CHAPTER 3

Affected Environment and Environmental Consequences

3.1 Introduction

This chapter provides an assessment of the effects of the proposed Energy Facility on various environmental elements, including geology, soil, and seismicity, hydrology and water quality, vegetation and wildlife, fish, traffic and circulation, air quality, visual quality and aesthetics, cultural resources, land use plans and policies, socioeconomics, public services and utilities, and health and safety (including noise). The information presented in this chapter is based on the detailed analyses of the SCA submitted to EFSC on September 5, 2002, and Amendments No. 1 and No. 2 to the SCA submitted to EFSC on July 25, 2003, and October 15, 2003, respectively, by the project proponent. Table 3.1-1 provides a summary of the affected environment and anticipated impacts of the Energy Facility and the No Action Alternative.

3.1.1 Mitigation Measures

The sections of this chapter that address each element of the environment include a discussion of mitigation measures. In this EIS, mitigation measures are broadly defined to include measures taken to avoid, minimize, or offset environmental impacts. Two classes of mitigation measures are described in this chapter: measures already incorporated in the proposed project, and additional measures recommended in this EIS. The mitigation measures included in the proposed project are those mitigation measures that the project proponent has proposed in its application to EFSC for a site certificate. The environmental analyses contained in this chapter were made assuming that these mitigation measures would be implemented as part of the proposed project.

Recommended mitigation measures are measures that would further reduce the environmental impacts of the Energy Facility. If the Energy Facility is approved, these mitigation measures would be considered in the Record of Decision.

3.1.2 Environmental Impacts of the No Action Alternative

If the No Action Alternative were selected, the COB Energy Facility would not be built. Accordingly, none of the potential impacts to water, land, and air discussed in this chapter would be realized. However, the No Action Alternative would have three adverse impacts of its own. First, the proposed project's contribution to the regional need for more electrical power would be foregone, potentially resulting in power shortages, limits on economic development, and increased power costs. Second, to the extent the regional need for power could be met through existing generation resources, a negative environmental impact would result because those older sources are, on average, less efficient and more polluting than the proposed COB Energy Facility. Third, the proposed project would not contribute to the regional economy.

3.1.3 Unavoidable Adverse Impacts

This EIS identifies measures to mitigate the potential adverse impacts of the proposed project through avoiding, minimizing, rectifying, reducing, or compensating for the adverse impact. However, even with mitigation, some adverse impacts would still occur if the proposed project is implemented, and these impacts thus would be considered unavoidable. The following unavoidable adverse impacts would occur during the 30-year lifetime of the Energy Facility:

3.1.3.1 Geology, Soil, and Seismicity

- 56.7 acres of Exclusive Farm Use (EFU) land would be converted to energy production
- Soil erosion would occur at the project site and along the pipeline and electric transmission line easement as a result of the land disturbance.
- The project would impact 13.9 acres of designated high-value agricultural soil

3.1.3.2 Hydrology and Water

- 162 gallons per day (gpd) of water, under average conditions would be used for power generation and irrigation requirements.

3.1.3.3 Vegetation and Wildlife

- Less than 0.5 acre of wetland would be filled.
- 108.7 acres of designated Oregon Department of Fish and Wildlife habitat would be removed from potential use by wildlife, including 50.7 acres of designated Significant Resource Overlay by Klamath County for high- and medium-density deer winter range.9

3.1.3.4 Traffic and Circulation

- Energy Facility construction traffic (835 daily trips) would decrease the Level of Service (LOS) of roads in the vicinity of the project.

3.1.3.5 Air Quality

- During construction, fugitive dust and combustion exhaust would be emitted from equipment and vehicles.
- During operation, the Energy Facility would emit up to 354 tons of NO_2 annually, 246 tons of PM_{10} annually, and 465 tons of CO annually.

3.1.3.6 Scenic and Aesthetic Values

- The Energy Facility would be visible in an area where industrial facilities previously did not exist.

9 This acreage also includes lands designated as high-value soil and exclusive farm use.

3.1.3.7 Socioeconomic

- During construction, there would be a short-term impact on housing in the vicinity of the project.

3.1.3.8 Health and Safety

- Electric and magnetic fields would increase as a result of the construction of the switchyard and the electric transmission line.
- There would be an increase in noise levels in the vicinity of Energy Facility

3.1.4 Short-Term Uses and Long-Term Productivity

NEPA requires an analysis of the relationship between short-term uses of the environment and the maintenance and enhancement of long-term productivity for all alternatives. The following describes the local short-term use of the land as a power facility weighed against the long-term productivity of the rangeland, dryland agricultural fields, fallow fields, and woodlands. This analysis primarily focuses on permanent impacts during the 30-year life of the proposed project.

