Background

Goldendale Energy, Incorporated (GEI) has applied for State and local permits needed to construct and operate the Goldendale Energy Project (GEP), a 248-megawatt (MW) gas-fired electric-power-generating project in the City of Goldendale, Klickitat County, Washington. GEI has also requested Bonneville Power Administration (BPA) to integrate the power from GEP into the Federal Columbia River Transmission System (FCRTS) at Harvalum Substation.

Power generated at GEP would be available for purchase in the wholesale power market, possibly to a local Direct Service Industry (DSI) and/or to BPA.

Project Description

Generator - The 248-MW GEP would be located within Goldendale Industrial Park and the City of Goldendale. GEP would burn natural gas in a combustion turbine driving an electric generator. The combustion turbine exhaust would flow to a waste-heat boiler generating high-pressure steam to drive a steam turbine and second electric generator. The general location of GEP and ancillary facilities is shown on the attached Regional Map (Attachment A). A Site Plan showing the project design and an artist's illustration of the project also are attached (Attachments B and C).

Gas Pipeline - The project would require the construction of a 5.1-mile natural-gas pipeline lateral. This gas pipeline lateral would connect the GEP to the Northwest Pipeline Company's main pipeline in Klickitat County. The route for the pipeline lateral is shown on the attached Route Maps (Attachments D-1 and D-2). The lateral route follows the existing pipeline, Wing Road, and the abandoned Burlington Railroad right-of-way.

Transmission Facilities - Klickitat County Public Utility District (KPUD) would construct a new 9.2-mile 230-kilovolt (kV) electric transmission line between GEP and BPA's Harvalum Substation, located next to the Goldendale Aluminum Smelter. The proposed transmission line location is shown on the attached Route Maps (Attachments D-1 and D-2). The line follows an existing KPUD transmission line for most of its length. BPA would construct a new terminal within the Harvalum Substation for the new transmission line.

Prior Environmental Review

In order to participate successfully in the increasingly competitive and dynamic electric utility environment and to continue to meet the specific obligations of a Federal agency, BPA prepared the Business Plan Final Environmental Impact Statement (BP EIS, DOE/EIS-0183). This analysis evaluated 19 specific issues and their effects over a range of six business plan alternatives. On August 14, 1995, BPA issued a Record of Decision selecting the "Market Driven" alternative. By design, this EIS was intended to support a variety of subsequent actions expected to stem from BPA's "Market Driven" strategic policy decision through the use of tiered decision-making, that such decisions would be based upon site-specific impact information, and that BPA would involve the interested and affected public.

Actions that BPA would take under the Market Driven alternative are detailed in the BP EIS. In particular, BPA's proposed actions relative to the GEP involve the following Market Driven responses:

1) Service to DSIs would decline as preference customer loads grow. Until recent curtailment of smelter production, BPA provided about 60 percent of the energy needs of Goldendale Northwest Aluminum, Incorporated, and has previously provided 100 percent. The GEP may provide for a portion of the smelter load no longer provided by BPA.

2) BPA would acquire energy resources to satisfy market demand and the addition of combustion turbines would enhance BPA's ability to supply high-value products and services. BPA recently signed new wholesale contracts with more than 130 Northwest utilities and industries, most of them for 10 years. Those agreements pushed the agency's total firm energy load—the amount of energy BPA must supply—up to 11,000 MW. That is more than earlier agency predictions and nearly 3,000 MW more than the FCRTS can generate on a firm basis.

3) BPA would provide transmission access to wholesale power producers and purchasers, including DSIs. GEI has received a determination from the Federal Energy Regulatory Commission that it qualifies as an Exempt Wholesale Generator (EWG) and, upon completion of the project, GEI would be a wholesale power producer. Depending on the form of the power sales agreements, it may be necessary to amend GEI's EWG determination, but GEI expects to be able to qualify as an EWG under any anticipated power sales arrangement. While power sales agreements from the project are presently uncertain, an interconnection to BPA's transmission system is required in any arrangement that is chosen, including GEI's alternative proposal to sell the power from the project in the wholesale markets. BPA was expected to provide transmission access and generation integration services under all of these circumstances in the Market Driven alternative.

4) BPA would plan and construct transmission facilities based on requests for non-Federal power transmission. GEP has requested transmission integration services from BPA's Transmission Business Line. The BP EIS anticipated integration of projects to BPA's system in the Market Driven alternative and generically considered the potential environmental impacts of transmission facility construction.

The BP EIS and BPA's Resource Programs EIS (RP EIS, which the BP EIS incorporates by reference) describe the potential environmental impacts likely to occur from combustion turbines and other energy resources. The types of impacts identified would commonly occur when combustion turbines or transmission lines are built and operated regardless of site. The BP EIS projected potential impacts from new resource developments for the 2000 and 2010 time period.

