

INTRODUCTION

Grays Harbor Energy LLC (the Certificate Holder) is proposing to rename the existing Satsop Combustion Turbine (CT) Project as the Grays Harbor Energy Center, and to increase the facility capacity by approximately 650 megawatts (MW) to a total of approximately 1,300 MW. As with the existing facility, the addition would consist of two gas turbines and one steam turbine in a 2-on-1 configuration that would generate electricity to supply growing regional electrical demand. The new facilities are referred to throughout at Units 3 and 4.

The additional facilities would be constructed on the Grays Harbor Energy Center site. A Site Certification Agreement (SCA) (Application 94-1) was previously approved by the State of Washington. The new facilities would be located entirely within the boundaries of the previously permitted site; however, the site boundary would be enlarged to include 10 acres for construction laydown and access. As a result, the Certificate Holder is applying to the Energy Facility Site Evaluation Council (EFSEC) for an amendment to the existing SCA to allow construction and operation of Units 3 and 4, and to increase the site boundary. This amendment is the fourth amendment to the SCA that was originally issued for the Satsop nuclear power plants.

PROJECT SUMMARY

The addition will consist of two gas turbines and one steam turbine in a 2-on-1 configuration, and have an estimated output of approximately 650 megawatts. The new Units 3 and 4, and will be added to the existing Units 1 and 2.

Units 3 and 4 will be located within the previously permitted site, on land that has already been disturbed and developed for industrial use. The facility will continue to be fueled by natural gas, and no backup fuel source is proposed. The Grays Harbor Energy Center will continue to utilize the natural gas pipeline installed for the existing facility.

Power produced by the Grays Harbor Energy Center will continue to be routed through transmission lines that were installed as part of the original project construction and continue to connect to the Bonneville Power Administration (BPA) system at BPA's Satsop substation. The power will be exported on lines to be installed for Units 3 and 4 on the existing tower structures constructed for Units 1 and 2, from the facility site to the BPA Satsop substation, which is located approximately 4,000 feet east of the site.

EFSEC has already issued an SCA that permitted development of the entire site, and the Council has already considered the impacts associated with site development in connection with permitting the existing facility. As a result, the additional impacts associated with construction and operation of Units 3 and 4 are principally limited to: (1) air emissions, (2) water use and discharge, and (3) sound emissions.

SUMMARY OF ENVIRONMENTAL CONSIDERATIONS

The location and design of Units 3 and 4 incorporate many environmental design features that will eliminate or minimize environmental impacts. The remainder of this section presents a

summary of key environmental considerations in the design, construction and operation of Units 3 and 4.

Air

- Units 3 and 4 will utilize the same air emission control technology installed for Units 1 and 2. This technology represents the “state of the art” and consists of General Electric (GE) Frame 7FA combustion turbines in a 2-x-1 combined cycle configuration with a GE D11 steam turbine with dry low-NO_x combustor and selective catalytic reduction (SCR).
- Atmospheric emissions will be in compliance with all applicable federal and state air quality regulations.
- Each combustion turbine unit will incorporate best available control technologies (BACT).
- Air emissions and the resulting effect on ambient air quality are addressed in Sections 2.11, 3.2 and 5.1 of the application.

Water Use and Discharge

- Water for cooling will be obtained through the existing Ranney wells, and delivered through water lines originally constructed for the Satsop nuclear plants.
- Like the existing Units 1 and 2, Units 3 and 4 will utilize a mechanical draft (wet) cooling system. Maximum water needs will not exceed 16 cfs for the operation of the existing two units and the proposed additional two units.
- Additional water will be obtained from the holder of an existing water right or authorization, such as the Grays Harbor Public Development Authority or the City of Aberdeen. No new water rights or authorizations will be required.
- Water discharge from expanded facility will be governed by the facility’s National Pollutant Discharge Elimination System (NPDES) permit and will meet the state’s applicable acute and chronic water quality criteria for Class A waters for discharge to the Chehalis River.
- The requirements of the Erosion and Sediment Control Plan (approved by EFESec on November 1, 2005) will apply to the construction and operation of the additional units as well. This plan was implemented to protect water quality with the start of the original construction, and will minimize erosion, sedimentation, and contaminated runoff. During construction and operation, the Certificate Holder and its contractors will adhere to the procedures, methods and other requirements presented in this plan.
- Water use and water quality issues are addressed in Sections 2.5, 2.8 and 3.3 of the application.

