

# Summary

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## Proposed Federal Action

COB Energy Facility, LLC, a subsidiary of Peoples Energy Resources Corporation (PERC), proposes to construct a natural gas-fired, combined-cycle electric generating plant near Bonanza, Oregon. The Energy Facility would have a nominal generation capacity of 1,160 megawatts (MW). Electric power from the Energy Facility would enter the regional grid at the Bonneville Power Administration's (BPA's) Captain Jack Substation via a proposed 7.2-mile electric transmission line. BPA must decide whether to grant the interconnection required to connect this proposed transmission line to the Captain Jack Substation. In addition, the proposed transmission line would cross some Federal lands. The Bureau of Land Management (BLM) must decide whether to grant the necessary rights-of-way for the transmission line on approximately 44 acres of BLM land. Accordingly, BPA as the lead agency and BLM as the cooperating agency have prepared this environmental impact statement (EIS) to fulfill the requirements of the National Environmental Policy Act (NEPA).

## Purpose and Need for Action

Electrical consumers in the Pacific Northwest and western states need increased power generation to serve increasing demand, and high-voltage transmission service to deliver that power. BPA will grant the interconnection if it will help to provide an adequate and reliable power supply for the region, consistent with BPA's environmental, social, and economic responsibilities. BPA intends to act consistently with its Open Access Transmission Tariff in considering the interconnection request. BLM will grant the rights-of-way if they will authorize appropriate uses of public land consistent with applicable planning documents.

## Related State Actions

Oregon does not have a state law equivalent to NEPA. Instead, environmental review is conducted through the state's energy facility siting procedures. Before construction of an energy facility is approved in Oregon, the Energy Facility Siting Council (EFSC) must find that the proposed project meets certain standards, including environmental standards, pursuant to Oregon Administrative Rule (OAR) Chapter 345, Division 21, Section 045. If satisfied that a proposed project meets the standards, EFSC issues a site certificate that permits the project to be built. The EFSC process is a "one-stop" permitting process that folds in other major state approvals, which in this case include a groundwater right for the project's water supply. A site certificate application (SCA) was filed for the proposed project on September 5, 2002. On April 30, 2003, the SCA was deemed complete. On July 25, 2003, Amendment No. 1 to the SCA was filed, and on October 15, 2003, Amendment No. 2 was filed.

## Scope of the Environmental Impact Statement

This EIS contains an evaluation of two primary alternatives: the proposed action and the No Action Alternative. In the No Action Alternative, BPA would decide not to provide a connection to the regional electric power transmission grid for the proposed Energy Facility, or BLM would decide not to grant the electric transmission line rights-of-way. In the proposed action, BPA would provide a connection to the regional grid for the Energy Facility at the Captain Jack Substation, and BLM would grant the requested rights-of-way on approximately 44 acres of BLM land. Without access to the power grid, the proposed Energy Facility would not be feasible; therefore, under the No Action Alternative, the Energy Facility would not be built. A summary of the predicted performance of the proposed action and the No Action Alternative in accordance with technical, economic, and environmental decision factors is provided in Table S-1.

**TABLE S-1**  
Performance Summary

Decision Factor	Proposed Action	No Action
Technical Performance	The proposed Energy Facility would generate 1,160 MW of electric power.	No electric power would be generated.
Economic Performance	The proposed Energy Facility would generate electric power at a lower unit cost than existing plants using older technology.	No economic costs or benefits would be created.
Environmental Performance	No significant adverse environmental effects would result.	No change in existing conditions.

The EIS describes the project using the assumption that the Energy Facility would be constructed in one phase. However, based on conditions of the electric power market following EFSC's approval of the SCA, COB Energy Facility, LLC (the project proponent) may decide to construct the Facility in one or two phases, as follows:

- **One Phase:** If the Energy Facility is constructed in one phase, it would consist of two blocks of a two-on-one configuration in combined-cycle operation. A block would consist of two General Electric (GE) model 7 FA (or equivalent) combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), and one steam turbine generator (STG). The nominal generating capacity at average annual conditions is estimated at 1,160 MW. The heat rate on a higher heating value (HHV) basis would be approximately 7,391 British thermal units per kilowatt hour (Btu/kWh) when supplemental duct firing is used and 6,842 Btu/kWh without supplemental duct firing.
- **Two Phases:** If the Energy Facility is constructed in two phases, each phase would be a combined-cycle operation consisting of a single block of a two-on-one configuration. Each phase would have a nominal generating capacity of 580 MW at average annual conditions. The base load capacity is approximately 450 MW and supplemental duct firing adds up to 130 MW at average annual conditions for each 580-MW phase. For the first 580-MW phase, the heat rate on a HHV would be approximately 7,391 British Btu/kWh when supplemental duct firing is used and 6,842 Btu/kWh without supplemental duct firing.