Air Impacts - The RP EIS reports that natural-gas-fueled combustion turbines are relatively clean burning compared to other energy resource options. Nitrogen-oxide (NOx) emissions are reported as a potential issue, but emission control methods can be employed to reduce NOx by up to 80 percent. Sulfur-dioxide (SO2) emissions are reported when combustion turbines use oil as their fuel. SO2 emissions are reported as mitigated if scrubbers are used. All combustion turbines are reported to emit significant amounts of carbon dioxide (CO2) and waste heat. Annual air emissions and thermal discharges are reported in Table 3.26 of the RP EIS.

The BP EIS also reports on the air impacts of combustion turbines. Much of the information reported is drawn from the RP EIS. Table 4.3-1 of the BP EIS reports air emissions quantities for NOx, SO2, CO2, particulates, and carbon monoxide (CO). Reduced emission rates for air emissions are reported for new combustion turbines. NOx emissions are reported as decreasing by as much as two-thirds.

The BP EIS reports on typical transmission-line impacts in Figure 4.3.3. Construction activities typically cause air impacts such as fugitive dust, vehicle emissions, and construction vehicle noise.

Water Impacts - The RP EIS reports that water use for combustion turbines can be an environmental concern. It also reports that visible steam plumes have been reported as an impact. These environmental concerns can also be minimized through turbine design. Table 3.26 reports generic combustion-turbine water-quality impacts such as water consumption, water discharges, biological oxygen demand, total dissolved and suspended solids, and ammonia. Table 3.26 reports water impacts that would typically occur as a result of gas-extraction wells. The BP EIS reports generic water impacts from combustion turbines in Figure 4.3.2. Water consumption by new combustion turbines is compared to the amount of water consumed by other generation-resource types.

The BP EIS reports typical transmission-line impacts on water, fish, flood plains, and wetlands. Section 4.3.2 reports that transmission lines, access roads, and rights-of-way can increase sediments in streams which may in turn impact aquatic life such as anadromous and resident fish. The use of herbicides to control vegetation may also impact fish by removing vegetation that provides shade along water features. Erosion caused by transmission line construction and resulting sedimentation of water features are reported as having the potential to reduce insect life and fish populations. Sediment impacts to fish eggs also are reported, as are mitigation measures to prevent transmission-line impacts to water features.

Land-Use Impacts - In the RP EIS, Table 3.26 reports the average land typically used by combustion turbines as 0.15 acres per MW. Also, typical noise impacts of 65-70 decibels are reported within 1,200 feet of the turbine if sound buffering is not installed. Noise buffers are reported as being capable of reducing noise levels to 51 decibels at 400 feet.

In the BP EIS, Table 4.3.1 reports the amount of land typically used by a 230-kV transmission line right-of-way as 3.43 hectare/kilometer of line.

Socio-Economic and Public Facility Impacts - In the RP EIS, solid waste impacts, employment impacts, and occupational safety and health impacts are reported in Table 3.26. The BP EIS reports socio-economic impacts in Figure 4.3-3, including construction-caused temporary population increases, public objections to new transmission lines, and electric transmission-line field effects and shock hazards.

Fish, Wildlife, and Vegetation Impacts - The RP EIS reports generic impacts on vegetation in Section 5.4.3. Regional wildlife impacts are reported in Section 5.4.4. Impacts to resident and anadromous fish are reported in Sections 5.4.1 and 5.4.2. Combustion turbines would only slightly impact fish, wildlife, or vegetation unless their specific site is used by these resources.

Cumulative Impacts - The RP EIS evaluates the potential cumulative impact of BPA's new resource acquisitions scenarios (called resource stacks) for the years 2000 and 2010. BPA's future resource acquisitions were reviewed in the context of existing resource operations (existing coal plants, for example) as well as new non-Federal resource acquisitions.

The BP EIS also reports potential cumulative impacts. Section 4.3 reports generic impacts associated with combustion turbine development and use. The effects of natural gas development are reported in Section 4.3.1.2. Section 4.4.3.8 reports the cumulative impact of different BPA responses to the market. Table 4.4-19 reports key impacts that would result from the 1995 Biological Opinion on Hydro Operations and how greater reliance on thermal resources

would impact air resources, water consumption, land use, and transmission development. Cumulative impacts to key regional environmental resources are reported in Figure 4.4-5.

New Environmental Review

Review processes for State and local permits generated site-specific environmental information about the GEP and provided opportunities for public comment. Site-specific impacts that would result from the GEP are of the type and magnitude reported in the BP EIS and the RP EIS. Public participation opportunities included:

1. A City of Goldendale project "open-house" meeting on October 4, 2000, at Goldendale High School (approximately 400 people attending);
2. The City of Goldendale solicitation of public comment on the State Environmental Policy Act Expanded Environmental Checklist (SEPA Checklist); and
3. A City of Goldendale public hearing on November 30, 2000.

