville Power Administration & Pierce County
Date of DNS or Final EIS: Anticipated – March 1994

X. PUBLIC NOTICE (Applies only to NEW INDUSTRIAL FACILITIES)

Attached affidavit of TWO publications? ☐ Yes ☒ No

XI. CERTIFICATION OF PERMITTEE(S)

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." Tenaska Washington Partners II, L.P.
By: Tenaska Washington II, L.P. Managing Partner
By: Tenaska II, Inc., Managing Partner

Operator's Printed Name: Michael C. Lebens	Owner's Printed Name: (If Co-Permittee) _____
Signature: _____	Signature: _____
Title: VICE PRESIDENT Date 8/2/93	Title: _____ Date _____

STATE USE ONLY:

WSID	Seg No.	Region	Date NOI Received	Coverage Date

Tacoma Public Utilities

Mark Crisson
Director

3628 South 35th Street
P.O. Box 11007
Tacoma, WA 98411-0007

Divisions
Light
Water
Belt Line

October 4, 1993

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-21
DATE:
10/12/93
AREA
DISTRICT

Public Involvement Manager
Department of Energy
Bonneville Power Administration
P. O. Box 12999
Portland, OR 97212

Dear Sir:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
TENASKA WASHINGTON II GENERATION PROJECT

Both Light and Water Divisions have reviewed the subject request.

The Light Division has replied under separate cover on October 1, 1993.

The Water Division has no comments.

Sincerely,

Richard W. Curtice

Richard W. Curtice
Real Estate Management Supervisor

RWC/cjk

T21

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

OCT 04 1993

REPLY TO
ATTN OF: WD-126

RECEIVED BY EPA
PUBL. INVOLVEMENT
LOG #: TNSKA-2-22
RECEIPT DATE:
10/12/93
AREA: DISTRICT

Lynn W. Baker
Acting Public Involvement Manager
P.O. Box 12999
Portland, Oregon 97212

Re: Proposed Tenaska - Washington II Generation Project Draft Environmental Impact Statement (EIS)

Dear Ms. Baker:

The Environmental Protection Agency (EPA) has reviewed the Proposed Tenaska - Washington II Generation Project Draft EIS. The Draft EIS evaluates the proposed development of a privately-owned 240 megawatt gas-fired combustion turbine power generation plant in Pierce County, Washington. The Bonneville Power Administration (BPA) would purchase electrical power from the proposed facility. Our review of this proposal is conducted in accordance with the National Environmental Policy Act (NEPA), and EPA's authorization under Section 309 of the Clean Air Act to comment on the overall environmental acceptability of federal actions subject to NEPA.

Resource acquisition program alternatives were previously evaluated by BPA in the 1993 Resource Programs EIS. The alternative identified in the Record of Decision for that EIS was "emphasize conservation", under which one-third of the future power acquisitions would come from combustion turbines. The Tenaska project, evaluated in the subject Draft EIS, would provide one quarter of the total acquisitions from combustion turbine projects.

The principal environmental issues associated with the proposed Tenaska project, about which we are providing comments, below, are impacts to air quality and ground water resources. The project's air emissions will cause an incremental cumulative impact to air quality, and the possible infiltration of pollutants from the project site during construction and operations may ultimately impact ground water resources. We have requested additional information to assist in the assessment of those impacts.

Air Quality

As indicated in the Draft EIS, the project area is not in compliance with the ambient air quality standards for carbon monoxide (CO) and ozone. Both CO and volatile organic compounds

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(a precursor to ozone) emissions are subject to the significant impact threshold criteria for new sources in a non-attainment area, administered by the Puget Sound Air Pollution Control Agency (PSAPCA). The air quality impact analysis indicates that these project emissions will approach (but not exceed) the applicable thresholds (Draft EIS, page 5-13 and Table 5.4-3).

The Draft EIS indicates on pages 5-15 and 5-16 that the proposed Tenaska project is not subject to the Prevention of Significant Deterioration (PSD) regulations because the project will not have the potential to emit more than 100 tons per year of any air pollutant. This is not entirely correct since, the project does have the potential to emit over 100 tons per year of nitrogen dioxide, which would normally make this project subject to PSD review. However, in this case, because the project is defined as a "synthetic minor", and is subject to federally enforceable permit conditions, it will not be subject to PSD review. T22/1

Sulfur dioxide concentrations (3 hour and 24 hour) from the project also approach the ambient standards thresholds (for attainment pollutants), as indicated in Table 5.4-4 of the Draft EIS. Although regulatory public health standards would not be exceeded by the proposed project, the project, as a result of the above and other emitted pollutants, will be a contributor to overall cumulative air pollutant emissions in the affected airshed. The Final EIS should describe the cumulative air quality impacts of the proposed Tenaska project and the existing power plant in the vicinity of the project site. This information can probably be obtained from the PSAPCA permit application. T22/2

The Final EIS should reflect the latest emission limits and requirements of PSAPCA included in the air permit issued for the proposed project. Emissions should be stated in terms of "potential" emissions as opposed to annual averages. T22/3

An inconsistency appears in the Draft EIS between page 5-10, and Table 5.4.2 in reference to the number of "hours" vs. "days" fuel oil would be utilized (should apparently be 120 hours). T22/4

Ground Water

The Draft EIS indicates on pages 4-7 and 4-8 that a petition for designation of the Clover-Chambers Creek Basin aquifer system (within which the proposed project site is located) as a Sole Source Aquifer has been submitted to EPA. The designation currently under review covers the larger area encompassing the Central Pierce County Aquifer System. We expect a final decision on that designation next month. T22/5B

Page 4-8 of the Draft EIS states that EPA review (i.e., under the Sole Source Aquifer program) of the project is required since BPA is "considering purchasing power from the proposed project." If a sole source acquifer designation is approved, EPA may review and comment on the project pursuant to Section 1424(e) of the Safe Drinking Water Act. If EPA does review this project, we would want to review the prevention, contingency, and spill response plans listed at the top of page 6-8, as well as the storm water plan. More information on these controls should be reflected in the Final EIS as discussed below. T22/5

Page 4-8 contains a factual error in the second to last sentence of the first paragraph. The July 1993 event that was noted was not a public hearing, but rather an informational meeting. Official public comments were not formally taken as indicated. T22/6

Water quality impacts are discussed on pages 5-6 through 5-9 and pages 5-34 through 5-38 of the Draft EIS. As indicated in the Draft EIS, the soils of the site are highly permeable. This raises concerns about the potential for ground water contamination resulting from the infiltration of contaminants associated with plant construction and operation: a discussion of these potential impacts should be included in the Final EIS. T22/7

A National Pollutant Discharge Elimination System permit from the Department of Ecology will be required for storm water discharges. Adverse impacts to the underlying aquifer should not occur if all federal, state, and local regulatory measures are implemented regarding storm water management, storage of hazardous wastes, and disposal of wastewater to the sewer system. The Draft EIS provides little detail on those mitigation measures and design features, thereby precluding a complete assessment of their effectiveness. The type of information required to support the National Pollutant Discharge Elimination System application, including storm and process water flow schematics and control measures and best management practices should be reflected to the extent possible in the Final EIS. T22/8

Construction and operational-phase measures to prevent and clean up spills of petroleum products and chemicals should be better documented and stated as commitments in the Final EIS. The Draft EIS indicates that a Spill Prevention Containment and Countermeasures (SPCC) could be instituted. The SPCC plan, if not included in the Final EIS, should be better described, as should the Resource Conservation and Recovery Act procedures which will apply to the proposed project. All measures necessary to prevent potential adverse impacts to ground water resources should be stated as management commitments. T22/9 T22/10

Based on our review we have rated the Draft EIS EC-2 (Environmental Concerns-Insufficient Information). An explanation of EPA's EIS rating system is enclosed for your reference. To summarize, the primary basis for our concerns is the incremental regional impact of project-related air emissions and the potential (i.e., subject to implementation of appropriate mitigation) for infiltration of pollutants at the site during construction and operations. The additional information we have requested in our comments would further assist in the assessment of those impacts. A summary of our comments will be published in the Federal Register.

Thank you for the opportunity to review the Draft EIS. We would be pleased to provide assistance in addressing our comments. Rick Seaborne in the Environmental Review Section is the lead contact person for this review and can be contacted at (206) 553-8510.

Sincerely,

Kathy Veit

Kathy Veit, Chief
Program Coordination Branch

Enclosure

SUMMARY OF THE EPA RATING SYSTEM
FOR DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
DEFINITIONS AND FOLLOW-UP ACTION *

Environmental Impact of the Action

LO–Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplish with no more than minor changes to the proposal.

EC–Environmental Concerns

The EPA review has identified environmental impacts that should be avoid in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO–Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU–Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1–Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or date collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2–Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoid in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3–Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussion are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 policy and Procedures for the Review of Federal Actions Impacting the Environment.

CONCURRENCE PAGE

Subject: Tenaska project DEIS

bcc: Author File - Seaborne
Reading File
Official File
HQ - OFA
Ray Nye - AT-082
Scott Downey - WD-133

Date: 9/30/93
WordPerfect 5.0
File Name: F:\USER\FSEABORN\TNSK.DEI
New Addresses:

CONCURRENCES					
SURNAME	Seaborne	Acting Sec.Chf.	Veit		
INITIALS	PS	RS			
DATE	9/30	—			

KEEP WITH OFFICIAL FILE COPY

Economic Development Board for Tacoma-Pierce County

RECEIVED BY BPA
INVOLVED:
TNSKA-2-23
RECEIPT DATE:
10/12/93
AREA:

September 23, 1993

Lynn W. Baker
Acting Public Involvement Manager
Bonneville Power Administration
P.O. Box 12999
Portland, OR
97212

Subject: Comments on the Tenaska Washington II Generation Project Draft EIS

Dear Ms. Baker,

The mission of the Economic Development Board of Tacoma-Pierce County (EDB) is fairly obvious from our name. The EDB is a partnership between private business and the public sector with a goal of increasing the quality and number of jobs as well as spurring capital investment within the county. Retention of existing jobs and businesses is likewise an important facet of our activity. The EDB believes that the Tenaska power generation project proposed for the Frederickson area of Pierce County would be an important addition to the county's infrastructure and will contribute to continued development of our area. Our support of this project is based upon the following specific reasons.

1. The Region Needs New Electrical Power Generation

All forecasts of the electrical load compared with the generating capacity (load/resource balance) indicates that the Region is already short of power in the current year. Requirements to reserve water for the Endangered Salmon will exacerbate this imbalance. BPA has sought projects that will generate 300 average mega watts of energy. The Tenaska project is expected to generate 240 average mega watts. Failure to provide for continued growth of electrical demand is a recipe for economic stagnation. T23/1

2. The Project Will Reduce the Voltage Sag Issue in the Puget Sound Basin

The majority of the electric power users in the State are located on the West side of the Cascade Mountains, yet most of the generating resources are in Eastern Washington. This load/resource distribution pattern requires an extensive set of power transmission lines to be run across the mountain passes to support the electrical load. Previous studies have shown that failure of one or more of these lines during the peak winter demand period (also the most likely time for a winter storm capable of damaging the lines) would result in a serious power disturbance in Puget Sound with possible "brown-outs". This issue is serious enough that many of the West Side Utilities have put emergency plans into place to curtail industrial and other business activity on an instant's notice to preserve the electrical system stability.

950 Pacific Avenue • Suite 410 • P.O. Box 1555 • Tacoma, WA 98401
PHONE (206) 383-4726 • FAX (206) 383-4676

T23

Of the alternatives available to address this issue, increasing the electrical power generation near the load centers is the most effective. The proposed Tenaska plant located at Frederickson is in the center of the area that uses most of the power. Power generation at this location will be a very significant contribution in limiting the potential voltage sag and the economic curtailments that would result from a transmission line failure. Moreover, building the Tenaska project may allow the delay of other means of addressing the voltage issue that have more serious environmental damage potential. T23/2

3. The Project will Generate Construction and Permanent High Quality Jobs

The proposed construction schedule will generate 225 to 250 jobs over an 18 month period. Most of these jobs will come from the local area. Companies that furnish trucks, backhoes, bulldozers, cranes and other heavy equipment are likely to benefit. Workers skilled in welding, steel rigging, concrete pouring, wiring, and instrumentation will be required. These are high paying, high quality jobs, the kind that any community would seek. T23/3

The permanent jobs in the operating plant are also of a highly skilled variety with relatively good salaries. Therefore from a community point of view, both the construction and the on-going plant operation will provide high quality jobs that are capable of supporting families.

4. The Project will have a Minimal Environmental Impact

The Frederickson site is intended for industrial development. There is an existing Puget Power electrical generating plant located within 600 meters of the proposed site. There are existing high voltage transmission lines and a major electrical Switching Station within 500 meters of the location. It would be hard to find a more ideal site for the project. T23/4

During operation, only 14 people will be at the site during the peak activity hours, which is expected to be on the day shift. On the off-shifts only a handful of people will be on the site. Traffic loading is expected to be trivial, especially since it will be dwarfed by the already approved Boeing plant next door. The project meets all environmental requirements and has gone through an extensive BPA screening of the potential generation project candidates.