Noise

- Units 3 and 4 are being designed to ensure that its operation will comply with EFSEC noise regulations and will not result in significant changes in noise levels at nearby industrial areas or residences.
- Sound attenuation has been included in the design of Units 3 and 4 through the proper selection of materials and equipment, as well as in the overall layout of the plant.
- The sound emissions from the expanded project and the proposed noise mitigation measures are addressed in Section 4.1 of the application.

Plants and Animals

- Units 3 and 4 will fit entirely within the previously permitted and developed Grays Harbor Energy Center site. Construction of Units 3 and 4 on a disturbed and developed site will minimize impacts to vegetation and wildlife. The existing site does not contain vegetation, wetlands or open water.
- The 10-acre site proposed for construction laydown and access is designated in the Satsop Development Park Master Plan for industrial development. It contains approximately 5 acres of forest and 5 acres of grassland that is mowed every year. The forested area is separated from other forested land within the Satsop Development Park by roadways, the BPA right-of-way or existing development. There are no wetlands or open water within the 10 acres, and the impacts to wildlife from the loss of this habitat have been considered to be minor, and less than significant. (See Section 3.4 Plants and Animals)
- Units 3 and 4 will utilize the natural gas pipeline that was installed for Units 1 and 2, and the existing water supply line and discharge that were originally built for the Satsop nuclear power plants and utilized by Units 1 and 2. Power generated by the Units 3 and 4 will be delivered to BPA's existing high-voltage transmission system at the Satsop 230 kilovolts (kV) substation. The power will be exported on lines to be installed for Units 3 and 4 on the existing tower structures constructed for Units 1 and 2, from the facility site to the BPA Satsop substation, which is located approximately 4,000 feet east of the site. The use of existing utilities avoids impacts to plants and animals that would otherwise result from the creation of new utility corridors.

Land Use, Cultural Resources and Recreation

- The expanded project complies with Grays Harbor County's current land use plan and zoning ordinance. The site is zoned for industrial use and is designated Industrial 2 (I-2).
- The use of the site for industrial use is consistent with Grays Harbor Public Development Authority's planned use of the surrounding Satsop Development Park.
- Cultural resource surveys were conducted prior to the original development of the site. The construction and operation of the expanded project will not impact cultural resources.

Visual Resources

- The Grays Harbor Energy Center will continue to be consistent with the visual character of the surrounding area. Units 3 and 4 will be constructed immediately adjacent to the permitted Units 1 and 2 and will be surrounded by industrial and commercial development in the Satsop Development Park.
- There are few residents near the plant site, with the nearest residents located more than 2,000 feet west of the site. A 25-foot-high noise wall with a 12-foot-high landscaped berm on the street side was constructed as part of the initial development along Keys Road. Units 3 and 4 will be located further to the east, behind Units 1 and 2. The berm and noise wall will screen both phases of the project from travelers along Keys Road and will screen portions of the facilities from the views of nearby residents.
- Topography and vegetation obstruct views of the site from more distant locations. The 180-foot emission stacks for Units 3 and 4 will be approximately one-third the height of the existing cooling towers constructed for the Satsop nuclear project. The nuclear project stacks, at 496 feet, will remain the dominant landmark in the area. A computer simulation of the expanded project silhouette provided in Section 4.2 indicates that Units 3 and 4 will not be visible from prominent viewpoints, such as along State Route 12 or from residences in the Chehalis River Valley.

Socioeconomics and Public Services

- The construction of Units 3 and 4 will extend the positive economic benefits of both jobs and income to the local economy. Construction jobs will peak at approximately 540 jobs for a period of 4 months.
- Like the existing facility, operation of the expanded facility will have positive impacts in terms of jobs, taxes, and purchase of goods and services.
- The proposed addition of Units 3 and 4 to the Grays Harbor Energy Center will have minor impacts on existing public services.

Transportation

- During construction, delays at the intersection of Keys Road and State Route 12 during the evening commuting period are possible. A traffic and transportation plan for construction, in accordance with a Grays Harbor County Public Works Division letter dated July 2, 2001, was approved by EFSEC on September 19, 2001. This plan will be applicable to the construction period for Units 3 and 4.
- During operation of the Grays Harbor Energy Center, an additional 8 people will be employed and a maximum of 31 employees will be on site at any time. Negative impacts on transportation during normal operation are unlikely.