

## Mitigation Measures (WAC 463-42-085)

**WAC 463-42-085 GENERAL — MITIGATION MEASURES.**

*The application shall describe the means to be utilized to minimize or mitigate possible adverse impacts on the physical or human environments.*

*[Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), §463-42-085, filed 10/8/81.]*

## **1.4 MITIGATION MEASURES (WAC 463-42-085)**

### **1.4.1 INTRODUCTION**

This section describes the environmental design features that will be included in the Phase II project to eliminate or reduce adverse impacts. As a result of the mitigation measures that will be included in project design, there are no significant impacts associated with construction or operation of the project. More detailed information on existing conditions, environmental design features of the project, potential mitigation measures, and impact analyses are presented in Sections 3.1 through 3.4, Section 4.1, Sections 5.1 through 5.3, and Section 6.1.

In addition to the environmental design features of the project, for some elements of the environment this section describes other potential mitigation measures that could minimize adverse impacts. Where appropriate, the Certificate Holder will incorporate potential mitigation measures into the project to further reduce impacts at specific locations or for specific project-related activities. The decision regarding the incorporation of specific additional mitigation measures will be made in consultation with EFSEC. The Certificate Holder anticipates that the addition of mitigation measures, if appropriate, will be stipulated in the amendment to the Site Certification Agreement (SCA) or in EFSEC Resolutions associated with the amended SCA.

Both the environmental design features and potential mitigation measures are presented by element of the environment in the following sections.

### **1.4.2 GEOLOGY AND SOILS**

- The plant will include seismic design criteria specific to the anticipated seismic risks in the area and will be designed to conform to the Uniform Building Code Seismic Zone 3.
- Construction activities will be controlled to help limit erosion. Clearing, excavation and grading will be limited to those areas of the project absolutely necessary for construction of the project. Areas outside the construction limits will be marked in the field and equipment will not be allowed to enter areas or to disturb existing vegetation.
- The construction contractors will implement the EFSEC-approved Erosion and Sedimentation Control Plan during construction to minimize soil loss due to surface water flows.
- The EFSEC-approved Environmental Protection Control Plan will be implemented to provide adequate maintenance and inspection of the erosion and sediment control system. The plan specifies that control structures will be inspected at a frequency sufficient to provide adequate environmental protection. Such inspections will increase in frequency during rainfall periods. In addition, supplies including sandbags and channel-lining materials will be stored on site for emergency use.

- Surface runoff will be diverted around and away from cut and fill slopes and conveyed in pipes or protected channels. If the runoff is from disturbed areas, it will be directed to a sediment trap prior to discharge.

### **1.4.3 AIR QUALITY**

- Mitigation of potential impacts to air quality will be accomplished with the use of best available control technology (BACT). BACT analysis is provided in Subsection 6.1.6. Proposed BACT for pollutants associated with the proposed project are shown in Table 1.4-1. Project emissions to the atmosphere will be in compliance with applicable state and federal regulations.
- The Certificate Holder will maintain and operate equipment in accordance with vendor recommendations and generally accepted practices in order to prevent excessive emissions and minimize fuel consumption.
- To control dust during construction, water will be applied as necessary, and access roads will be graveled or paved.

### **1.4.4 HYDROLOGY AND WATER QUALITY**

#### **1.4.4.1 Surface Water**

##### **Construction**

- To minimize impacts on surface water, contractors will use best management practices (BMPs) for erosion and sediment control during construction of Phase II and will implement a plan that complies with the requirements of the existing Erosion and Sedimentation Control Plan. BMPs will include limiting certain construction activities and installing temporary control structures such as sediment traps, silt fences, and diversion ditches.
- Runoff from the northern portion of the site will be routed through existing ditches and culverts to the C-1 pond, which is located on Satsop Development Park property to the west. If necessary, surface water runoff from the site can be pumped through a series of ditches and culverts to the existing Equalization Pond on the main Satsop Development Park property. This pond would provide additional storage capacity during construction if surface water runoff is unusually high. With implementation of this plan, surface water impacts due to construction of the plant will be temporary and minor.