Therefore we at the EDB strongly endorse the construction of the Tenaska Washington II project located at Frederickson. Thank you for this opportunity to comment. T23/5

Sincerely,

Erling O. Mork
President

STAN GRACE
CHAIRMAN
Montana

John N. Etchart
Montana

Jay Webb
Idaho

Robert (Bob) Saxvik
Idaho

NORTHWEST POWER PLANNING COUNCIL
851 S.W. SIXTH AVENUE, SUITE 1100
PORTLAND, OREGON 97204-1337

Phone: 503-222-5161
Toll Free: 1-800-222-3355
FAX: 503-795-3370

R. TED BOTTIGER
VICE CHAIRMAN
Washington

Tom Trulove
Washington

Ted Hallock
Oregon

Angus Duncan
Oregon

October 4, 1993

RECEIVED BY BPA
PUBLIC INVOLVEMENT
LOG: TNSKA-2-24
RECEIPT DATE:
10 | 15 | 93
AREA: DISTRICT

Ms. Lynn W. Baker
Acting Public Involvement Manager
Bonneville Power Administration
P.O. Box 12999
Portland, Oregon 97212

Dear Ms. Baker:

We appreciate the opportunity to review the Draft Environmental Impact Statement for the Tenaska Washington II Generation Project.

Important environmental issues associated with this project include cumulative air quality effects, risks associated with hazardous materials, noise, release of greenhouse gasses, and possible environmental consequences of the interaction of this project with the balance of the regional power system. While all environmental impacts of potential significance should be identified in the environmental impact statement, we believe that it is particularly important that the key issues be highlighted and receive comprehensive, in-depth assessment. Several of the comments that follow are intended to highlight environmental issues we believe to be among the most important for Tenaska Washington II.

Hazardous Materials: The project, in operation, will employ potentially hazardous materials (Table 5.9-1). The procurement, transportation, on-site handling and disposition of these materials will introduce new and possibly significant environmental risks to the site and surrounding region. Serious groundwater and stream contamination, health impacts and biological damage could result from improper or accidental release of these materials. These risks will be present not just at the plant site, but along transportation routes and at procurement and disposition sites, as well. This issue was raised during the Council's Section 6(c) review of Bonneville's acquisition of Tenaska Washington II. Because these risks were not fully assessed in Bonneville's Record of Decision or in subsequent testimony, the Council, in its Record of Decision (ROD, p.7, enclosed), stated its expectation that the risks associated with hazardous materials would be assessed in the Environmental Impact Statement. While some discussion of on-site storage and handling of hazardous materials is provided in Section 5.9, the draft lacks a

T24/1

T24/2

T24

annual average hours of operation on fuel oil can readily be made. Fuel consumption can then be estimated. T24/8

Vibration: The issue of ground-transmitted vibration was raised in the course of the Council's Section 6(c) review of Bonneville's acquisition of Tenaska Washington II. During that review, Bonneville supplied evidence convincing to the Council that vibration would not be a problem (ROD, p.28). While the Council concluded that vibration is unlikely to be a problem at Tenaska Washington II, vibration as a potential consequence of combustion turbine combined-cycle power plant operation should be assessed. T24/9

Global Warming: The contribution of Tenaska Washington II to potential global climate change was a topic of considerable discussion during the Council's Section 6(c) consistency review. The global warming issue is very briefly discussed in Section 4.4.4, and receives some additional discussion in Section 5.4. This issue is not mentioned in the Summary, even though it is one of the major issues in current discussions of energy policy. The discussion of global warming should be augmented to convey more fully the nature of the issue, the potential contribution of this plant, emerging international and federal policies, planned mitigation, and further mitigation opportunities, if ultimately needed. Global warming should appear in the Summary, as an unresolved issue (S.6.3), and as a potential environmental impact (Table S-1). T24/10

Other:

- The last paragraph on page 3-4 states that air pollutant emissions will be minimized using Best Available Control Technology (BACT). We understand that the proposed nitrogen oxide control will be Lowest Achievable Emission Rate (LAER). The last paragraph on page 3-4 should be modified to convey this fact. T24/11

- Equivalents of Tables 5.4-5 and 5.4-6 should be provided for firing on fuel oil. T24/11E

- Section S.6.2 states that no evidence has emerged in preparation of the Environmental Impact Statement to suggest that the proposed action is particularly controversial. To the contrary, the Council, in its Section 6(c) review of this acquisition, encountered substantial environmental controversy. Issues raised during that proceeding include the impact of the proposed plant on the Columbia River Fish and Wildlife Program, global warming risk, location in an ozone non-attainment area, environmental effects of fuel oil operation and ground-transmitted vibration. These issues should be identified in Section S.6.2. Discussion of these issues is provided in the Council's Record of Decision. T24/12

- The final paragraph of page 5-10 states that the plant would burn natural gas "for all but 120 days each year when fuel oil would be used." Fuel oil burn will be limited to approximately 120 *hours* per year, as controlled by cumulative releases of sulfur dioxide. Moreover, the statement implies that fuel oil will T24/13

comprehensive, in-depth discussion of this issue. The following additional material is needed:

- The definition of the "affected environment" should be expanded to include procurement sites, transportation routes and disposition sites established specifically to serve this plant.

- Elements of the affected environment (soils, groundwater, surface waters, habitat, traffic and transportation) that could impact or be impacted by hazardous material releases should be described in Section 4. T24/3

- Regulatory requirements applying to hazardous material procurement, transportation, on-site handling and disposition should be described.

- The analysis of the potential for environmental releases of hazardous materials should be expanded to cover procurement, off-site transportation and disposition. The scope of the analysis should be expanded to include possible soil, ground water and surface water contamination and biological impacts. T24/4

- Risks associated with handling and disposition of air pollution control catalysts should be assessed. These can be considered hazardous because of their heavy metal content. T24/5

Regional Power System Impacts: As discussed in the Council's Record of Decision (p.15), addition of dispatchable gas-fired resources to the regional power system has the potential to modify the seasonal pattern of hydropower system operatipn in a manner detrimental to the objectives of the Columbia River Basin Fish and Wildlife Program.
Tenaska Washington II, as the first dispatchable gas-fired resource on Bonneville's system, is not likely, taken by itself, to have a significant effect on resident or anadromous fish through associated changes in the operation of the hydro system. The final EIS should establish this fact. The EIS should also acknowledge that as additional gas-fired generation is integrated into the regional system such an effect may result, as a cumulative environmental impact associated with the operation of this type of plant. While this is an issue that deserves further consideration in Bonneville's planning for longer-term additions to the power system, it should not be ignored here. The nature of the issue, its long-term implications and a proposed approach to monitoring and assessing the possible emergence of this impact should be discussed in this document. T24/6

Cooling Tower Drift: Chlorine and other biocides found in the plant cooling water may be released to the atmosphere in the form of cooling tower drift. Deposition of these chemicals in the area surrounding the plant may affect surface water and vegetation. These potential impacts should be assessed. T24/7

Irreversible Commitment of Resources: The draft EIS states that the consumption of natural gas and fuel oil cannot accurately be determined at this time. We believe that reasonable estimates of the likely capacity factor, and T24/8

definitely be used for 120 hours annually. Not so. Fuel oil is expected to be used only as necessary. T24/13

The first paragraph on page 5-13 draws a comparison with Texas plants which have never operated on fuel oil. The comparability of these plants is questionable. First, if near the Gulf Coast, the Texas plants are located at a natural gas source and within a dense pipeline network. This contrasts with the Frederickson situation, where the plant is served by a single gas pipeline, many hundreds of miles from the gas fields. Second, the Texas plants operate in a summer-peaking electrical system, non-coincident with the winter peaking gas system. Again, this contrasts with the Tenaska Washington II situation where the plant will operate in a winter-peaking electrical system, coincident with the winter-peaking gas system. These factors suggest that Tenaska Washington II is more likely than its Texas counterparts to encounter situations where operation on fuel oil is necessary. T24/14

Thank you for the opportunity to review and comment on this draft. We intend these comments to be constructive and look forward to the final document. Questions concerning these comments can be addressed to Jeff King of our staff.

Yours truly,

Edward W. Sheets

Edward W. Sheets
Executive Director

Enclosure

cc: Dick Watson
Jeff King
William Hannaford
Council Members

G:\JEK\WW\BAK010C3.LTR

T-14

LASER

Legal and Safety Employer Research
DIVISION OF THE WESTERN STATES PIPE TRADES
670 KENTUCKY STREET, GRIDLEY, CA 95948 (916) 846-4352 FAX (916) 846-5374

RECEIVED BY BPA
PUBLIC INVOLVEMENT
LOG: TNSKA-2-25
RECEIPT
10/15/93
AREA: DISTRICT

BPA-Mr. Clarke
201 Queen Anne Avenue North
Seattle, WA 98109

Dear Mr. Clarke:

I am the Director of Legal and Safety Environmental Researc (LASER, formerly TAME TIC), which researches large industrial projects in the Western United States. The following are comments regarding the proposed Tenaska 240 Megawatt natural gas fired power plant to be sited near Tacoma.

NOx EMISSIONS

This power plant will emit about 4 parts per million of oxides of nitrogen, and another 10 parts per million of ammonia (ppm). This low NOx emission rate is necessary because the plan must stay below the 100 tons/year limit for NOx emissions, to avoid the onerous review process for a major polluter sited in a non-attainment area.

The problem is that the ammonia emission rate of 10 ppm is really an additional emission of 10 ppm of NOx. This is because the ammonia itself will not remain as ammonia, it will oxidize into oxides of Nitrogen. Therefore the actual NOx emission rate for this plant will be nearly tripled to around 300 tons/year of NOx emissions, if the conversion of ammonia to NOx is considered T25/1

This means that other technologies, such as overwatering to reduce NOx, or use of low-NOx burners, are actually more efficient than selective catalytic reduction (SCR) if these technologies reduce NOx to below 14 ppm. This is because the Tenaska plant will actually be emitting 14 ppm of NOx; 4 ppm directly of NOx, plus another 10 ppm of ammonia that will rapidly oxidize to NOx.

Therefore the final EIS should discuss alternative NOx control technologies such as low-NOx burners (the new ABB low NOx burners is reportedly controlling emissions to below 6 ppm NOx) or overwatering/steam injection to reduce NOx. These mechanisms will produce the same ultimate control of NOx, after taking into consideration ammonia/NOx conversion, without running the risk of transporting and storing and using ammonia. 25/1B

T25

AQUEOUS AMMONIA

If ammonia is ultimately used, the plant should consider aqueous ammonia, rather than anhydrous ammonia, to reduce the risks from a release. T25/2

RISK ASSESSMENT

The DEIS fails to provide a risk assessment of the effects of a large release of natural gas, fuel oil, acid; caustics, and ammonia. All these substances will be stored in large amounts at this site. T25/3

ACID EMISSIONS

Attachment 3, sheet 4 lists 8 lb/hour (about 30 tons/year) of "sulfur mist" emissions. The DEIS does not describe the impact of these emissions which may actually be sulfuric acid mist emissions. T25/4

WASTEWATER

This plant may be using a regeneration system to treat its water. These kinds of systems may involve backwash and the production of solid waste containing high concentrations of toxic materials. This should have been discussed in the DEIS. T25/5

WASTES

Tenaska should not be allowed to burn construction debris including but not limited to cleared brush and trees. This site is in a no burn area. T25/6

Please send a copy of the Final EIS, and copies of all remarks received by BPA regarding the DEIS, to LASER's consultant:

John Williams
12770 SW Foothill Dr.
Portland, OR 97225
503-626-5736
(fax) 503-641-2093

Yours, Jim Wilson

United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada

Local No. 82

2725 Pacific Avenue

Tacoma, WA 98402

RECEIVED BY BPA
PUBLIC INVOLVEMENT
TNSKA-2-26
RECEIPT
10/15/93
AREA: DISTRICT

October 04, 1993

Bonneville Power Administration
Mr. Stu Clarke, Public Involvement Manager
201 Queen Ann Avenue North
Seattle, WA 98109

Dear Mr. Clarke:

The following are comments regarding the Draft Environmental Impact Statement (DEIS) for the Tenaska Power Plant.

1. We did not see any discussion in the DEIS regarding the fire controls through the use of appropriate sprinkler systems. This is very important considering the use and storage of large amounts of natural gas, fuel oil, ammonia, and other toxic materials at the power plant site. T26/1

We understand that a fuel oil fire at a O'Brien Energy Power Plant back east killed two workers. This illustrates the need to plan and discuss fire prevention measures such as sprinklers. We suggest the final EIS discuss the O'Brien Energy Fire, its causes, and the preventative measures to be taken at Tenaska. T26/2

2. The DEIS did not discuss how the discharge of stormwater from the plant site will affect the county sewer system. Even though the stormwater will be discharged onto the ground through a swale system, it is likely that this stormwater will infiltrate the county sewer lines and add to the amount of water flowing to the treatment system. The final EIS should discuss how much of this stormwater discharge will simply seep into the county sewer lines. T26/3

Please send us copies of all comments received by our agency on the DEIS for this plant.

Sincerely,

James E. Eustace

James E. Eustace
Business Manager
UA Local 82

JEE/df
opeiu:23 afl/cio

Post-it™ brand fax transmittal memo 7671 | # of pages ▸ 4

To LYNN BAKER	From STU CLARKE
Co.	Co.
Dept. AL-M	Phone # T
Fax #	Fax #

Melvyn J. Boone, General President | Warren S. Lee, General Secretary-Treasurer | Donald F. McGovern, Asst. General President | Letters should be confined to one subject

OCT-04-1993 15:56 P.02

T26

RECEIVED BY BPA
FISH AND WILDLIFE
JNSKN-2-27
REC
10/15/93
AREA DISTRICT

John Williams
12770 SW Foothill Dr.
Portland, OR 97225
(503) 616-5736
fax 503-641-2093

BPA
comments on Tenaska Power Plant
Mr. Stu Clarke

Dear Mr. Clarke:

I am a consultant to LASER, who is also submitting comments under separate cover. Here is an additional comment from LASER. Table 5.4-3 states that NOx is not ... an ozone precursor.". LASER disagrees. According to the Standard Handbook of Environmental Engineering, P. 4.3:

"Photochemical oxidants, mostly as ozone are the product of atmospheric reactions of such contaminants (precursors) as hydrocarbons and nitrogen oxides in the presence of sunlight." (McGraw-Hill, 1990 edition) T27/1

We argue that NOx should be recognized as a ozone precursor in the FEIS.