## Components of the Proposed Action

The principal components of the proposed action are as follows:

- A new 1,160-MW gas-fired, combined-cycle electric power generation plant located near Bonanza, Oregon
- A new 7.2-mile transmission line to deliver electricity from the Energy Facility to BPA's Captain Jack Substation
- A new 4.1-mile natural gas pipeline to deliver fuel to the proposed Energy Facility site
- A water supply well system consisting of three wells and a 2.8-mile water supply pipeline

In addition, process wastewater would be managed by one of three alternatives:

- Beneficial use of the water for a 31-acre irrigated pasture
- Evaporation in a 20-acre, onsite lined evaporation pond
- Temporary storage onsite and hauling to a wastewater treatment plant (WWTP) for offsite disposal

## Major Conclusions

The proposed Facility would have no significant adverse effect on the environment with the implementation of mitigation measures. Many impact avoidance and minimization measures have been incorporated into the design of the Facility. Additional mitigation measures have been proposed to compensate for any unavoidable impacts. In addition, mitigation measures recommended for vegetation and wildlife, land use, and health and safety would, if implemented, further minimize impact. The proposed project would permanently disturb 108.7 acres of land during the 30-year operating life of the Energy Facility (128.5 acres if an evaporation pond is used for wastewater disposal). The proposed project would restore and improve approximately 236 acres of fallow agricultural land consisting of heavily grazed, degraded juniper woodland. The following paragraphs summarize the factors leading to these conclusions.

### Geology, Soil, and Seismicity

The proposed Facility would be located in a subbasin of the Klamath Basin. Two landslide areas have been observed in the vicinity of the proposed electric transmission line, and the transmission towers have been sited away from them. Earthquakes are likely within the basin; however, the risk to human safety and the destruction of improvements would be minimized through the design and construction of the facilities, so impacts would be low. The Energy Facility would cause the permanent removal of approximately 13.1 acres of nonirrigated, high-value soil; however, this land is not considered prime farmland soil by the Natural Resources Conservation Service (NRCS) because it is not irrigated. Construction and operation of the Facility could cause wind and water erosion; however, the implementation of best management practices (BMPs) and the National Pollutant Discharge

Elimination System (NPDES) permits during construction and operation would minimize those impacts.

## **Hydrology and Water Quality**

The only perennial surface water body in the Facility vicinity is the Lost River. Intermittent seasonal drainages and irrigation canals also exist within the area. Shallow and deep aquifers underlie the area. Construction and operation of the Facility would draw water from the deep basalt aquifer, which testing indicates is not hydraulically connected to the shallow aquifer and surface water features. Two pump tests have been conducted at the Babson well, which intersects the deep aquifer system. Within 5 minutes of the test's conclusion, water levels in the deep zone had recovered to the pretest water level, suggesting that the volume removed is not significant relative to the rate of recharge to the deep system, and that long-term pumping would not substantially impact deep zone water levels.

Protective measures would be incorporated into the water supply well system design to prevent migration of groundwater from the shallow zone aquifer into the deep basalt aquifer. These measures would include casing and sealing the Babson well and two additional water supply wells through the shallow zone aquifer to a depth of approximately 1,500 feet below the ground surface (bgs).

Three alternatives for managing process wastewater are proposed: 1) beneficial use of the water for irrigated pasture, 2) evaporation in an onsite, lined evaporation pond, or 3) temporary storage onsite and hauling to a WWTP for offsite disposal. Sanitary wastewater from Energy Facility operations would be treated and managed using an onsite septic drainfield. There would be no discharge of process water or wastewater to surface water or groundwater.

## **Vegetation and Wildlife**

Through the construction of a power generating facility, natural gas pipeline, water supply pipeline, and electric transmission line (collectively referred to as the Facility), the proposed Facility would permanently alter approximately 108.7 acres during the 30-year operating life of the Energy Facility.

### **Impacts to Wildlife Habitat**

Based on Oregon Department of Fish and Wildlife (ODFW) categorized habitat, there would be no impacts to Category 1 habitat, 46 acres of permanent disturbance to Category 2 habitat, 29.9 acres of permanent disturbance to Category 3 habitat, 32.8 acres of permanent disturbance to Category 4 habitat, and no permanent disturbance to Category 5 and Category 6 habitats. Most of the impacts to the higher value habitats are related to the electric transmission line, including almost 31.6 acres of Category 2 habitat and 25.7 acres of Category 3 habitat. For the process wastewater management alternative involving beneficial use of the water for irrigated pasture, constituents in the process wastewater would not be expected to be toxic to wildlife.