3.1.4.1 Proposed Action

The short-term uses of the land would result in increased short-term construction jobs and long-term operational jobs in Klamath County. In addition, there would be increased tax revenues for both the state of Oregon and Klamath County. The revenues would be used to enhance local and state public services and infrastructure and contribute to social programs. Mitigation proposed by the project proponent would also increase the productivity of 31 acres of agricultural land by beneficial use of process wastewater for pasture irrigation. The proposed project would restore 91 acres of fallow land to high-quality deer habitat and another 145 acres of habitat would be improved in the wildlife mitigation area. The proposed project would generate electricity that would meet present and future demand for power for homes and business throughout the western states.

Although water would be withdrawn from a deep aquifer, there are no other known users of this water in the vicinity of the proposed project. By using an air-cooled system, the Energy Facility would minimize the use of the water resource and wastewater would be used beneficially for irrigating 31 acres of pasture land. No wastewater or stormwater would be discharged to surface or ground waters.

Short-term construction impacts would result in the loss of existing vegetation and increased traffic, noise, and soil erosion. The implementation of best management practices (BMP's) through the proposed project's erosion and sediment control plan, regulated under NPDES General Construction Permit 1200-C, would be employed to minimize soil loss. Construction activities would disturb vegetation in some areas. However, following construction , revegetation of disturbed areas would be in conformance with a revegetation plan.

Long-term productivity impacts would result from the permanent loss for 30 years of approximately 108.7[10] acres of undeveloped land used for cattle grazing and fallow dryland

[10] Does not Include the corridor for the buried natural gas pipeline.

farming fields. The electric transmission line would impact fallow agricultural fields used for cattle grazing, woodlands, and open rangeland. The natural gas pipeline would follow an existing road right-of-way (Harpold County Road and West Langell Valley Road) and have minor long-term productivity impacts. The water well system and pipeline would be constructed through or adjacent to irrigated pasture and other agricultural operations, including open range land and woodlands on land under option by the project proponent. Approximately 56.7 acres of EFU land would be permanently impacted, including approximately 13.9 acres of high-value soil land[11]. Operation of the project would result in a long-term loss of the existing productivity of approximately 108.7 acres of agricultural, woodland, and rangeland. However, after the Facility is retired the land would be restored, as described in the site restoration plan required by EFSC, to the former uses.

Other impacts on long-term productivity of natural resources include the use of natural gas, impacts on air quality, and use of water resources. The proposed Energy Facility would consume natural gas resulting in a loss of this natural resource. As a result of using natural gas in a combustion turbine, the proposed Energy Facility could also have a potential long-term impact on global warming through the release of greenhouse gases. However, this would be offset by the proposed CO_2 mitigation as required by EFSC.

The short-term use (30 years) of natural resources would have a minor adverse impact on the long-term viability of the environmental resources in the vicinity of the project.

3.1.4.2 No Action Alternative

Under the No Action Alternative, the land would essentially remain in the same use over the long-term, but there would be no short-term positive or negative impacts.

3.1.5 Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (for example, energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action.

3.1.5.1 Proposed Action

The proposed action would result in both irreversible and irretrievable commitments of resources for the construction and operation of the Energy Facility. Construction of the Energy Facility would result in the consumption of hydrocarbons (such as gas, oil, and propane), gravel, sand, and wood and other materials that go into the production of steel, glass, aluminum, other metal alloys, asphalt, concrete, and bricks. The depletion of these natural resources is not expected to have a significant adverse effect on their availability over the lifetime of the project. At the retirement of the project, all salvageable material would be removed prior to demolition of the Facility. During and after demolition, scrap material such as metal would be sorted from nonuseable material and recycled. These actions would reduce the overall irreversible impacts of constructing the Energy Facility.

[11] Does not include the corridor for the buried natural gas pipeline.

During construction there would be temporary impacts on approximately 256.7 acres of land, but these impacts would be reversible following construction and restoration of the land, including buried pipelines, construction laydown areas, and other temporary construction features.

During its operational lifetime, the Energy Facility would consume approximately 9,000 MMBtu of per hour of natural gas annually. This is an irretrievable commitment of a nonrenewable resource.

Although the project has a projected life of 30 years, it is anticipated that the land would be restored back to the former uses at the end of the project as required by EFSC. Productivity of the land would be lost during the life of the project, but it would not be irretrievably lost.

3.1.5.2 No Action Alternative

If the proposed action is not constructed, the land and natural resources estimated to construct and operate the Energy Facility would not be irreversibly nor irretrievably committed.