Yours,

John Williams

OCT-04-1993 16:07 P.01

T27

TABLE 3.4-2
Public Meeting Transcript Key

Commenters	Comment Numbers	Location of Comments (Transcript Page No.)
Jill King	PM1-6	Pages 22 - 23
Clark Abraham	PM7-13	Pages 23 - 25
Steve Lane	PM14-21, PM66	Pages 25 - 27, 64
Matthew Schipper	PM22-25, PM63-64, PM67	Pages 28, 59, 65
Roxy Giddings	PM26-37	Pages 29 - 37
Nancy Holbrook Greenhouse Action	PM38-49, PM65, PM68	Pages 38 - 43, 61, 66 - 67
Earl Iverson	PM50-51	Pages 44 - 46
Al Schmauder	PM52-54	Pages 46 - 50
William Giddings Tahoma Audubon Society	PM55-62	Pages 50 - 53

NOTE: Only those pages containing comments are reproduced in this document.

BEFORE THE
U. S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
SPANAWAY, WASHINGTON

PUBLIC HEARING

In the Matter of:

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Concerning

PROPOSED TENASKA WASHINGTON II GENERATION PROJECT

Library,
Bethel High School,
Spanaway, Washington.

Wednesday, Sept. 8, 1993

Pursuant to Notice, the above-entitled matter came on for Hearing at 7:00 o'clock p.m.,

BEFORE:

A PANEL CONSISTING OF:

STUART CLARKE, State & Local Government Coordinator, BPA - Member & Facilitator; presiding;
NANDRANIE TUCK, Project EIS Manager, BPA - Member;
RON HOLEMAN, Project Manager, BPA - Member;
TOM HENDRICKS, Vice President, Tenaska Power Partners L.P. - Member;
PHIL PINARD, Senior Planner - Member.

I N D E X

P R O C E E D I N G S

OPENING REMARKS & WELCOME BY MR. STUART CLARKE

MR. CLARKE: If we could get people in the back to come up and take a seat, I think we can go ahead and get the formal part of the meeting started.

I'm Stuart Clarke and I'm basically here to facilitate the meeting tonight, and I work for the Bonneville Power Administration. And I brought along a lot of other people that have a lot more knowledge about the Tenaska Project than I do to answer questions that the people here tonight may have.

I hope when you came in, everybody took the time to register, and then that gives us knowledge about who was here tonight, and also if we have to get back to you to clarify something that we heard, we'll have that opportunity.

This meeting tonight is being recorded by a Court Reporter, Bill Chun. We're in such a -- it's a good room and has good acoustics, and we've got a fairly small crowd; so, I didn't put a microphone out in the audience. But if for some reason we need it, we have that ability.

I hope everybody picked up an agenda when they came in, and if you'll just take a look at that for a minute. You know, for the last hour, basically, we had an open house. I hope most of you got a chance to walk around and look at some of the displays, maybe talk to some of the people that are

here tonight from BPA and Tenaska and some of the consultants. If you had some particular items you really wanted to get some in-depth discussion about, they were here for that purpose.

And some of us are up here at the front of the room and we're going to try to answer your questions. If we need help, we'll call on some of the other people in the audience. But I'd like to go ahead and introduce the people that are here with me up at the front.

At the far end of the table, we have Ron Holeman who's the Project Manager for BPA. Then Tom Hendricks, who's a Vice President with Tenaska Power Partners. And next to Tom is Phil Pinard who's with Pierce County. And Pierce County -- Phil will talk about their process and what happens and how they're working with BPA in their process. And then, right next to me here is Nandranie Tuck who is the Project EIS Manager.

And they're all going to have a little bit to say here in the first 30 minutes of the program where we're going to try to give you a little background about the project, and then for the last hour and a half, we'll open up the meeting for your comments and also your questions and answers.

One more little housekeeping item before we really get into this just to let everybody know -- the school asked us to use the restrooms that are down by the gym. So, when you go out here, you take a right, you go through the double

doors and they're just off to the left a little bit.

I guess the only things that I wanted to say tonight -- and I've already sort of referred to them -- is that the purpose of this meeting is to discuss this project, to talk about the environmental effects and the mitigation measures that may be associated with this project. We're here to take your comments. We want to listen to your concerns; have a dialogue about the issues.

We did this about a year ago, actually, in our scoping meeting that was here, and I was at that meeting, and we actually had a very good discussion with the people that were here. We got a lot of good comments about air emissions, we got comments about water, comments about noise. People were concerned about traffic during construction and traffic during the operation of the project and those types of things. And, you know, we were able to tell them what we thought was going to happen and address some of those issues. And it helped us very much in terms of putting together the Draft Environmental Impact Statement which came out last month, because, you know, that told us what we needed to look at and what people were concerned about.

So, we're back here tonight. We hope that you've reviewed our material, and if there are some issues that you want to talk to us about that are in the Draft EIS or not in the Draft EIS, that's what we want to hear.

I guess the last thing that I would like to talk about before I ask Nandranie to talk a little bit about the EIS, is that -- you know, Bonneville is in a situation right now where we are deficit in terms of resources. And actually, let me back up just a little bit because I did have one person ask me about who is the Bonneville Power Administration.

Well, the Bonneville Power Administration is a Federal Agency. We're actually part of the Department of Energy. And what we were basically created for was to market the power that's generated at the dams on the Columbia River. So, we build a transmission system and we deliver that power to utilities and large industries that then use that power. But we also now have a responsibility under a law that was passed in December of 1980 to acquire resources to meet the needs of our utility customers. We have power sales contracts with them which -- where they can place their load on us.

And in working with those utilities and working with the Power Council, when we look out to the future over the next ten years, we believe that we're going to need about 1500 megawatts of power to meet the loads that these customers will place on us. And we have looked at that, and the way we've decided to try to acquire those resources is -- the first thing we're going to do is try to acquire about 660 megawatts from conservation measures. So, that's the first goal.

Then there's about 120 megawatts we can acquire

through system efficiencies on the transmission system and also at the generators that were built some years ago on the Columbia River.

So, that gets us up to 780, 800 megawatts. And the rest of it we think we're going to have to go out and acquire resources, and we will do that through a number of ways. We will have utilities through billing credits, offer resources to us, and we will acquire them; and then another way that we're going to do it -- and this is where Tenaska comes in -- is we went out and asked people to bring projects to us, and offer their capability to us, and this was under a competitive proposal -- a request for proposal; and we had over 100 projects that were proposed to us, and it was over 5,000 megawatts; and actually, the project that we've selected to proceed on is this Tenaska Project.

And so that's how we've sort of gotten to this situation that we're in now. Now, there are other projects that we're also proceeding on now. Some of them are -- for example, there's the Cowlitz Falls Hydroelectric Project which is down in Lewis County. We're also looking at some other combustion turbines under our option program, and we're looking at some cogeneration projects that we want to bring on line. That's sort of how we got to this position that we're in now and why we're looking at this project.

So, I just wanted to go over that to give you a

little regional perspective on how we got here.

Anything else I need to cover? Can you think of anything?

MS. TUCK: I think you've done a pretty good job.

MR. CLARKE: Okay. Well, I guess with that, I'll go ahead and turn it over to Nandranie. I know she had a few things that she wanted to say about the Environmental Impact Statement.

ENVIRONMENTAL OVERVIEW BY MS. NANDRANIE TUCK

MS. TUCK: Thank you, Stuart. Good evening. I'd like to pick up from where Stuart left off.

One distinction I would like to make is that Bonneville's proposal is to acquire the power from this proposed project. The project owner is Tenaska Power Partners. They would be responsible for construction, operation and maintenance of this project.

As a Federal agency, we have responsibilities to comply with the National Environmental Policy Act. That is to discuss fully the environmental effects arising from the construction and operation of this project; and to look for feasible mitigation measures; to work closely with the developer in developing mitigation.

So, when our Administrator -- the Bonneville Administrator is ready to make a decision whether or not to acquire power from this project, he's making that decision

fully cognizant of the environmental issues involved and the environmental impacts.

You will notice if you have read the literature we've put out including the Environmental Impact Statement, that we have a proposed action and a no-action alternative. As I said, the proposed action is to acquire the power. The no-action alternative is to not acquire power from this project. And normally, in a NEPA process, you will look at a reasonable range of alternatives and look at the tradeoffs among those alternatives.

We did that in what we call a "programmatic EIS." It's called a "resource program EIS." And that document was concluded in February of this year, and we have an 18-page summary. If you're interested in reading that, give us a call. We can send it to you. If you would like to read the document itself, it's I think two or three volumes. It's quite hefty. We'll be happy to send that to you as well.

In that document, we discuss and we describe the various resource types that are available to us, and the environmental tradeoffs among the various resource types.

Conservation was the resource of choice in that environmental study. And combustion turbines fall very closely with that. It is among our preferred alternatives, because we recognize that conservation alone cannot fully meet our demands for energy.

Stuart mentioned to you that we had a competitive bidding process earlier -- no, it wasn't earlier this year, it was two years ago, and we received 102 proposals. Quite a few of those were conservation proposals.

We have taken all the cost-effective conservation projects from that competitive bid, and the Tenaska Project is one of three generating resources. And this project best met our criteria for being environmentally sound, cost-effective and viable.

Many of those proposals that we evaluated had a lot of strengths but none of them had all the ingredients that the Tenaska Project had. There are a lot of variables. Many things must come together. You have to have water resources, you have to be accessible to gas, you have to make sure that you are not impacting threatened and endangered species or critical habitats or sensitive habitats, and we were fortunate to have this project.

There are other actions that are mentioned in the EIS. If, for some reason, Bonneville decides not to purchase power from this project, we do not have an alternative project. That's competitive. The competitive bidding program has closed.

What we would do is resort to other actions, and we have a diverse portfolio of different resource types; we have a geothermal pilot project; we have a wind program; we have an

RCP which is a resource contingency plan. So, there are many programs that Bonneville is running at the same time -- at the same time looking at all different resource types. Because we recognize that we have to consider things like water and the air shed and wetlands habitat, and you cannot concentrate all your resources in one resource type.

A year ago when we held the scoping meeting, as Stuart said, we had a very lively discussion. We heard from the audience issues that were important to them, concerns that they had about the environment. We used that as a guide for how to structure the EIS, what our discussion should really focus on; and we came up with things that you see on the board. They were mainly air quality, hydrology, water quality, vegetation, noise impacts and so on.

And we hope that we have done justice so that we think we heard what you have said, and we have explored those issues fully in the EIS.

In fact, we were faced with an interesting problem in the EIS. Normally, NEPA tells us to focus only on significant impacts, and we began to work very closely with the developer from the very beginning in the project design phase; and a lot of mitigation measures were built into the project from the very beginning. We have a developer who's very concerned also about environmental effects, and wherever possible, have incorporated mitigation measures in the design

itself. So, I was faced with this dilemma as we were writing the EIS, that we did not have unmitigated significant impacts. However, because we heard those serious concerns from the community, we went ahead and discussed them.

So, we end up with sort of a lopsided discussion where we describe the affected environment in detail, and one would expect, if you are really familiar with how an EIS is normally structured, when you come to read the environmental impacts, you would expect that they would be big or significant impacts for some of the things we raised -- for example, archaeological resources, and there were no significant impacts. So, if you're wondering about that, because those issues were raised in the scoping meeting, we have taken them seriously and we have discussed them in the EIS.

What would really be useful for me is, if you find that there are deficiencies or inadequate discussions in the EIS, I really would like to hear about that now. I'd prefer to hear about it now than when we have completed the final EIS, because the next step from here would be to take the comments we hear tonight, and our comment period closes on the 4th of October, letters and phone calls that come in to us -- we will utilize those comments in making a final document. If we need to change the text, we will do that.

Typically, what would happen, we will have an

appendix in the final EIS that has a comment response format. So, comments and issues that we have heard, we will state comments, and below that we will have our response to it, and that will be in the final EIS.

We expect that final EIS to be completed by early next year, perhaps a little bit earlier; and a Record of Decision shortly after that.

Phil will tell you about Pierce County's role. Pierce County has been working closely with me and I've reviewed the preliminary draft documents, and have given me some preliminary feedback, and we've incorporated that because Pierce County will have a very important role to play in making decisions pertaining to permits and other approvals.

And with that, I'll turn it over to who is next.

MR. CLARKE: Ron. I think what we'll do at this point, we'll go ahead and make our little presentations because we don't have too much more to do, and then we'll have questions. If you have some direct questions about this, we could have them at the end of that.

So, Ron, did you have something you wanted to say about the technology?

MR. HOLEMAN: Just a few words.

PROJECT TECHNOLOGY BY MR. RON HOLEMAN

MR. HOLEMAN: Good evening. The technology that was proposed to us by Tenaska Power Partners was a combustion

turbine combined cycle unit, single unit. Combined cycle -- there's a diagram over to your left -- as opposed to a simple cycle unit. A simple cycle unit like the peaking units that Pacific Power operates on 192nd Street, are just the gas turbines connected mechanically to an electrical generator.