**TABLE 1.4-1  
PROPOSED AIR POLLUTION CONTROL TECHNOLOGIES**

<b>Pollutant</b>	<b>Proposed BACT</b>
NO <sub>x</sub>	Power Generation Units: Dry Low-NO <sub>x</sub> combustor Selective catalytic reduction (SCR) Natural gas firing only
	Auxiliary Boilers: Flue gas recirculation Low-NO <sub>x</sub> burners
	Emergency Backup Diesel Generators: Turbocharging/aftercooling Variable fuel injection timing retard
CO	Power Generation Units: Catalytic Oxidation
SO <sub>2</sub>	Power Generation Units: Natural gas firing only
	Emergency Backup Diesel Generators: Limited fuel oil use Low sulfur fuel
VOC	Power Generation Units: Proper combustion Turbine design (additional reduction due to CO Catalyst)
PM <sub>10</sub>	Power Generation Units: Proper combustion Natural gas firing only
	Emergency Backup Diesel Generators: Limited fuel oil use Low sulfur fuel
	Cooling Towers: Two-stage, low-drift eliminators
Ammonia	Power Generation Units: Proper combustion Adequate mixing
Other toxics	Power Generation Units: Proper combustion
	Auxiliary Boilers: Proper combustion
	Emergency Backup Diesel Generators: Limited fuel oil use

- The Certificate Holder currently has an approved NPDES permit that covers stormwater discharges, including stormwater discharges from the proposed plant site. In addition, the SCA addresses stormwater management during construction, and includes the following requirements:
  - The project must comply with all pertinent industry standards for control of any unforeseen surface water runoff event during construction, and must notify EFSEC of surface water runoff problems.
  - The project must abide by turbidity criteria for construction-related runoff as established in the State of Washington Water Quality Standards.
  - The existing NPDES permit establishes water quality limits and monitoring schedules for total suspended solids, settleable solids, and pH in collected stormwater runoff. These limits are applicable for material storage runoff and construction runoff within the 100-year, 24-hour rainfall event (5.5 inches per 24 hours).

## **Operation**

- Runoff from the plant site will be directed toward the perimeter ditches and routed as described in Subsection 2.10.2.2. The Environmental Protection Control Plan will be modified if necessary to include specifications for any commitments made for Phase II plant operations. BMPs consistent with those in the *Stormwater Management Manual for the Puget Sound Basin* (WSDOE 2000) will be employed during operation of Phase II.
- At least annually, facility employees will also receive training in the pollution control laws and regulations, and the specific features of the facility which are intended to prevent releases of oil and petroleum products. Employees at the site will be trained in the following spill response measures:
  - Identifying areas that may be affected by a spill and potential drainage routes
  - Reporting of spills to appropriate individuals
  - Employing appropriate material handling and storage procedures
  - Implementing spill response procedures
- Stormwater catchbasins and detention systems will be inspected at least annually as part of the site preventive maintenance program. Stormwater catchbasins will be cleaned if the collected deposits fill more than one-third of the depth from the basin to the invert of the lowest pipe leading into or out of the basin.
- Inspections will be conducted to confirm that non-permitted discharges are not entering the stormwater system. A summary of each inspection will be retained, along with any notifications of noncompliance and reports on incidents such as spills.

- To meet the temperature requirements of the discharge, either heat exchangers and/or flow augmentation will be used to quench the temperature of the cooling water discharge.

#### 1.4.4.2 Groundwater

- The design of the on-site septic system will include a professional engineer's report on site conditions, schedule for development, water balance analysis, overall effects of the proposed system on the surrounding area, and any local zoning requirements.
- The placement and design of the system will allow infiltration of effluent but inhibit its direct release to surface and/or groundwater bodies.

### 1.4.5 VEGETATION, WILDLIFE AND WILDLIFE HABITAT

Because the plant site was previously developed and no new utility corridors are required for Phase II, there will be no impacts to vegetation or wildlife from the construction or operation of Phase II.

### 1.4.6 AQUATIC RESOURCES

- As described in Section 2.10 - Surface Water Runoff, WAC 463-42-215, the construction contractors will implement the EFSEC-approved Erosion And Sediment Control Plan that will provide erosion control measures during both construction and operation of the proposed project, and an Environmental Protection Control Plan will be implemented to control surface water runoff during operation.
- In addition, as described in Section 2.9 - Spillage Prevention and Control, WAC 463-42-205, the Certificate Holder has an existing Spill Prevention Control and Countermeasures (SPCC) Plan for Phase I of the Satsop CT Project that will also be applicable to Phase II. The existing SPCC Plan describes the oil, fuel, and hazardous material storage facilities; reporting systems; prevention requirements; and spill response procedure.
- The existing Hazardous Waste Management procedure establishes a program for the handling, storage, and disposal of wastes from the Satsop site.
- Revisions of the SPCC Plan and Hazardous Waste Management procedure were most recently submitted to EFSEC in August 2001 and approved by EFSEC on September 19, 2001. Revisions are required a minimum of every 2 years, but will be made sooner to respond to changing site organizations or conditions, or changes in regulations. The revision process will include an engineer's review, an updated organizational structure, and updated procedures specifying locations and what checks need to be made.