Based on the SEPA Checklist, the City of Goldendale issued a Mitigated Determination of Non-Significance on October 26, 2000. Subsequently, on November 30, 2000, based on the SEPA Checklist and public comment, the City of Goldendale granted Conditional Use and Variance Applications.

Air Impacts - As reported in the SEPA Checklist, temporary emissions would occur during construction of the GEP, the transmission line, and the gas pipeline. These emissions would be of limited duration and minimized by use of best management practices.

Plant operating emissions would be controlled using the best available control technology. The SEPA Checklist indicates that the proposed technology would result in emission rates below New Source Performance Standards established by the Environmental Protection Agency (EPA). GEP's control technology would ensure that emissions remain less than 100 tons per year and not trigger the more stringent permitting standards under EPA's Prevention of Significant Deterioration (PSD) program. On February 23, 2001, the Washington Department of Ecology (WDOE) issued an air quality permit (Notice of Construction Order) for GEP.

The SEPA Checklist and Notice of Construction Permit Application include an extensive air quality analysis completed by MFG, Inc. The analysis describes the air pollution control technologies proposed at GEP, documents the resulting emissions of criteria pollutants including NOx, CO, SO2, volatile organic compounds (VOC), and particulate matter nominally 10 m and less (PM10), and reports the results of modeling analysis used to predict the effect of those emissions on ambient air-quality levels. In particular, MFG used the Industrial Source Complex Short-Term Model (ISCST3) dispersion model to assess the effects of GEP emissions. Class 1 area receptors were evaluated for Mt. Adams and Mt. Hood and the Columbia River Gorge National Scenic Area.

MFG's analysis concluded that GEP emissions would not adversely affect regional air quality because:

1. GEP is considered a minor source of air emissions based on definitions in State and Federal law (it does not emit a regulated pollutant in quantities exceeding 100 tons per year). As a minor source, this project does not need to complete a cumulative impact analysis under PSD rules (40 CFR§§52.21).

Dispersion modeling based on hourly meteorological data predicted that GEP emissions would not have a substantial effect on ambient air quality. MFG's air quality analysis compares the predicted ambient air quality impact of emissions from criteria pollutants (NOx, CO, SO2, VOC and PM10) to "significant impact levels" defined in EPA's PSD regulations, and to the National Ambient Air Quality Standards (NAAQS) and Washington Ambient Air Quality Standards (WAAQS). GEI's predicted emissions are below the significant impact levels, and substantially below the NAAQS and WAAQS. MFG's analysis also compares the predicted ambient air quality impact toxic pollutant emissions to "acceptable source impact levels" established by WDOE. All predicted impacts are below the acceptable source levels.

2. GEI has offered to partially offset its emissions which potentially affect visibility near the Columbia River Gorge National Scenic Area. Although there are no Federal, State, or local requirements that a new source offset its emissions, GEI has offered to contribute $175,600 (based on $1,000 per ton of permitted particulate [PM10] and oxides of nitrogen emissions) for activities designed to monitor, protect, and/or improve air quality in the Columbia River Gorge National Scenic Area.

3. MFG also performed a visibility assessment that considered the effects of GEP's emissions on nearby national parks, wilderness areas, and the Columbia River Gorge National Scenic Area. Based on procedures and criteria recommended by the National Park Service and Federal land managers, this assessment found that there would be no perceptible change in visibility as a result of GEP's operations.

For these reasons, a more detailed cumulative impact analysis would not be commensurate with the project's scale and specific potential impacts.

Water Impacts - The Expanded Environmental Checklist evaluates potential erosion impacts, and impacts to surface water features, to wetlands, to 100-year floodplains, to surface and ground water withdrawals and waste discharges, and to storm water runoff. The City of Goldendale's Mitigated Determination of Non-Significance requires mitigation measures to prevent potential impacts to wetland resources. Neither the plant, the gas pipeline, nor the transmission line are expected to cause significant adverse impacts to water resources.

Land-Use Impacts - Construction noise levels and measures to mitigate such noise are reported in the Expanded Environmental Checklist. Supplemental Section B-7 of the checklist contains a noise analysis summary report. Acoustical enclosures are planned for the gas and steam turbines. Noise walls are planned for the transformers. Operational noise impacts from combustion turbines are predicted to comply with the Washington noise standard of 50-dbA at the nearest residence.

Existing and adjacent land uses near the plant site and along the pipeline and transmission line are reported. The GEP site is located in the Goldendale Industrial Park and currently used for agricultural purposes. The property controlled by GEI totals 45 acres and is classified "Light Manufacturing" in the City of Goldendale's Comprehensive Plan and Zoning Ordinance. The GEP would occupy approximately 15 acres.