Combined cycle -- what you do is capture the exhaust gases, have water loops that capture that heat, send it through a steam turbine and steam turbine generator, to get additional energy. A combined cycle unit is about 50 percent -- 46 to 50 percent efficient -- and this unit in the combination will produce about 248 average megawatts.

The comment that Nandranie made about the features that have been added to mitigate some of the environmental emissions, are some catalytic conversion in the HRSG that reduce the NOX emissions as well as some catalysts to reduce CO and SO2s.

And I'll let Tom speak about some other features and some other aspects from their perspective.

PROJECT STATUS UPDATE BY MR. TOM HENDRICKS

MR. HENDRICKS: Nandranie asked if I could give kind of an update going back to the scoping meeting that we held back here in this room in September of last year, just to bring everybody up to date on what Tenaska's been doing. We've had a couple of meeting, you know, since then with the Fredrickson-Clover Creek Community Council, kind of giving

some updates. I don't think they've had meetings over the summer. They kind of recessed their group and didn't meet over the summertime. So, when they get back into the swing of having meetings again, I think we'll be back in having sessions and updates with them.

Most of the work that we've been doing since the scoping meeting has been to provide information on the design of our plant to the environmental consultants that are working for Bonneville in preparing the EIS. We've also helped putting together some of our permits and coming up with some answers to the questions that came up during the scoping meeting.

One of the questions that came up in the scoping session was, has Tenaska looked at underground transmission lines for interconnecting this project? And as a result of that question, we went back and did some work -- took a look at the cost and how much extra it might cost to put an underground transmission line in as a preferred alternate for Tenaska; and as a result of that, we've gone back to Bonneville and said that it would be our preference to go ahead with an underground transmission line to make this short interconnection over to the BPA switchyard. And I think it's being presented as an alternate, and there's two alternates of an above-ground and a below-ground. And our preferred alternate would be to go ahead and spend the extra dollars

and put the thing below ground.

Another item that came up in the scoping meeting, we had photographs taken of a site from different vantage points around the Fredrickson industrial area, actually tethered a balloon and launched a balloon to be the height -- simulate the height of the tallest structure in our facility. And when we took those pictures, we had the balloon at I think a 125-foot height, and then we could show the neighbors around the site whether they could see it or not, and from a lot of vantage points you simply couldn't see it, but there were some where you could.

Since then, in the detailed work we've been doing with our air permit, in terms of the modeling and -- air modeling studies -- one change that's been made from then is that we've lowered the stack height by 20 feet so that the tallest structure now will be 100 feet instead of the 120 that was in those pictures that some of you may have seen. I think that height now is probably less than some of the transmission towers -- electric transmission towers that are in the area that go into the switchyard. Some of those are over 100 foot. So, we're now below that. So, that's one change that has come up since then.

I think as part of the scoping meeting or maybe some discussions that followed shortly after the meeting, there were some comments about the trees that are on our property.

There are some aerial photos that we've got here and had at the scoping meeting that show, you know, the stands of some of the firs and some of the Oregon white oaks. And what we're going to do is work with some of the folks who have some knowledge about the Oregon oaks and see which of those, particular some of the small ones, that could be transplanted out of our site area -- either put them into the landscaping plan for our facility or put them into some of the projects that the Clover Creek restoration group is doing in terms of their tree-planting programs.

There's also a couple of larger diameter oaks towards the middle of our property and we're taking a look at whether we can just realistically build around them and leave some of those oaks there, and we think it's probably possible to do it. We're going to have to do some more studies to take a look at whether some facilities can get moved one direction or the other. But we'll work -- again, we'll work with the folks that are interested and see what we can do to keep some of those trees. But we've tried our best to locate in areas where we wouldn't have to cut trees down and leave a lot of trees up for screening. But there are going to be some oak trees that are going to be there that we're going to have to look at to taking some other measures.

Since then, we've sent some information that I think -- most of that information is in the Draft EIS, but we've

sent some information on to the Pierce County Sanitary Sewage District about how we intend to hook up to the sanitary sewer, and have given them some ideas of the direction that we'd interconnect with the sewer line.

We've given some information to Tacoma Public Utilities that they've used in preparing their certificate of water availability for the facility, and also put together information in our air permit with PSAPCA, Puget Sound Air Pollution Control Authority, and I think you'll find a lot of that data has been included in the Draft EIS. So, if people have questions reading through that, we have people here that can help answer those questions. We have our consultant who worked on the air permit here that can answer some questions, too.

I think those are the main activities. There hasn't been a lot of detail design going on because you want to get all the input from this process before you do your detail design work. We won't have those final plans for several months, until all the feedback comes in from the permitting in the Draft EIS process.

MR. CLARKE: Okay, thanks, Tom. Phil, do you want to tell us about the Pierce County process?

PIERCE COUNTY'S RESPONSIBILITIES BY MR. PHIL PINARD

MR. PINARD: Good evening. I get the opportunity to talk to you about how this affects the local government and

what our involvement will be.

If you noticed on one of the panels when you came in, the Fredrickson area here is zoned M-2 which is -- it's a manufacturing designation. We have determined that this proposed use is compatible with that zoning so there will not be a public hearing process on the land use issue; so that the public hearing process, as far as the County's involvement, is limited to the environmental process that's being gone through now.

Our intent -- the County's intent will be to adopt this environmental document as the official County's environmental review. When we do adopt that document, then the proponents, Tenaska, can come to the County and apply for building permits for this particular project.

As far as when building permits are applied for, there will be seven or eight County departments that will then review the building permit application for compliance with the land-use regulations that they're responsible for, such as, Engineering will look at this project for storm drainage, for roads, flood plains and things like that. Utilities will review it for sanitary sewers; Health Department will look at it for water quality issues and things like that.

So, the County's review will be limited as far as their land-use regulations at the time of building permit application.

That's basically the process. If there're any questions again, I'll be glad to answer them in the question and answer period.

MR. CLARKE: We do have somebody going to check on the noise.

(Laughter)

MR. CLARKE: So much for the good acoustics in this room. Before the noise started, could everybody hear what was going on? Okay.

We're actually doing a lot better than we did last year. Last year, we didn't confine our comments to 30 minutes, so this year we did a much better job.

Anyway, the rest of the meeting is really your part of the meeting. This is the part where you can provide comments or ask us questions and, you know, we'll try to answer those questions to the best of our ability that we can tonight.

When people came in, there were -- I had five people that indicated that they had comments; that they sort of had a formal comment that they wanted to make. And what I'm trying to do now is get information on how many people have comments and then how many people want to participate in a Q & A session. And the five people that said they had comments were Jill King, Clark Abraham, Steve Lane, Matthew Schipper and Roxy Giddings.

Now, are there other -- Nancy, you have some? Okay. And the gentleman in the back. Is there anybody else that has a comment? Okay. So, we've got maybe eight or nine people.

What I would propose that we do -- what I think would be a good thing to do is go ahead and let those people make their comments, and then we can go into a Q & A, and we'll have a dialogue. And if somebody has another comment, if you think of something, that's no problem. You know, get up in the question and answer period and make a comment, too. We're a small group. We don't have to be real formal here.

So, with that, and because we don't have too many people, I'm not going to go ahead and set a time limit. If it's obvious that somebody's using a little more time than they should, we may ask them to defer some of their comments and let other people have an opportunity, and then we'll get back to them. Okay.

So, with that, I guess I would go ahead and ask Jill King -- do you want to make a comment?

MS. HOLBROOK: Stuart, is it possible for people to find a seat, if they have material they want to bring up and have a microphone on a table?

MR. CLARKE: Sure, I can move.

MS. KING: I can just stand here, if that's okay.

MR. CLARKE: That's fine. Go ahead.

COMMENTS BY MS. JILL KING

MS. KING: I have it written down so I won't ramble on too long.

First of all, I just want to mention that there's obviously already an air-quality problem developed in the area. I know you guys probably live in the area, and if you ever watch for Mt. Rainier, as I do every day, you can -- on some days there's a little brown area around the mountain which is obviously smog, and some days when it's completely clear, there's not a cloud in the sky, you can't see the mountain at all. So, that's the kind of thing that's evident to me about the air-quality problem that's already developing. PM1

My name is Jill King and I live on Dravis Street in Seattle, and I came to voice my opposition to the proposed Tenaska Plant.

It's my understanding that the State has made an official commitment to conservation and renewable energy resources. Building a gas-fired plant is clearly in contradiction to this policy. I don't claim to be a rocket scientist, but I'm familiar enough with the issues to know that if we're planning for the future, not five or ten years down the road, 20, 50 and 100 years down the road, we've got to begin moving away from fossil fuels as a primary energy source. PM2 PM3

No matter what technical arguments the natural gas industry can formulate in favor of this plan, the fact is that

gas is more polluting and much more expensive than the public is led to believe. PM4

The main question I have for BPA is, do we want to continue along the path of dirty, expensive fossil fuels, or do we want to abide by the Northwest Energy Conservation plans and plan for the next generation?

I'm in favor of investing more in conservation programs and renewable energy sources. We all know that these methods would be extremely clean and efficient and create more jobs that would stay local. PM5

I also realize the question of renewable energy sources is a political one and not a question of technology.

Please consider the true environmental impact on this community as well as finding lasting solutions for the future. PM6

I'm not really sure how far along this plan has come. I know that it's been developing for a while. The rumors that I've heard is that this is a done deal, and I really hope that just by coming here to voice my opinion that people on the decision-making committee will listen to what myself and other people of the same thoughts have to say.

Thanks.

MR. CLARKE: Okay, thank you, Jill. Clark Abraham?

COMMENTS BY MR. CLARK ABRAHAM

MR. ABRAHAM: Yes, my name is Clark Abraham; I'm

from Seattle and I oppose the building of this plant. And first, I would like to say that the technology for renewable energy resources such as wind and solar is available and can be implemented rapidly. And secondly, I wish to address the green-washing of natural gas which is not environmentally friendly like the industry would like us to believe. Natural gas is roughly 80 to 95 percent methane, and methane is a global warming gas; more than 60 times effective as CO2 at trapping heat in the atmosphere over a 20-year span, to quote the inter-governmental panel on climate change. It may be almost 70 times more powerful than greenhouse gas in CO2, monlecule for monlecule, over a 20-year timeframe. PM7 PM8 PM9

And I understand in your Section 6(c) report, the natural gas for this plant will be supplied by three Canadian sources. From my understanding, about a third of natural gas from Canada is critically sour, meaning it comes out of the ground containing more than one percent hydrogen sulfide, a deadly toxic gas. Exposure to 1,000 parts per million or 0.1 percent of hydrogen sulfide is enough to cause instantaneous death in one breath. Exposure to 100 parts per million, or 0.01 percent, is enough to cause death or serious illness in children or elderly people, if exposure lasts more than a few hours. PM10 PM11 PM12

Then, by definition, critical sour gas contains 10,000 parts per million of hydrogen sulfide, which is much

more than the required dose for instantaneous death if breathed. And I do not want this natural gas plant anywhere near where I live. PM13

Thank you.

MR. HENDRICKS: Just one comment on the hydrogen sulfide if it helps you in understanding what happens. Gas that has any hydrogen sulfide is going to be treated there locally in the gas fields, and the hydrogen sulfide is going to be removed. So, when it comes through pipelines through the States of Washington and Oregon, like it does today, those hydrogen sulfide constituents have been removed. In fact, the gas that comes into your home, they often have to add sulfur-bearing compounds to make it smell just so it gives an odor in case you have a leak in your home. So, sulfides have been removed up at the well head or up at the field, if that helps any of your concern there in the sulfides.

MR. CLARKE: Okay, thank you.

The next person who signed up to make a comment was Steve Lane.

COMMENTS BY MR. STEVE LANE

MR. LANE: My name is Steve Lane. I live on Dravis Street in Seattle, and while I find it laudible that the future needs of power for the region are being addressed, I find it reprehensible that these needs are to be answered with a gas-fired power plant. PM14

Contrary to the stated goals of the Northwest Power Act of 1980, specifically that priority be given to conservation and renewable energy sources, the fact remains that fossil fuel is a finite resource, and dependence on such forms of energy dictates that we will also remain dependent on foreign imports. PM15

The United States has less than 4 percent of the world's proven natural gas reserves, according to the American Petroleum Institute. Even including Canada's and Mexico's reserves, there's only enough natural gas to satiate current consumption rates in the United States for 16 years. PM16

The common misinformation provided by the natural gas industry is that of natural gas being a clean-burning fuel which is ridiculous considering that natural gas is 80 to 95 percent methane. PM17

The truer picture for the future of gas-fired plants is one of coal-fired plants with natural gas providing 10 percent of the fuel and coal providing 90 percent in the combustion process. PM18

By the way, current estimates of U.S. coal reserves show enough coal to provide centuries of unrestrained consumption.

The next thing you know, we're going to be hearing that coal is actually a clean energy source.

The lack of true visionary leadership is at the

heart of the problem. The community based around the proposed plant site should not be made to pay for the few jobs provided with their health and their children's health. Someone with courage would put their foot down and lead us toward a sustainable future, and further acquisitions of gas-fired resources would be set aside for the development of renewable sources such as wind, geothermal and solar energy, which are currently economically viable if not forced to compete with an industry that is subsidized with our tax dollars to keep the price of fossil fuel artificially low. PM19 PM20 PM21

The ability to build a sustainable future for our children is being sacrificed in the name of short-term profits, and when the last drop of oil is squeezed out of the last rock and the last vapor of gas disappears into our atmosphere, and when coal is being fed us as our next clean energy source, the public will know that the wool has been pulled over their eyes once again. And the ones who led us down this path of unsustainability will long since have retired with money made at the expense and the health of the citizens they would have been serving, leaving a legacy of environmental degredation.