### 1.4.7 ENERGY AND NATURAL RESOURCES

No impacts to energy resources are expected and no mitigation is necessary.

## **1.4.8 NOISE**

### **1.4.8.1 Construction Sound Abatement Measures**

- Construction will not be performed within 1,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 10:00 P.M. and 6:00 A.M. on other days.
- All construction equipment will have sound control devices no less effective than those provided on the original equipment. Equipment will not be operated with unmuffled exhaust systems.
- Pile driving or blasting operations, if required, will not be performed within 3,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 8:00 P.M. and 8:00 A.M. on other days.
- Despite inclusion of the measures described above, areas adjacent to the project will be exposed to increased sound levels during active periods of construction. This will be a short-term impact. The Certificate Holder will notify nearby residents in advance of the anticipated schedule for construction activities.

### **1.4.8.2 Acoustical Attenuation Features**

- Major sources of sound will be located inside an acoustically treated building.
- Acoustically absorptive silencers will be installed on the combustion turbine inlet system, enclosure ventilation systems, and emergency relief valves.
- Separate acoustical enclosures will be installed for major noise sources, including the combustion turbine and generator.
- Acoustically absorptive insulation will be installed in duct walls of the combustion turbine inlet air and exhaust systems.

## **1.4.9 LAND USE**

No impacts to land uses are expected and no mitigation is necessary.

## **1.4.10 LIGHT AND GLARE**

### **1.4.10.1 Environmental Design Features**

- The 25-foot-high noise wall, vegetation located on the berm and scattered existing vegetation between the project site and residences will screen most of the lights.

- Additional screening is provided by high trees located along the residential road since the residences are set back an estimated 50 to 75 feet.

#### 1.4.10.2 Potential Mitigation Measures

- In specific locations where glare or light spillover would impact Keys Road or be obtrusive to nearby residences, lighting angles could be adjusted to minimize glare impacts, or supplemental light shields/vegetation could be used for extra screening.

#### 1.4.11 AESTHETICS

- The Phase II will be constructed on an industrialized, developed site as part of the Satsop Combustion Turbine project. There are few nearby residences and few travelers using the adjacent Keys Road.
- The Phase II project will be located further east of the Phase I project. A screening berm is being built between the power plants and Keys Road as part of the Phase I construction, with a 25-foot high noise wall behind the berm. This berm and noise wall will screen the plant from viewers using Keys Road, and will screen all but the tallest portions of the plants from viewers at nearby residences.
- Equipment enclosure buildings and exterior tanks will be painted beige and gray to reduce contrasts.
- Two 200-foot high emission stacks, painted a light color, will be constructed.

#### 1.4.12 RECREATION RESOURCES

No impacts to recreational resources are expected and no mitigation is necessary.

#### 1.4.13 HISTORIC AND CULTURAL PRESERVATION

No impacts to cultural resources are expected and no mitigation is necessary.

#### 1.4.14 AGRICULTURAL CROPS/ANIMALS

No impacts to agricultural crops or animals are expected and no mitigation is necessary.

#### 1.4.15 TRAFFIC AND TRANSPORTATION

- EFSEC has approved the Certificate Holder's traffic control plan implemented for the Phase I construction. This plan was prepared in accordance with a letter from Grays Harbor County's Department of Public Works dated July 2, 2001. The plan is also applicable to the Phase II construction.

#### **1.4.16 PUBLIC HEALTH AND SAFETY**

- Engineering and design of the proposed Phase II project will ensure that the project's water discharges, air emissions, and noise generation will be in compliance with state and federal regulations (see Subsections 1.4.3 and 1.4.4).

No significant impacts are anticipated on schools or public service providers, and no mitigation is required.

#### **1.4.17 SOCIOECONOMICS AND PUBLIC SERVICES**

The proposed project is expected to have a positive effect on the local and state economy and significant impacts on population, housing, property values and public services are not anticipated. Therefore, the project does not include design features associated with potential socioeconomic impacts.