The gas pipeline crosses lands that are currently in agricultural use, except where it crosses Van Hoy Road and US Route 97. Properties adjacent to the pipeline are also agricultural, except for the northernmost section which is bounded by rural residences along Burlington Loop Road.

The proposed 230-kV transmission line would follow an existing 115-kV transmission line almost its entire length, the exception being a short segment where the line enters the BPA

Harvalum Substation adjacent to the Aluminum Smelter. The 9.2-mile transmission line crosses 2.6 miles of cropland, 0.7 miles of pasture, 5.3 miles of rangeland, 0.1 miles of cliff, a rock talus slope, and 0.5 miles of developed land. Neither GEP, the gas pipeline, nor the transmission line would be located in areas classified as "environmentally sensitive." No occupied structures would be displaced by the project.

Visual impacts from the combustion turbine and the transmission line are not expected to obstruct views. The plant exhaust stack would be 150 feet tall. The turbine building and the heat recovery generator would be approximately 65 feet tall, and the air-cooled condenser would be approximately 79 feet tall. A portion of the GEP site is planned to serve as a visual buffer and would include tree planting for visual screening. Buildings exceeding 50 feet in height require a variance from the City of Goldendale, which the city granted on November 30, 2000.

The transmission line is next to and would have an appearance similar to the existing transmission line that it follows.

The GEP, the gas pipeline, and the transmission line would not displace any recreational uses. Lighting design for the combustion turbine would be designed to ensure that there are no impacts to the Goldendale Observatory.

Socio-Economic and Public Facility Impacts - Vehicular access to the site is via Industrial Way. This road ends 1/4 mile from the site and would be extended. No new roads would be constructed for either the gas pipeline or the transmission line. Approximately 150-200 construction workers would be employed to build GEP; 125-150 daily vehicle trips are expected during construction. Normal project operation is expected to generate about 20 daily vehicle trips.

The GEP is expected to generate 24 permanent jobs. Given this small increase in employment, an increased need for public services such as fire protection, police protection, health care, and schools is not expected.

The City of Goldendale would provide water and wastewater treatment during construction and operation of the plant. The city conducted a detailed analysis of its existing water supply sources and capacity relative to meeting its future needs as well as supplying the operational water requirements of the GEP. A water supply strategy was developed which calls for the acquisition and transfer of several existing water rights. On January 12, 2001, the WDOE approved the transfer of water rights totaling 479 acre-feet per year to the City of Goldendale. Acquisition of these water rights is expected to enhance the City of Goldendale's water supply sufficiently to serve both GEP and address current system limitations. The city's Mitigated Determination of Non-Significance requires acquisiton of some additional water rights.

Fish, Wildlife, and Vegetation Impacts - The SEPA Expanded Environmental Checklist provides information on plants, fish, and wildlife that would be impacted by the GEP, the gas pipeline, and the transmission line.

Approximately 15 acres of grasses and small shrubs now occupying the plant site would be removed by site development. Existing vegetation within the remainder of the 45-acre site would largely remain in its existing condition and would be maintained in a natural habitat condition, promoting their use by wildlife. No fish-bearing waters are located within or adjacent to the GEP site.

The natural-gas pipeline primarily traverses largely dry croplands supporting wheat or alfalfa. The proposed pipeline route follows an existing gas pipeline, Wing Road, and Burlington Loop Drive (next to a railroad right-of-way) throughout most of its course. The Wetland Report (Supplement B-3)

indicates that natural wetlands occur at six locations within the pipeline right-of-way. These wetlands are considered seasonal streams. Construction of the crossings would occur during the dry season, and best construction management practices would be used to minimize erosion and water quality impacts, and disturbed vegetation would be restored to its former condition.

Consultation with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service identified several species known to occur in the project area that are listed or proposed for listing as threatened or endangered. Areas adjacent to the project area have also been designated Essential Fish Habitat by the Pacific Fisheries Management Council. A Biological Evaluation concluded that the project may affect, but is not likely to adversely affect, threatened or endangered plants, animals, or fish or their habitat, and both agencies have concurred. NMFS has also concurred that the project is not likely to adversely affect Essential Fish Habitat.

Conclusion

This Supplement Analysis finds that BPA's integration of power from GEP into the FCRTS at Harvalum Substation and/or purchase of power generated at GEP would be substantially consistent with the BP EIS, and that there are no new circumstances or information relevant to environmental concerns or bearing on these actions or their impacts. Therefore, no further review is required under the National Environmental Policy Act.

/s/ Thomas C. McKinney March 19, 2001
Thomas C. McKinney *date*
NEPA Compliance Officer
Bonneville Power Administration

Attachments:
A – Regional Map
B – Site Plan
C – Artist's Illustration
D-1 – Route Map
D-2 – Route Map