Again, I call for true leadership that will serve in the public's best interest, not in the interest of shareholders and profit margins.

MR. CLARKE: Okay, thank you. The next person is

Matthew Schipper.

COMMENTS BY MR. MATTHEW SCHIPPER

MR. SCHIPPER: You said it right.

I'm Matthew Schipper and I guess the number one reason I'm here tonight is, basically I'm going to be a father in January, you know, and I challenge you guys. I really question the fact that you're saying that, you know, this is the cheapest way to supply energy here in the Northwest and still be within the realms of not polluting our community and everything else. PM22

Like he pointed out, basically, the fossil fuels industry in this country is subsidized with our tax money, and if that wasn't going on, and if you look at long term -- I think if you're looking 20 years, 30 years down the line, not ten years down the line, you know, it's evident that, number one, we're saving on health care costs, we're saving on the cost of bringing this stuff -- transporting it. There will be accidents. It might not be right here. But if we're building more gas plants, there will be accidents, there will be health care costs. You know, that's just part of the reality. It's happened in the past and it will happen again. PM23 PM24

Things like solar power, wind power, conservation, energy efficiency, all are for the long term. They might not be, for you guys sitting up there, money in the bank in the short term. You know, coming from the aspect of thinking of PM25

my kids and my future and everything else, in the long term, that is something that I challenge you guys to plan for and take your positions of sitting there and planning this, and your positions of working for Bonneville which is a Federal agency which is paid for by my tax money; and plan long-term future for our kids and for everyone, and not for basically short term.

And that's what this country's been doing for years now, and it's going to be -- most of the people in this room aren't going to see the consequences of it. So, that's my concern, you know, and I guess it's a challenge, because you guys have a responsibility. You're sitting there and you have a responsibility to -- not jus right now, but to people coming 50, 100 years down the you know.

So, I'm against it. I think we should be planning for the future of this country. We should be using our science, our technology, to be coming up with ways of creating energy while not using fossil fuels.

Thanks a lot.

MR. CLARKE: Okay, thank you. Roxy Giddings?

Do you want to come up here?

MS. GIDDINGS: Yes, I'll just stand up here. I've got some stuff in this pile of stuff. I confess I have not read this whole document.

COMMENTS BY MS. ROXY GIDDINGS

MS. GIDDINGS: I'm Roxy Giddings. I live at 12211 "C" Street out in Parkland, and I'm really concerned a lot about the groundwater, the aquifer underneath all of this, and I read the EIS for the Fredrickson plants and they've put in a lot of stuff that will hold even water in case of a fire in their building which they had; and any pollutants that are spilled inside their buildings go into tanks under the buildings and the water from the fire goes into the tanks under the buildings so that it can be treated before it ever would get into the aquifer. And I trust that all of the things that they say they're going to do they'll do in this one. PM26

I'm concerned about the amount of water that will be recharged back into the ground. The problem with putting the sewers in our here was that -- one of the things you talked about was that the water wasn't getting back into the ground to recharge the aquifer, and the New Growth Management Act has the aquifer almost totally inside the urban area. Just a few hundred feet of it are outside of it. PM27

So, we're going to be in a lot of trouble if we aren't paying a lot of attention to how much water we get back into the aquifer. PM28

The reason that I didn't get further through this than I thought I would was that I'm going along and I came to this little thing in here about the water. It says under

"Soils," Page 4-4, "Surface water percolates downward due to the gravelly structure of the soil, making protection of groundwater supplies from above-ground contaminants a concern."

And then it says, "The overall direction of groundwater movement in Central Pierce County is to the north or northwest towards Commencement Bay in Puget Sound. The aquifers of Central Pierce County are recharged almost entirely by infiltration from direct rainfall.

"The impermeable nature of the consolidated rocks along the south and east margins precludes the possibility of movement of large quantities of water into Central Pierce County from the mountains or foothills beyond." PM29

So, I said, well, that sounds kind of wierd, because I've always heard that we got our water from melt -- the deep aquifers are melt water from the glaciers, and it moves slowly through the ground until it gets to Puget Sound, and it goes right under us.

And then I turned to Page 2-4-6 and got -- they're talking about the City of Tacoma providing water to the area, including the Fredrickson industrial area. Now, in this little thing here -- this little summary -- it says, "The City does not plan to develop new groundwater wells specifically to meet demand imposed by the proposed Tenaska Project," but it says here, "The City's water supply is derived from the Green

River, a surface water resource area located in the north of King County, as augmented by groundwater.

"There are approximately 450 private and 45 public water supply wells within a three-mile radius of the proposed site. These public wells are under the authority of the City of Tacoma Public Utilities." And I'm going, "Wait, hold on. What is all this about?" And so I called up the Tacoma Public Utilities and they said they don't have any public water supply wells out there and that they are going to drill a test well and it's going to be deep, over 400 feet, they said. They said it would be -- in fact, the guy's name is Craig Gibson and he's a Water Supply Manager -- that it's not correct; that there are no wells under the authority of the City of Tacoma there, and that they have a Sound -- Richardson, Bethel, Spanaway, and he listed off some other water purveyors that are around within probably that three-mile radius. But that the City of Tacoma has a 60-inch line down on 128th Street. I'm not exactly sure where it is -- maybe Canyon or something like that. But they would have to bring in a second line because there will be so much development in this Fredrickson area.

So, to say that they're not bringing in a well or to bring in more water specifically for Tenaska, is probably stretching it a little.

I think he said two million gallons per day or

something like that was what they can bring in. Anyway, they're going to have a test well to find out if they can just plain suck water out of our aquifer for the use of all these industries out in this area. And he said that it would be below the one that is used by the main body of the community, which is our drinking water. There's like 170,000 of us drinking water out of the ground. So, we have to be paying attention to it.

So, I called up my local -- Parkland Light & Water -- and I said, "Do we have any wells near or within three miles of the plant?" And he said, "No, but," he said, "the wells that Parkland Light & Water have are between 30 and 640 feet deep. So, unless they're below 640 feet, they're going to be taking water out of the aquifer we use."

He also said that, "We presume that the water comes from Mt. Rainier underground, and that we have a 150-foot well that rises in elevation 25 feet four to five weeks after the rainy season starts." So, if it started raining like now, four to five weeks from now, this well would show a rise of 25 feet.

So, what they assume is that the groundwater does go down through this soil and gets in there. And he also said that there's something called -- that the aquifers are joined by what they call "windows" to each other under the ground. And I know that the top aquifer down in Parkland was

contaminated years ago. They had to drill deeper wells because the E-coli was getting into the first one. But they know they're connected so they really test all the time, and you know, it's really tricky. This whole groundwater thing is really tricky, because the glaciers didn't lay it all down in nice little even layers for us so we can keep them separated by a hard pan which we would all prefer.

That's on the water.

About the property itself, we went out and looked at it, and all these good folks -- there are some nice people here. There are some very nice trees out there and the EIS says they are much younger than they, in fact, are. We did a core boring on an oak and came up with 120 years, and that was without boring to the center of the tree and losing about this much (indicating) of the first part of it. So, we counted 120 rings that wasn't truly -- I mean, it's older than that, but we can't figure out how much older. And that's the oak. And that's probably the biggest oak out there. PM30

And they were telling me tonight that maybe we could save some of these oaks by changing the shape of the berm that goes around the oil storage tank; because the fire department requires a certain amount of oil deal to be spilled within this berm area so it won't get away. And there's your groundwater again.

If anybody knows what this is, I sure would like to

know what this is. It's a pod of some kind of a flower and I've never seen it before, but it's growing out there underneath the oak tree. And the fact that I haven't seen it before doesn't mean a whole lot, because I don't know all about them all, but I notice some omissions in there in what possibly could be on that property as far as birds and animals and so on. I mean, they didn't mention the field mice when there's probably about five thousand million of them out there. PM31

These things -- these mitigation measures -- it says the stormwater runoff could be controlled, blah, blah. It could be that they'd store the tanks or the fuel and oil during construction over impermeable surfaces -- cover them or something, I don't know, and use tarps and all that. PM32

I'd just like to say this, that I looked at a lot of construction sites, and these so-called curtains -- something said something about curtains -- to keep soil from running off the property, or being where it isn't supposed to be -- didn't work. They do not work. Don't trust them. You go out there after a big rain and the soil will have filled up over there and just pushed them down and they'll just be running right down onto the neighbor's property or somewhere where you don't want it. So, I don't like those. Don't try them. They don't work. PM33

Also, in these things, we say, "The wildlife will be

displaced and we hope it will come back," blah, blah. Just forget it. Don't put that stuff in an EIS. We don't believe it. It's not true. The wildlife dies when they cover up the ground. Everything dies underneath what was there. And if you don't believe it, just go out and look. Because if it doesn't get killed by the machinery running over the top of it and getting covered up, it gets killed out in the street where all the animals are all migrating away from the property or back to their property thinking they can come back for some reason or other. And it happens all the time. We run over it with our cars. And it just dies because there's no place for PM34 it to go. All the habitat is full. And so, there's already something there. And if it tries to go there, that something will probably either chase it out or eat it. So, no way.

It says, "There will be 7.2 acres of impervious surfaces." That's quite a bit. And if the staging area can someday be put back into some kind of a condition where it's not an impervious surface, that would be certainly a request that I would make.

That's it. I'm really concerned about that PM35 groundwater, and of course, also there's the global concerns. PM36 It would be a lot cheaper if we just took the natural gas and ran it into our house and heated our water or our -- whatever we need to use it for. It would be a lot cheaper for us to PM37 just use the natural gas in the way it comes out of the

ground, in our homes or in the industrial processes. It might not be as clean as if you cleaned it up and put it into electricity, but -- do you see what I mean? It's probably cheaper, too.

MR. CLARKE: Thank you very much. It's obvious that you've spent a considerable amount of time looking at the EIS, the Draft EIS, in researching some of your concerns. And I guess I was wondering, do we have anybody here that can talk about some of those water issues? Are there any comments that anybody wants to make about that, or is that something we just need to look at further?

MR. HENDRICKS: I think some of the comments you brought up about the groundwater treatment and protection of the groundwater, are items that get addressed in a lot of great detail in the spill prevention and control plan, and are going to also be addressed in things like the hydrological survey that go to Pierce County. And what we've told folks at like the Fredrickson-Clover Creek Community Council, is that as this information gets available, we're going to have meetings and have more discussions with neighbors; and we know people that have the same concerns that you've brought up, and we're going to go over and review those plans with you, talk about them, make sure you're comfortable with the things that we're doing. You know, you have some experience with what went on at the Boeing facility; you know some things that have

worked well there; and we're going to be talking to people just like we have in the past. We've had a series of meetings and we can plan to continue on doing those.

MR. CLARKE: Okay. Nancy, did you want to come up? Nancy Holbrook.

MS. HOLBROOK: Yes.

COMMENTS BY MS. NANCY HOLBROOK

MS. HOLBROOK: Thanks. I need the microphone. I came over from Whidbey Island and ever since I crossed through Seattle into Tacoma, I've been clearing my throat and losing my voice, and it must have something to do with that brown haze I saw covering the base of Mt. Rainier.

I'm the Policy Director for Greenhouse Action which is a nonprofit organization concerned with global warming and climate change issues. We have a technical advisory committee of atmospheric scientists and biologists in academics, including members of the National Academy of Science's Global Warming Task Force.

I guess I have to say, "Here we go again, another cheap fix." Where have I heard this before? The Northwest is PM38 about to embark on a fossil fuel-based energy future, utilizing what one prominent government energy official refers to as one "crack cocaine of the electric utilities." We are referring to natural gas -- a fuel source that steers us PM39 toward ratepayers footing the bill for mitigation of yet

another cheap fix for our energy needs.

There are three main issues which we feel deserve more evaluation than they were given in the Draft EIS: Impacts of carbon dioxide regulation and who will pay those costs, the developer or the ratepayer; the actual need for the power; which pool of customers is Tenaska Power intended for; how will future DSI contracts affect this need -- DSI being direct service industries such as the aluminum companies; and how is the region's fuel switching potential going to offset the need for large, gas-fired generation? PM40 PM41

In 1990, the United Nations Intergovernmental Panel on Climate Change warned that more than a 60 percent cut in carbon dioxide emissions would be needed immediately to avert rapid climate change.

In his Earth Day '93 address, President Clinton announced that he was committing the United States to reducing greenhouse gas emissions to their '90 levels by the year 2000.

In addition, other cities and states have more ambitious goals or are considering setting more ambitious goals.

Portland, Oregon has a CO2 reduction strategy which calls for a 20 percent reduction in carbon dioxide emissions below the '88 level by the year 2010. Despite all of this, plans by Northwest utility companies could increase carbon dioxide emissions 8 to 20 percent by the year 2013, by their PM42

concentration on natural gas turbines for electrical generation.

Spending a million dollars for carbon mitigation works out to about 4 cents per ton of CO2. A much more appropriate cost would be the $10 to $40 per ton that the Oregon Public Utility Commission is requiring utilities to use when analyzing their costs.

10 mills per kilowatt hour at the minimum would be more realistic. Remember, Clinton won the election, not Bush. And guidelines for the goal of stabilization of CO2 at '90 levels by the year 2000 are forthcoming. BPA needs to speak to this.