### **Impacts to Agricultural Land**

The Energy Facility site would be located on approximately 50.6 acres (including the stormwater infiltration basin) of a fallow agricultural field that has minimal habitat value.

However, a portion of the field is mapped by Klamath County as high-density mule deer winter range and accordingly 13.9 acres of the fallow agricultural lands are classified conservatively as Category 2 by ODFW. The soil is of poor quality. Non-native species such as intermediate wheatgrass have been planted in some areas as forage. In addition, the water supply wells system would be located on 0.3 acre of pasture, and transmission towers and access roads would be located on 2.1 acres of unimproved pasture and 0.8 acre of fallow agricultural field.

### **Temporary Impacts**

Approximately 256.7 acres would have temporary construction impacts, including 121.6 acres at the Energy Facility site, 19.4 acres related to the water supply pipeline, 43.8 acres related to the natural gas pipeline, 1.3 acres related to the water supply well system, 64.9 acres related to construction of the electric transmission line, 0.5 acre for an access road to the irrigated pasture area, and 5.2 acres for the irrigation pipeline. Temporary impacts would include 94.9 acres of Category 2 habitat, 41.0 acres of Category 3 habitat, 117.2 acres of Category 4 habitat, and 3.6 acres of Category 6 habitat. Temporary construction impacts on habitat or agricultural lands would be mitigated after construction is completed. Impacts on construction laydown areas, pipelines, and transmission lines would be mitigated as well. A number of mitigation measures would be used, including backfill with native soil and replanting with native species.

### **Mitigation for Permanent Disturbance**

To the extent practicable, the Energy Facility site, natural gas pipeline, water supply pipeline, and electric transmission line would be located in disturbed areas or in areas with minimal habitat value. As mitigation for the permanent disturbance during the 30-year life of the Energy Facility, the proposed project would establish and restore approximately 236 acres of fallow agricultural field and degraded juniper woodland habitat north and northwest of the Energy Facility (see Figure 2-2).

### **Biological Assessment**

Construction and operation of the proposed Facility could have the potential to affect bald eagles in the area. A Biological Assessment (BA) has been prepared to address effects on eagles and their habitat and is included as Appendix C to this EIS. The BA also addresses the shortnose sucker and the Lost River sucker, which are found in the Lost River watershed in proximity to the project area.

### **Fish**

Surface waters within the project area support various species of fish. Two federally and state-listed endangered fish species, the shortnose sucker and Lost River sucker, are endemic to the Upper Klamath Basin of southern Oregon and northern California. Both species have been reported in the Lost River above Harpold Reservoir, approximately 4 miles south of the Energy Facility site, and at Big Springs in Bonanza, Oregon, approximately 3 miles north of the Energy Facility site. As noted in the Hydrology and Water Quality section above, water from the project would be taken from a deep aquifer, which testing indicates is not hydraulically connected to the shallow aquifer and surface water features. Because there would be no withdrawals of or discharges to surface water,

construction and operation of the proposed Facility would not affect fisheries resources in the area.

## **Traffic and Circulation**

Potential effects of the proposed Energy Facility on traffic and circulation would be increased traffic congestion, damage to state highways or county roads, increased traffic hazards, or impairment of access owing to construction activities. Impacts during construction would be temporary and localized. The proposed project would result in up to an additional 420 PM peak-hour vehicle trips during construction and an additional 29 PM peak-hour trips during operation if the offsite trucking of wastewater alternative is selected, and 20 PM peak-hour vehicle trips if an onsite disposal of wastewater is selected. These additional trips would have no significant adverse impacts on area road traffic and circulation.

## **Air Quality**

The proposed Energy Facility would use advanced combined-cycle gas turbine technology, clean-burning natural gas, and high-efficiency air emission control technology. Air quality modeling was conducted for the project using standard U.S. Environmental Protection Agency (EPA) modeling techniques and meteorological data collected at the site. Impacts for all of the criteria pollutants were well below the applicable ambient air quality standards. Therefore, it was concluded that no significant air quality impacts would occur as a result of the proposed Energy Facility.

Cumulative impact analysis indicated that emissions from the Energy Facility, combined with those of other existing sources in the area, would not result in concentrations above the federally mandated National Ambient Air Quality Standards (NAAQS) or Prevention of Significant Deterioration (PSD) increment levels for the criteria pollutants analyzed. In addition, the analysis identified no cumulative impacts to visibility in Class I areas resulting from Energy Facility emissions combined with those of other power generating and related facilities in the area.