We understand -- let me go on and say that nowhere in this analysis is there a recognition of the cumulative effects of gas generation and its effect on the Northwest. PM43

We understand that Tenaska's developers have been unable to obtain insurance against the risk of future CO2 regulation. Does the insurance industry know something Bonneville does not? PM44

In California, developers are required to absorb these costs. BPA should require no less. The public interest mandates this protection.

In addition, we believe a more detailed description of the supply availability of No. 2 fuel oil is warranted. PM45 The Electric Power Research Institute or EPRI's study on

natural gas supply issues raises several questions as to the future price stability of this oil and states, "Back-up supplies of low sulfur residual fuel oil will most likely be expensive and difficult to obtain from U.S. refiners." Therefore, utilities will probably have to seek these incremental supplies from sources overseas.

Clearly, electric utilities face substantial uncertainty, both global and domestic, about having the appropriate back-up fuel available when needed for power generation. Each utility must analyze its own specific situation.

We believe that the extreme cold weather conditions under which the plant would burn oil could also be periods of air quality emergencies. How would this be treated? Has an exemption for burning during these episodes been obtained? If interruption of power is likely, what are the costs associated? Is BPA proposing a reserve to cover such emergencies? PM46

Fuel price risk of two mills and a one-mill adjustment for environmental costs in inadequate.

Need for power -- your recent edition of the Journal -- this is BPA's Journal they put out once a month -- notes that Reynolds Metals Company will shut down two potlines at the Longview facility. The cutback will reduce Bonneville's firm power load by close to 100 megawatts. We believe other

aluminum company cutbacks are likely given the current status of world markets.

The assumption that additional DSI contracts will be renewed is premature. What rate pool is Tenaska being acquired for?

Fuel switching: Last year's report from the White House Office of Management and Budget estimated that 240 megawatts, which is the equivalent of a Tenaska, could be obtained by converting 500,000 homes from electric to gas water heating at a cost of $150 million, far below Tenaska's cost of $925 million.

With your own, BPA's, fuel choice program scheduled to run through 1995, why not at least compare the possible benefits of gas-fired generation with fuel choice options? PM47

We will be submitting lengthier written comments before the close.

I have to comment on two more things. Surely by now Bonneville must understand the problems of after-the-fact mitigation. If that wasn't made clear by what we're dealing with with the nuclear projects and the waste that's being stored at facilities that nobody has anything to do with, surely the salmon crisis and the amount of money that's going to be required to go back and fix that, should bring the point home. And we believe CO2 mitigation costs are yet another cost that the ratepayers are at the risk of having to pay for PM48

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as they are having to pay for the short-sightedness of building dams without fish passage and constructing nuclear projects, when they were not needed.

I believe somewhere in one of the BPA reports, I saw, they said, "Natural gas is benign." And I just -- I don't understand that. There is, within the environmental community, even disagreement over pursuing fuel switching. We take the position that fuel switching needs to be evaluated. PM49

The other thing I would like to comment on with regard to the comment made on the hydrogen sulfide and the sour gas in Canada -- while it may be true that it is not delivered to Tacoma with the sulfide in it, I believe there are some concerned citizens in Alberta where the gas is being removed, that would beg to differ that it's not a problem.

The upstream and downstream benefits, or I should say costs, of fossil fuel projects simply have to be included in this analysis.

Thank you.

MR. CLARKE: Thank you, Nancy. The other people that raised their hands, I don't know your names. And before we go on, one thing that I would like to emphasize that Nancy referenced is that Nandranie said the comment period is open until October 4th. So, this is not your only opportunity to make comments. We'd like to hear your comments and questions tonight but if you think of something after tonight, you know,

take one of our comment forms and fill it out and mail it in or just put a letter together and, you know, mail it to us at our address. Or if you have one of the fact sheets, there's a number of telephone numbers on there also. You can call us up if you have some questions. So, I just wanted to make sure everybody understands, this is not the last opportunity.

QUESTION: I thought it was October 24th.

MR. CLARKE: October 4th?

MS. TUCK: October 4th -- 45-day review period.

MR. CLARKE: Okay, the gentleman here in the yellow sweater had some comments.

MR. IVERSON: My name is Iverson.

MR. CLARKE: Could you give us your name again?

MR. IVERSON: Earl Iverson.

COMMENTS BY MR. EARL IVERSON

MR. IVERSON: I read this over, and according to this, it's only good for 10 or 20 years, and they're going to use 100,000 gallons of water a day and they're going to get first choice; the Simpson pulp mill will get the second choice; and the third choice will be the people of Tacoma and Pierce County, which will have to probably be on ration. PM50

I'm not so concerned about that as I am about the gas itself. Now, the gas comes out of the ground and it's the same kind of gas that they -- when they take coal down in the mines, it's the same kind of gas that explodes and it will

explode on top just as well as on the bottom.

Now, I talked to those two gentlemen there when I first came in, and I told them what I thought of this project. If an accident happens which anything manmade can happen, it will blow this project sky high to smitherings, and it will knock the valves off. He says there are back-up valves. That gas -- electric gas would go back up through that pipe and knock those valves out just like that; and all the natural gas that's coming from Canada would go up in the air and form a cloud, and if it gets big enough it will drift to Boeing and kill 11,000 people inside of a few hours; and if it comes this way, it will kill all the people in this school and throughout the environment in just a matter of hours. PM51

Now, I'm against this completely, and I'm going to take all the action I can to stop it. I don't want the City of Tacoma or Pierce County to go into this with their eyes not open. It's a dangerous thing. It really is. And any time you have gas -- I don't care where it is -- when I was about 30 years old, there was a fellow working underneath a house and trying to repair the gas line, and they dragged him out of there dead as a doornail. Gas will kill anybody. It doesn't show favoritism.

So, they're not after the money because they've got $281 million, the paper said, so they've got money enough to buy all the groceries, all the cars and all the houses that

they want for the rest of their lives. They're not after money. What they're after is to get power to Bonneville.

Bonneville, like you say, is covering the deal, and they're in debt right up to their ears in debt to Uncle Sam.

So, I'm against this 100 percent. I will take all the action I can as a person to stop it, for only one reason, and that's the gas; because the gas is deadly. It would kill everybody in this room or the kids in this room; kill everybody in Boeing; kill everybody that -- if it's going that direction, kill everybody within four or five miles; and the same way in the other direction.

You're working with a lethal thing here, and I don't like it, and I'm going to do everything I can as a person to stop it.

Now, I don't know how everybody else feels about it. Would you like to see your family wiped out in just a matter of a few hours? That's what can happen. Gas. I know because I saw this fellow that was dead.

MR. CLARKE: Thank you very much. We understand your concern with the safety related to gas.

The gentleman in the back? Yes, sir.

Sit here or stand?

MR. SCHMAUDER: Oh, I think I'll stand up. I got a good voice.

COMMENTS BY MR. AL SCHMAUDER

MR. SCHMAUDER: My name is Al Schmauder. I live in Parkland, and a lot of my time is spent trying to work with the Clover Creek Watershed trying to enhance it; and working with the salmon and all the aquifers and the wetlands that go along with our watershed.

Frankly, I've been very impressed with Tenaska's willingness to work with the community and to try to come out and seek issues on how we can resolve things. And this meeting tonight and the discussions going on, I think it's very open and healthy and I'm really happy to see that going on in a public forum like this because, well, we all have a lot at stake in this.

As far as our concerns in our watershed, our council members have real concern about the amount of water that's going to be consumed in this process. About 1.9 will be used and we keep the hundred. Apparently, about 1.8 million gallons a day are going to be released into the atmosphere and consumed.

The City of Tacoma is going to provide the water, PM52 either out of the Green River which is where they get some of the water now, or else through wells. They said they've got a 5-million-gallon pipeline coming out. Half is consumed now, another two million goes to Tenaska. We've got about one million left. I'm sure the Port is going to need way more than a million gallons to take care of the rest of the

expansion out here, so all of this project won't require them to drill wells.

In the future, we are setting ourselves up for a lot more water use requirements. And Pierce County is not very healthy when it comes to water. Most of our county officials view water use as the biggest single thing affecting us in the future -- how we're going to provide drinking water to the citizens and to the residences.

So, over 20 years with 1.8 coming someplace out of the ground or out of the river, is a real concern to me because of the future demands coming down the road. And I believe our aquifer will be considered the sole source -- probably designation this year, which places other requirements on how we deal with it.

So, I think Tenaska, being the good company they are, and the bright technicians and engineers I see coming out -- why not push them even further yet to see if we can't take that 1.8 million gallons and put it into some kind of a closed loop. I'd consider either a second turbine to help use up some of that steam heat, or try to get that water into a loop where we don't have to expend it; and in the process, remove the excess heat and use that -- spin that off to other industries in the port or off into other even residential uses perhaps. Pump it over to the residences and use that to heat homes.

PM53

I think -- I hate to be wasteful. I'm a CPA and that stands for one of the "cheapest persons around." And if I see any energy being wasted, I start looking for -- you know, we don't have money to waste. So, a lot of heat in 1.8 million gallons going up. If there's a way to run that heat into your loop, into the steam in there, get her off, save some of that water, maybe we can retrieve at least 75 percent of that water and then use that heat for other things.

We've got ideas in mind how that heat could be used, maybe for other things to enhance our watershed, and we'll discuss that later. But I would really like to something done with that water.

And I also don't know what the -- I think the EIS could be improved when you work on the comments. Give us a little more information about how we're going to mitigate this use of water. And also, the plume -- steam plume now -- I didn't see anything in the EIS that says, "What will that look like in the wintertime?" Is that going to be -- like Simpson, we know has a craft mill down on Chambers Bay, and it's a year-round steam plume. Now, are we looking at something similar, more or less? Will there be some visual effects that the neighbors are going to be complaining about? Is Ken going to be crying out there because his shop's in the shade half the winter already because of the clouds and the plume?

PM54

So, we probably should address what that's going to

do. But let's see if we can do something with that water usage. Thanks.

MR. CLARKE: Okay, thank you. Was there anybody else? Yes, sir.

COMMENTS BY MR. WILLIAM GIDDINGS

MR. GIDDINGS: My name is William Giddings. I live in Parkland, and I'm appearing on behalf of the Tacoma Audubon Society. I teach environmental chemistry; however, the university for which I work is in no way responsible for my comments this evening.

The Draft EIS makes it clear that this is a project-specific proceeding, not addressing explicitly any alternative means of supplying energy which are higher in priority under the 1991 Northwest Conservation and Electric Power Plan -- namely, conservation and efficiency improvements, renewable resources and high-efficiency cogeneration.

Despite testimony before the Northwest Power Planning Council from public utilities and public interest groups that the Bonneville Power Administration had refused to participate in conservation proposals at a lower cost than this proposal, including one from Snohomish PUD for 240 megawatts equal in yield to this project, the Northwest Power Planning Council on August 11th adopted a Record of Decision that this project is consistent with Section 6(c) of the Power Plan.

PM55

Although that issue may appear to be settled, the EIS nonetheless speaks to a number of the concerns involved in those proceedings making them still relevant to this evening's public hearing.

The required no-action alternative paragraph in the EIS concludes that unless BPA contracts for purchase of the power to be generated by this project, it's unlikely that it will be built, unless another customer for that much power should be found.

Action on the project cannot be taken until after the end of the comment period for this EIS, so it is not too late for BPA to conclude that no project, or a different project, would be preferable to this one.

The testimony at the July 12th Northwest Power Planning Council showed in detail how Bonneville policies and procedures, not questions of cost effectiveness or feasibility, have resulted in failure to implement conservation and efficiency improvements for more energy and at a lower cost than this project.

Although the environmental impact of this project may be considered "relatively benign" -- it's in the EIS -- compared with the comparably sized coal-fire-generating facility, there is no evidence that identifiable conservation and efficiency projects would not be a better choice environmentally. PM56

Among the strongest objections to increased reliance on fossil fuel combustion as an energy source, is the concern for carbon dioxide's contribution to protential global warming. PM57

Although the United States Congress did not enact a proposed energy tax this session, there's no reason to assume that national policy and international agreements will not include a carbon tax during the life of this project, or even before it comes on line. Whatever the tax structure may do to the economic viability of the project, the reason for our concern is the global environmental impact of increased carbon dioxide emissions. PM58

Tenaska has recognized the importance of this question in its proposed carbon sequestering offset program. A range of 7 to 50 percent of carbon dioxide sequestering is proposed, depending upon the mix of specific forest preservation and reforestation programs in the Pacific Northwest, Russia and/or Costa Rica.

Looked at from the other side, this means that from half to nearly all of the plants emissions would remain unmitigated. PM59

While we applaud the approach and Tenaska's willingness to address the problem, a 7 percent offset appears woefully inadequate. Offsets for criteria air pollutants in non-attainment areas must exceed 100 percent. Many of the

world's leading atmospheric scientists view global warming as the single greatest threat to the future of humanity and the environment, far more important than any of the air pollutants currently regulated. PM60

Before the final EIS is written, a more conclusive commitment to an offset exceeding 50 percent and approaching 100 percent should be demanded. If that is found to be too expensive, I submit that society cannot afford this project. PM61 The Oregon Public Utilities Commission, we've just been told, recently adopted a range for analysis of ten to forty dollars per ton of carbon dioxide emitted.

It is noteworthy that insurance companies would not provide coverage against carbon risks associated with this project, nor is Tenaska assuming the risk. It is the ratepayers who are at risk for the potential costs of addressing the risk of further dependence on fossil fuels to be assumed by humanity and the global environment as a whole. PM62

MR. CLARKE: Thank you. Do we have anybody else that wants to make a formal comment at this time?

(No response)

MR. CLARKE: Okay. I guess then we would move into the question and answer period. If there are people that have some questions about the Draft Environmental Impact Statement that they would like to ask and we could talk about tonight? Yes, sir? Could you state your name?

MR. WALSH: My name is John Walsh. I live up in Everett.

MR. CLARKE: Thank you.

MR. WALSH: Stuart, you mentioned earlier that you felt that BPA needed, for future use, something like 6,000 megawatts?

MR. CLARKE: 1500.

MR. WALSH: Oh, excuse me, 1500. Is that -- are you calculating by -- is that with more efficient equipment or is that by old standards, or how did they come up with that figure, do you know?

MR. CLARKE: Well, what we're doing there is we're looking at our forecasted loads and our resources, and so we're looking at the difference between our current resources and what we forecast the loads that our customers are going to place on us.

MR. WALSH: Okay. Can you turn around to the customers and say, "Well, we'd like you to use the energy more efficient so that we don't have to meet these demands"?

MR. CLARKE: Our plan is to acquire, you know, 660 to 700 megawatts through conservation programs, and the way those programs would be implemented in most cases is through our utility customers, and also at some of the industries and those types of places. So, yes, we would work closely with them to get them to implement conservation programs; and of

course, our customers are utilities, and where the real savings occur is at the end use -- the point of end use. So, that's at homes and at commercial establishments and industries. So then, those utilities go out and work with their customers, and that's where the real savings occur.

Now, utilities can save energy on their own system and BPA believes that we can save about 120 megawatts through improving our generators and making some improvements maybe in our transmission system and also at our substations, at the transformers, and those types of things.

There are some utilities that are also looking at those types of programs, too.

MR. WALSH: Okay. I was just curious. You know, you say you're going to be saving 660 megawatts in conservation. Are you talking about mostly from industry or from private?

MR. CLARKE: I don't recall the exact breakdown.

MR. WALSH: Is that like -- you know, I was talking to some people that work for the utilities around here, and they say through conservation they save about -- I think it was 27 megawatts a year to go into, you know, insulating and things like that; and yet, the Commission has decided that this isn't worth it anymore and to stop this program. And yet, the people within the program feel that they can do better.

MR. CLARKE: Okay, you're talking Snohomish County PUD, because you're from Everett. Yes, it is true that we negotiated with Snohomish County PUD for a long time about implementing a conservation plan. I mean, we've been doing conservation with Snohomish County PUD since the early eighties, and we were unable to reach terms and conditions that were satisfactory to both BPA and Snohomish County, and so Snohomish County basically made a decision to dismantle their conservation plan.

There are still conservation programs being implemented in Snohomish County because there were some things that were left over that needed to be done, and also, in some instances, BPA is still working with industries up there where there may be lost opportunities. In other words, if we don't do the conservation right now, we won't have an opportunity to do it in the future.

Now, you know, a lot of the conservation will be there to go get in the future and we would certainly hope that we could work with Snohomish County PUD to put a plan into place to go get those conservation megawatts.

You know, BPA has had an active conservation program through the eighties, and I think we've acquired about 330 megawatts of conservation throughout the eighties. So, we think the 660-megawatt plan is quite aggressive when you compare it to our efforts through the eighties.

MR. WALSH: Well, I guess my only comment -- I thank you for answering my question. I can see the local people are concerned about water, and that is becoming a big issue. Not here but all over the place. And I think it would really be important for you to consider conservation instead of putting these people in the position of not having water for their homes. That's my only comment, I guess.

MR. CLARKE: Okay, thank you. Yes?

MS. HOLBROOK: Is it realistic that Bonneville will address fuel switching in the final EIS, under "Alternatives"?

MR. CLARKE: Nandranie, do you want to --- (interrupted)

MS. TUCK: I don't believe so. This document is tiered to the resource program EIS in which we have fully discussed alternative resources, and --- (interrupted)

MS. HOLBROOK: But you never discuss fuel switching even to begin with.

MS. TUCK: We have a policy now in place for that, and I do not think it's within the scope of this EIS.

I want to say something to address a general comment that I hear about conservation and renewable resources. I'd like to remind you that this is one project. Earlier I mentioned that we have various energy acquisition programs. This is only one of them. Through the competitive acquisition program which was open to all sources which means that it

included conservation, we received several conservation proposals and we took all of those that were cost-effective. Someone has to pay for them. And are ratepayers willing to pay a higher price? And if you have been following Bonneville's business, you will know that there was a lot of controversy when we tried to increase rates just recently. So, someone has to pay the cost.

I would also like to address geothermal and wind resources. We have a very difficult time trying to site wind resources. To some, it appears as if they are benign. They are a renewable resource. Bonneville is a leader in the nation in trying to site and develop wind resources, but because of habitat issues or cultural resources issues or aesthetic issues, it's been very difficult to site one of those to date, and we're still persisting -- still working on that.

Geothermal is sometimes thought to be a benign resource. Perhaps it might be to some extent. Again, it relates to location. It depends on where the geothermal resource is. And there are impacts associated with that.

The bottom line is, there are no resources without costs -- financial costs and environmental costs. It all is a balancing act. And what Bonneville is trying to do is to diversify our portfolio.

We all know the impacts of hydro and nuclear. At

the present moment, we have various proposals in different stages of development and we have small hydro, we have biomass, wind, geothermal and combustion turbines.

Somebody has a question here.

MR. SCHIPPER: My question is, how can you honestly talk about costs when you're stilling coming from the aspect where you're saying this is one -- this is only one plant, you know. And the fact is, what a lot of people here are talking about -- what I'm talking about is basically the long-term costs of putting, you know, the carbon dioxide, the methane into the air. These are not costs that can be figured right now. The cost it's going to cost to decommission the plant, the cost it's going to cost to all people if we continue to rely on fossil fuels. That's not in the EIS. That's not figured in here. PM63

You know, you're saying you're taking -- you know, you took these different plans and figured all the costs to the taxpayers and the ratepayers. Hey, I'll pay more now than having, 50 years down the line, having to spend billions of dollars to clean up the messes that we're making now. And that's what happens. And if you look back at WPPSS, if you look back at what we've done -- you know, if you look back with fossil fuels, period, that's what we're doing. And how can you figure cost without thinking about that the global cost and the health care cost and the cost of future PM64

generations -- that's there. You can't ignore that.

MR. CLARKE: Did you want to reply?

MS. TUCK: I cannot see how you can say that we are ignoring that cost. It is a cost to society. My point was not that it is necessarily cheaper, it's that we do pay a price for any type of resource. None of the resources are benign, not even conservation. We can only get so much conservation. When we drive our cars to work, when we use our lawnmowers, we are polluting the atmosphere. Let's look at our lifestyle. Everything we do, we utilize a lot of energy, and we do cause environmental destruction. When I build a new home, I cause environmental destruction.

The point I want to make is that we -- whatever we do, there are consequences to it. And what Bonneville is trying to do is to balance it out. And the fact that we are interested in purchasing the power from this project doesn't necessarily mean that we're going to populate the entire Northwest or the United States with plants of this type. We are concerned about the consequences. We are concerned about the CO2 and its effects.

So, I would like for you to look at it from that perspective as well.

MR. SCHIPPER: Oh, I understand what you're saying.

MR. CLARKE: Okay.

MR. SCHIPPER: Still, that doesn't really change

what I've said about --- (interrupted)

MS. TUCK: I understand. Yes, it's a small comfort to you.

MR. CLARKE: Okay. Nancy?

MS. HOLBROOK: I'll try to be brief. Cost is important and what we're saying is that you haven't accurately factored in realistically the costs. I mean, one -- I think PM65 most people would agree with that.

Number two, in terms of Bonneville's commitment to resources, I have a lot of letters that have crossed my desk from utilities that are very frustrated with Bonneville's inability to work with them on conservation programs. I mean, there's just a ton of them out there waiting to offer conservation, and the process is difficult. It's cumbersome and it's difficult, and I think your own agency is working through that right now, and has acknowledged that.

In terms of the commitment to renewables, I must say that that is proceeding at a snail's pace. Part of the reason I think siting acceptability is difficult right now is that there isn't enough education going on or dollars being spent on that. There are descriptions in the Power Plan of wind-monitoring stations that all they do is they just -- little machines that sit up there and assess the wind velocity through the seasons.

Now, there's supposed to be at least, I believe, ten

to fifteen of those. I think there's five of them right now. So, that's a specific that's not being fully funded, and that's a confirmation agenda item of the Council.

The geothermal demonstration projects -- there's three. Bonneville has proceeded slowly to fund what was required to get the EIS off the ground at the Newberry Project.

I think everybody here would agree there's trade-offs.

I have to say that I served as a member of the State Energy Strategy Committee appointed by Governor Gardner two years ago, and we -- there was a poll commissioned on this whole issue of willingness to pay. It was very clear. We asked this question at all of our public hearings as well -- "Would you be willing to pay more and how much more for renewables," and it's in the majority every time. People say they're willing to pay more. And it isn't -- it isn't too much longer when you finally factor in true environmental costs of fossil fuels that those renewables are in a level playing field anyway. So, the question always bothers me as though it's a given that renewables are always going to be more expensive.

But I think -- you know, I heard a lot of talk at the public hearings I attended of people talking about their kids, their grandkids, and what about the future. And that

has been our basic problem in energy policy in this region is that we don't look towards the future. And I have to recognize -- I know Stuart pretty well. I think he's one of the good guys, by the way, at Bonneville, and I don't know you very well, but you probably are, too. And I hope the message that you guys are going to deliver to the people on top -- and that would be Sue Hickey and Randy Hardy -- is that there are some people, at least at this one little meeting, that had some serious concerns, and nobody showed up to say they were in favor of this project.

MR. CLARKE: Yes, sir?

MR. LANE: Along those same lines, just a brief comment and then a question. I believe that education is the key, and if someone that is truly looking after the best interests of the public were to evaluate the situation, they would realize that education of the public and what natural gas the cheap alternative, quote-unquote, actually costs you through your tax dollars, because it is subsidized through your tax dollars to keep the price low.

I think that if the public is educated as to what the actual cost is, as she said, renewables are on a level playing field then, and I think that the public will accept -- I mean, I -- like, the people that I know and the people that I talked to are all willing to accept a higher expense now to protect the environment in the future.

I don't necessarily believe that the expense is going to be higher either. But I think that, you know, we're pretty much run by the oil industry.

One question I have though is, how do current air quality measurements compare with the Clean Air Act, and how is a gas-fired plant going to do anything but exacerbate the situation in this region that's currently not meeting up to standards, and isn't in the foreseeable future going to be able to? PM66

MR. HENDRICKS: I think there's a pretty extensive section in the Draft EIS that would walk you through the air emissions from the facility, and how, under the worst conditions the emissions from the plant would compare to all of the PSOPCA and Federal standards, and show you how far below all of the incremental standards, in comparison to all the significance levels --- (interrupted)

MR. LANE: I didn't see methane gas there, is it?

MR. HENDRICKS: Well, there's basically no methane emissions from the plant. I don't know what methane emission you'd be thinking of. There would be a small amount of -- trace amounts of unburned methane, but I think those would all be addressed.

As far as the critical pollutants, the volatile organic compounds, the NOX, carbon monoxide -- all those that are regulated by PSOPCA, I think are addressed in pretty great

detail.

You know, if you have questions on them, we can walk through -- we have air consultants that can help you understand what some of those terms mean. But I think you'll see that all the emissions and all of the impacts from the facility are far below the standards.

MR. CLARKE: Yes, sir?

MR. SCHIPPER: I don't know if I heard what he asked right, but I thought that he was saying that, you know, not so much the plant specifically but the whole region is above standards; and by adding a plant, we're just going to be increasing the amount of pollution that we're dealing with. PM67

MR. HENDRICKS: I don't think there's any question that we're increasing the pollutants. I don't think there's any way that that's going to be avoided. I think the rules and regulations are set out by PSOPCA for meeting all the health, and safety standards for the air quality, and I think you'll see that the rules that are set up by PSOPCA are there to insure that air quality meets all the standards that are required.

You know, we have some folks from PSOPCA that can talk about it with you in more detail, but --- (interrupted)

MR. WALSH: Are we in compliance with the Clean Air Act, then?

MR. HENDRICKS: It's currently a non-attainment area

for ozone. Moderate non-attainment.

QUESTION: And carbon monoxide?

MR. HENDRICKS: And carbon monoxide.

MS. HOLBROOK: And if you look at those numbers that he's talking about in terms of how close they come to being a major source, it's like a major source is 100 tons, it's like 98.9. I mean, they're really bumping up against it. And if they get to 100, they have to get offsets which I don't think anybody thinks you can get in this area.

My discussion with the air quality people that I had a few days ago was, the whole question of cumulative impacts, and nobody's taken a look at this. I mean, there could be a couple of more projects sited, and if they all just bump up -- you know, what are the cumulative impacts of that? I mean, my understanding of non-attainment status is that at some point you have to say you're going to be in attainment; and there's got to be a plan to arrive at that point. And I would like to see a little more attention paid to that in the final EIS, if possible. I think that is of serious concern.

I would also venture to say that with -- you can correct me if I'm wrong, but it seems to me that the long-term work force of this project is 25 to 30 people?

MR. HENDRICKS: 25 to 30.