## **Scenic and Aesthetic Values**

The project area for visual quality and aesthetics covers a 30-mile radius from the proposed Energy Facility stacks and from the southernmost tower of the electric transmission line. This is a predominantly undeveloped area devoted to forests and farming. A number of aesthetic and scenic resources surround the proposed Energy Facility. The elements of the proposed Energy Facility that could affect the visual and aesthetic quality of the environment would be four stacks and 38 electric transmission towers. The stacks would be painted tan to blend in with their surroundings. The Energy Facility would use nonglare, low-impact lighting with shielded or cutoff fixtures, and the lighting would be directed downward. The proposed Energy Facility would not degrade or obstruct any scenic or aesthetic resources designated in pertinent state and local plans.

## **Cultural Resources**

Three cultural resource sites have been identified in the area of the proposed Energy Facility, but would be avoided during construction, operation, and retirement of the Facility. No impacts would occur. Consultation took place with The Klamath Tribes during

field surveys to ensure that any concerns would be addressed. In addition, an oral history and ethnography study was also prepared based on interviews with members of The Klamath Tribes. Based on this work, the presence of Traditional Cultural Properties, as defined by National Historic Preservation Act (NHPA) criteria, is unlikely.

## **Land Use Plans and Policies**

The proposed Facility would comply with the Klamath County Land Development Code (LDC) and the Klamath County Comprehensive Plan (KCCP). Because of its acreage needs, the Facility would require exceptions to Goals 3 and 4 of the KCCP. Development of the Facility would result in the permanent disturbance during the 30-year operating life of the Energy Facility of 108.7 acres of land from its current use. Of this total, 56.7 acres are zoned for exclusive farmland use (EFU) and 52 acres are zoned for forestry (F) or forestry-range (FR). Approximately 50.7 acres of the total are subject to a Special Resource Overlay designed to protect wildlife. The proposed project has committed to restoring approximately 91 acres of fallow field to habitat conditions and improving approximately 145 acres of habitat for a total of approximately 236 acres.

## **Socioeconomics**

Construction of the proposed Energy Facility during a 23-month period would require an average of 352 workers and a peak of 543 workers. Operation of the Energy Facility would require approximately 30 workers. Given the current unemployment rate, the majority of workers during construction and operation would likely be hired from the local community. If workers were needed from outside the area, sufficient housing opportunities would be provided.

## **Public Services and Utilities**

The proposed Energy Facility would use its own water supply well. The water would be supplied from a deep aquifer zone not used by local residents or irrigation districts.

Three alternatives are being considered for the disposal of process wastewater: 1) beneficial use of the water for irrigated pasture, 2) evaporation in an onsite, lined evaporation pond, or 3) temporary storage onsite and hauling to a WWTP for offsite disposal. If process wastewater is managed by storage and hauling to a WWTP for disposal, the proposed action would have a minor impact on the treatment capacity at the WWTP.

No stormwater from the Energy Facility would enter a public stormwater system. The Facility would take steps to minimize the need for police and fire protection services. The Klamath County Sheriff and the Bonanza Rural Fire Protection District have indicated they would have adequate resources, if needed.

The Energy Facility would not have an adverse impact on the ability of health care providers and educators to provide their services. Utilities and public service providers have adequate capacity to serve existing and new customers.

## **Health and Safety**

The proposed Energy Facility could increase risk to health and safety as a result of using hazardous materials at the Facility and transmitting natural gas in an underground pipeline. However, the Energy Facility would be designed with attention to the reduction of hazards

associated with its operation and would meet or exceed state and Federal safety standards in its components. Safety and emergency systems would be included during construction to ensure safe and reliable operation of the proposed Energy Facility. Through continuous monitoring of process variables and a thorough maintenance program, safety and reliability would be further increased. Electric and magnetic fields (EMFs) and noise would increase but would be within allowable limits.

## **Areas of Controversy**

Approximately 150 people attended the public scoping meeting in January 2002, including representatives of BPA, EFSC, and the project proponent. A number of people expressed strong concerns about the Energy Facility's impact on groundwater in the area. Many of the farmers rely heavily on shallow groundwater for irrigating pastures and cropland. The project proponent explained that groundwater would be drawn from a deep aquifer, which testing suggests is isolated from the shallow zone. Two comments were received following the meeting.

To address the concern about impact on groundwater, the project proponent has committed to switching from wet cooling to air cooling. This switch reduces water requirements by 97 percent. On July 25, 2003, an amendment to the SCA was filed documenting the switch to air cooling.

## **Issues to Be Resolved**

The primary purpose of this EIS is to provide BPA and BLM with the environmental information they need to determine whether to allow construction of an electric transmission line on public land and a connection of the Energy Facility to the regional power grid at BPA's Captain Jack Substation. There are no other issues to be resolved.