MS. HOLBROOK: Okay. So, I guess I would say that the community needs to be more aware of, do we want a project

taking up that much airshed providing what I would consider to be a handful of jobs. I think that that's not appropriate to the EIS, but I think it's a question for the people in the community to ponder. PM68

MR. HENDRICKS: Yes, I think there's a corollary to that, too, that one of the concerns that Bonneville has expressed, and I think other utilities in the Region have expressed, is that in this area, Tacoma, Seattle, west of the Cascades, there's a real serious problem, because almost, what, probably two-thirds of your power actually gets imported into the region. You don't really produce it here. You're importing the power into the Seattle-Tacoma area through transmission lines, and there's a great deal of risk about the interruption and loss of the power supply by not having generation located here west of the Cascades. So, there's two sides to it.

I don't want to diminish your concerns, but there's also another concern about the liability of power and getting power into the region. So, it's --- (interrupted)

MS. HOLBROOK: I have to speak to that, because as Stuart knows, I served on the Puget Sound Area Electric Reliability Sounding Board with a group of people from Grays Harbor Commissioners and Power Council members and various other people. And one of the -- that certainly was a consideration.

But one of the options we came up with which, forgive me, I feel was a tad bid downplayed in the final, was fuel switching. And shortly after that study, the fuel switching study that originally started at Bonneville just got killed. Now, it's been resurrected with Randy, which is good, but I think there are certainly other ways to consider dealing with voltage stability. I think that's one more -- I would say that is one more reason to take a good close look at fuel switching, and I am distressed it is not going to be more fully evaluated.

MR. HENDRICKS: Also, just for your information, the Northwest Power Planning Council staff is putting together -- at least are collecting data right now about fuel switching, and one of the things they're asking people for input on is, what are the emissions from home heating appliances when you switch them over to gas. And it's really not a real clear-cut answer, because I think under a lot of cases, when you switch home appliances over to gas, you'll find that there's more pollutants through home furnaces than going through electricity, even through the conversion of gas into combined cycle power plants and into heating devices. And the Power Planning Council asked us for some input and we found some data from the American Gas Association on pollutants from home furnaces and supplied it to them, so they'll be doing some studies to show all the impacts, and it's --- (interrupted)

MS. HOLBROOK: Yes, I know. I'm sitting on one of those committees, the Gas Advisory Committee, and I know that that is ongoing. I believe what needs to be compared there, because we've seen studies to our energy strategy committee, that -- well, everybody has a study, I mean, and somebody needs to come up with "the study."

The critical point there is that you're using so much more gas to get 240 megawatts in a CT than if you directly use it, that I would submit that you compare the amount of gas you use, that you're still coming out with a net environmental gain with a fuel switch. But I would concede that the jury may be out on that.

MR. CLARKE: You know, one of the things we're hearing here is when -- of course, you make this decision on this particular combustion turbine, it has a much broader effect. We're dealing with the whole environment and there are a lot of tradeoffs. And I think we're getting a little bit off base here. I mean, these are all related issues. I just want to give anybody an opportunity, if they have something really specific they want to talk about in the Draft EIS, to bring that up.

MR. STEINER: One suggestion in response to your comment about cumulative impacts. Of everything that's going on in the basin for air quality, probably the best and most thorough study that's being done is for the State

Implementation Plan. Talk with PSAPCO about what they're doing, what plan are they developing too. They're required by the Federal Clean Air Act to attain the standards that are currently being violated for CO and for ozone. Talk with them about the plan that they're developing. They have to consider all projects going on. They have to consider the automobile -- all sources.

MS. TUCK: I'd like to say something about that, too. Nancy, I agree with you. I share your concern about cumulative impacts. We have looked into whether there are other viable projects that will be occupying this airshed, and there is none at the moment. If any is to follow us or if we were to be interested in a project within this airshed, then we will have to analyze cumulative impacts. As of now, it's not relevant in this particular situation.

MR. CLARKE: Yes?

MS. GIDDINGS: The other power plant that's out there -- Puget Power's -- what do they emit? And that's one question. And the other one is, the other power plants that are in the works for that property out there -- I'm wondering if anyone has come to the County yet to talk about it. I know there's another one -- at least one that they're talking about putting out there, and maybe more than one. There's nobody here from the Port that --- (interrupted)

MR. CLARKE: I don't know what the emissions are

from Puget Power's plant. It is a peaking plant. It can only operate -- I think it's up to 1500 hours a year. That's its maximum limit. I think that's correct.

MR. HENDRICKS: I would think that the Puget Plant doesn't have the catalyst controls put on it that our facility has, so I would imagine on an hourly basis that they're going to be several orders of magnitude higher -- maybe five to ten times higher, because of the removal we've got. Now again, it's a peaking plant, less efficient plant, more expensive to run. So, they don't intend to run it very often. On an annual basis --- (interrupted)

MS. GIDDINGS: If they ran it, we would be in our worst air problems. Just like that other comment about if we have to switch to the oil, we'd probably be at the worst time.

MR. CLARKE: Do we have any analysis on that yet?

MR. HENDRICKS: No.

MR. CLARKE: Okay.

MR. STEINER: Now, the impacts of burning oil have been considered in the --- (interrupted)

MS. HOLBROOK: Right.

MR. STEINER: And it combines the worst case impacts while burning on oil with the worst case measured air quality in the region. That's a very conservative thing to do, but as you pointed out, there's a chance that the two can happen at the same time. Probablistically, it's a very low probability.

But if it happens, it's been addressed in the EIS.

MS. HOLBROOK: But now, if there's another power plant brought in our there --- (interrupted)

MR. HENDRICKS: Phil, has anybody approached Pierce County?

MR. PINARD: If there's discussions about other power plants, they haven't filtered down to the staff yet.

(Laughter)

MR. STEINER: That's a good point about how cumulative impact analyses work today. We did a thorough review of all proposed projects and we screened them to make sure that they were for real projects. They had to be -- they had to have an active permit going on and they had to have realistic chances of being permitted. Anybody that passed that screening got included in a cumulative analysis. There weren't any.

But the next person that comes along that proposes one will have to consider this plant's emissions together with theirs and do a cumulative analysis.

MS. HOLBROOK: Okay. So, we're considering the ones that came from Puget Power's then, on this --- (interrupted)

MR. STEINER: They're in the measured base line. They're in the air quality monitoring --- (interrupted)

MS. HOLBROOK: Yes, that's what I understood. Part of the reason the area's non-attainment, I would imagine.

MR. STEINER: Part of the reason, yes. The automobile that we all drove to the meeting tonight.

MS. TUCK: And lawnmowers -- they do emit a lot. Bill, do you have any figures on that? I was rather alarmed when I read about how much pollution they emitted, and it's something that I wasn't very aware of before.

MR. STEINER: And the point that Tom made earlier -- it really needs to be emphasized. A lot of people are concerned about converting back to direct use of natural gas in the home because, you're right, it uses less gas. It's more efficient to use it at home, but it creates a lot more air pollution. You can't afford to put the kind of emission controls that you can afford to put on a power plant like this at home. It would drive you out of business real fast.

MS. HOLBROOK: Well, I think we decided the jury's out on that. I think the definitive study that everybody could point to and go, "yes," is not really out there yet. At least our State Committee, which was a pretty high-level committee, really took a shot at trying to get that figured out, and we couldn't.

Do you agree with that, Stuart? You sat in on some of those meetings.

MR. CLARKE: Yes, that's true.

Okay, other -- yes?

MS. KING: First of all, I don't envy any of you

guys in your job. I don't envy you having to sit up here and deal with us tonight. But I know that you want specific questions on the EIS, and I'm totally opposed to the whole project to begin with, and I know that any issue of this sort comes down to cost. That's always the bottom line. And you have to deal with that.

And forgive me if I'm not quite as knowledgeable as I should be about all the details, but why is BPA in deficit at this point? Do you have any --- (interrupted)

MR. CLARKE: In terms of our resources?

MS. KING: In terms of dollars.

MR. CLARKE: The load resource balance?

MS. KING: Obviously, I'm in support of renewable energy resources, and right now what I'm hearing is that the costs are too high. And so I'm wondering why --- (interrupted)

MR. CLARKE: Well, there's a couple of reasons we're in deficit. Number one, there have been a number of major power plants that have been shut down over the last few years. Most recently, the Trojan Nuclear Power Plant which produced over 1,000 megawatts. BPA got about 330 megawatts out of that plant.

The changes that are being implemented on the Columbia River System -- the hydroelectric system of BPA gets about approximately 90 percent of their power from the dams on

the Columbia River.

Those changes that we're making to help the salmon recover, that's causing us to lose some ability to produce as much power as we have out of the past from those dams. And there is some controversy about how many megawatts that is, but there's definitely an effect on our ability to produce megawatts.

So, we've had a loss of resources to begin with -- ones that we've had there for years, and we've been depending on.

And then the other one is that there's a lot more people in the Pacific Northwest. We've had increasing populations which has led to load growth, and this has happened even though, if you went and looked at, say, average residential consumption back in the early eighties or late seventies and compared it to today, you would find that the average residence is consuming a lot less kilowatt hours per household. But the fact that we've added so many more households and commercial buildings -- we haven't probably added that much industry, so I won't say that -- but that just created more load growth. And so, people use more electricity.

And so, BPA currently supplies about 45 percent of the electricity that's used in the Pacific Northwest, and so when those loads go up, when the demand for power goes up, we

have to figure out a way to supply it. So, we're getting hit from both sides.

MS. HOLBROOK: Can I say one more thing, Stuart? I have to say it.

MR. CLARKE: Sure.

MS. HOLBROOK: In terms of the cost of why they're in trouble, you understand that a large part of what they serve is aluminum companies. I don't know the exact number. Stuart probably does. But what they pay Bonneville for the power is tied to the world aluminum market prices which are very low right now. Russia is dumping a lot of aluminum, and will for the foreseeable future.

So, when aluminum prices are low, the amount of money that the DSIs, the direct service industries, pay Bonneville is low. So, there's a loss of revenue there. When the world aluminum market goes up, they pay more. So, it takes a hit.

MR. CLARKE: That's true, right. At the particular time, that's true. We have what's called a "variable rate," and it's tied to the price of aluminum, and it is true right now that the price of aluminum is down, so what we charge the DSIs, that price is at the bottom of that rate. But also, it's true that if you look at the whole period that that rate has been in effect, we have collected about the same number of dollars as if we just had a rate that had been set and not

varied; because when we first put that rate into effect, the price of aluminum was high, and we were actually getting more money than we would have charged if we had just established a fixed rate.

But right now -- and Nancy's absolutely right, most people believe it's because of the Russians dumping aluminum. And the other thing that's happened, 25 percent of the power that we sell to aluminum companies is what's called "nonfirm power." So, it's power we don't always know if it's going to be there, and it's dependent on how much water we get coming down the Columbia River.

The past year -- actually, the past six years have been very poor water years, and this past year has been extremely poor because we went into the year with low reservoirs. And we've had to curtail service to these large industrial companies. And what I mean by that is, we just have not been able to serve their needs because we don't have the nonfirm power. So, it is a big part of our load, and we have an obligation under our contracts to provide that service.

MS. KING: As far as the Trojan plan, who eats the cost with that? I remember reading in the news that it was a question of whether ratepayers would eat the cost for the plant closing, or would it be the shareholders or -- what's the latest update on that?

MR. CLARKE: That's Portland General Electric's plant. It's in Oregon. I haven't followed it that closely. I don't know if anybody --- (interrupted)

MS. HOLBROOK: I think that's sort of in process. The concern is that PGE will go under if they have to eat all that, and nobody wants PGE -- well, most people don't want PGE to go under. So, it's not going to just be PGE, I'm sure. The ratepayers will absorb some of it, I would imagine.

MR. CLARKE: Okay. Again, I think we're getting a little off center here from what we're here to talk about.

MS. KING: I realize that, and that's a question -- it's all related.

MR. CLARKE: That's okay. We're about at 9:00 o'clock. Do we have any other questions related to the Draft Environmental Impact Statement?

(No response)

MR. CLARKE: Okay. I guess once again I'll just say one more time, the comment period closes on October 4th. If you have additional comments, you can pick up one of the comment forms that gives you the address to mail it into. If you filled out one while you were here, just leave it back at the registration desk on your way out.

I'd like to thank everybody for coming tonight and providing the comments and questions and answers. I think that we learned some things from this dialogue and hopefully

we can address some of the issues in the final EIS.

And the other thing is that, you know, if you do have some far-ranging questions that you would like to talk to somebody about, I'm sure most of us would be willing to stay here for a reasonable amount of time and just talk to you after the meeting.

So, with that, I'll close the meeting. Thank you.

(Thereupon, at 9:02 o'clock p.m., the hearing was concluded.)

BEFORE THE
U. S. DEPARTMENT OF ENERGY
BONNEVILLE POWER ADMINISTRATION
SPANAWAY, WASHINGTON

PUBLIC HEARING

In the Matter of:

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Concerning

PROPOSED TENASKA WASHINGTON II GENERATION PROJECT

I, the undersigned Wm. Chun, hereby certify that I was Official Reporter in the above-captioned proceedings; that these proceedings were then and there recorded by me on the date and at the place set forth in Captioned Page 1 hereof; that thereafter, these proceedings were reduced to a computer printout by me and/or under my direction; that the foregoing transcript, Pages 1 to 79, both inclusive, constitutes a full, true and accurate transcript of said proceedings, so recorded by me and produced to the best of my ability.

IN WITNESS WHEREOF, I have hereunto set my hand this 13th day of September, 1993.

WM. CHUN,
Official Reporter.

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