

**GRAYS HARBOR ENERGY CENTER  
SCA AMENDMENT TO ADD UNITS 3 AND 4  
SEPA ENVIRONMENTAL CHECKLIST**

**GRAYS HARBOR ENERGY PROJECT  
SCA AMENDMENT  
ENVIRONMENTAL CHECKLIST**

**WAC 197-11-960 Environmental Checklist**

***Purpose of checklist:***

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

***Instructions for applicants:***

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

**A. BACKGROUND**

**1. Name of proposed project, if applicable:**

Grays Harbor Energy Center  
Application for Amendment to Site Certification Agreement

**2. Name of applicant:**

Grays Harbor Energy LLC, a subsidiary of Invenergy LLC (Invenergy)

**3. Address and phone number of applicant and contact person:**

Mr. Brett Oakleaf  
Director, Business Development  
Invenergy LLC  
2580 W. Main Street, #200  
Littleton, CO 80120  
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Mr. Todd Gatewood, Plant Manager, Grays Harbor Energy, will serve as a secondary contact. Mr. Gatewood's contact information is as follows:

Mr. Todd Gatewood, Plant Manager  
Grays Harbor Energy  
P. O. Box 26  
Elma, Washington 98583  
Tel: 360-482-4353  
Email: tgatewood@invenergyllc.com

**4. Date checklist prepared:**

Draft Checklist submitted: October 30, 2009

**5. Agency requesting checklist:**

The Washington State Energy Facility Site Evaluation Council (EFSEC) will act as the lead agency.

**6. Proposed timing or schedule (including phasing, if applicable):**

The following is a potential schedule depending on acquisition of permit approvals and power offtake contracts:

Permitting, SEPA Review, engineering and design 10/2009 – 7/2010  
Construction 8/2010 – 6/2012  
Commercial Operation 7/2012

**7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

No.

**8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

- Application for Amendment 4 to the Site Certification Agreement (SCA), Satsop Combustion Turbine Project, (October 30, 2009), submitted to Washington Energy Facility Site Evaluation Council.
- Resource Contingency Program – Washington Final Environmental Impact Statement Satsop Combustion Turbine Unit 1 Chehalis Generation Facility, November 1995, Bonneville Power Administration.

**9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

None are pending.

**10. List any government approvals or permits that will be needed for your proposal, if known.**

The following government approvals or permits are required for the addition of Units 3 and 4:

*Site Certification Amendment.* The Grays Harbor Energy Center has a Site Certification from the Washington Energy Facility Site Evaluation Council (EFSEC) authorizing the existing facility. An amendment to the SCA is required to authorize the proposed expansion.

*State Environmental Policy Act (SEPA):* EFSEC performs SEPA compliance for as a part of its review of the Certificate Holder's request for an amendment to their Site Certification Agreement (SCA). This checklist accompanies the amendment request.

*Air Quality (PSD Permit):* The request for an SCA amendment includes a PSD Permit Application for EFSEC review and approval for the two new units (Units 3 and 4). The SCA amendment will include a PSD Permit approval that will stipulate limits on emission levels from the two new units. The existing PSD Permit (EFSEC/2001-01) will remain in place for the existing Units 1 and 2.

*Wastewater Disposal:* The discharge from Units 3 and 4 will comply with the stipulations of the existing NPDES permit and will use the existing discharge pipeline and outfall.

*Building Approval for Units 3 and 4:* Building plans will be in compliance with the Grays Harbor County Building Code. Following current EFSEC procedures, it is anticipated that EFSEC will contract with Grays Harbor County to review and approve drawings and specifications related to public health and safety as has been done with the existing facilities at the Grays Harbor Energy Project.

*County Road Permit:* If needed for construction, county road permits will be obtained from Grays Harbor County for hauling of materials to the site. Road access and work in county road right-of-way permits will also be obtained if needed.

*Federal Aviation Administration No Hazard Determinations:* In August 2001, Grays Harbor Energy obtained no hazard determinations for the exhaust stacks associated with Units 1 and 2. Applications for Units 3 and 4 exhaust stacks will be filed with the FAA

The following government approvals or permits were issued for the Grays Harbor Energy Center:

*NEPA Compliance:* The Grays Harbor Energy Center (Satsop Combustion Turbine Project) was one of three projects in BPA's Resource Contingency Program (RCP). Bonneville published a Final Environmental Impact Statement (EIS) and Record of Decision in 1995. This request for an amendment to the SCA does not require federal action, and no NEPA action is required.

*Endangered Species Act Consultation:* Consultation with both USFWS and Washington Department of Fish and Wildlife was completed as part of federal permitting related to the Grays Harbor Energy Center, including the U.S. Army Corps of Engineers review related to recently proposed repairs to the wastewater diffuser outfall.

*Water Rights:* Water for the additional two units will be obtained from a holder of an existing water right, such as the Grays Harbor PDA or the City of Aberdeen. The water rights holder will obtain any required approvals from the Department of Ecology. Additional water rights will not be required and are not being requested.

*Stormwater Discharge:* Stormwater dischargers are regulated by the NPDES permit. All stormwater drainage from the Grays Harbor Energy Project site is routed to the C-1 erosion control pond, which is designed and maintained to handle a 100-year storm. This pond has not discharged since the West Park (formerly Cooley Laydown) area was stabilized in the early 1980's, even during a 100-year rainfall event. In the unlikely event discharge appears possible, EFSEC and Ecology will be notified. Drainage to the pond will be monitored in accordance with the NPDES permit and the existing Environmental Protection Control Plan.

*Spill Prevention Control and Countermeasures (SPCC) Plan:* The SPCC plan for the Grays Harbor Energy project was approved by EFSEC on September 15, 2008. This plan will apply to the requested construction and operation activities.

*Notification of Dangerous Waste Activities:* An active state identification number has been issued for the project. This request for an amendment to the SCA provides EFSEC with information on (1) waste streams, compositions, and volumes, and (2) hazardous waste activities. Stipulations on methods of handling dangerous wastes are expected to be included in the amended SCA issued by EFSEC and are expected to be similar to those included in the existing SCA and the Hazardous Waste Management procedures approved by EFSEC on January 7, 2008.

*Consultation with State Historic Preservation Office:* Construction of the additional two units is in areas previously disturbed by nuclear plant construction and/or Grays Harbor Energy Project construction. The new construction laydown and access area is within areas previously studied and no further action is required.

*On-Site Sewage System:* The septic system already installed for the Grays Harbor Energy Project is designed for 34 staff per day. The planned total staffing would be approximately 20 occupants per each of two 12-hour shifts, with a maximum of 31 employees working on site at any time. The existing septic system is adequate for the combined staff, and no additions are proposed.

*Shoreline Substantial Development Approval:* The Satsop CT project (Grays Harbor Energy Project) was shown to be consistent with Grays Harbor County Shoreline Master Management Plan. This consistency determination was required because auxiliary features (natural gas pipeline and transmission lines)

crossed areas subject to the Shoreline Act. The proposed new construction is entirely within the approved plant site, which is outside the boundaries of the Shoreline Master Management Plan. The construction laydown area is outside the boundaries of the Shoreline Master Management Plan.

*Land Use and Zoning Compliance:* As part of the SCA amendment for the Satsop CT Project (Grays Harbor Energy Project), the location of energy facilities at the Grays Harbor Energy site was found to be consistent with the Grays Harbor County Zoning Code. The site has since been rezoned to I-2 expressly to permit energy facilities. No new determination of consistency is required for the proposed two new units.

A summary list of the required permits and approvals is in Section 2.20 Pertinent Federal, State, and Local Requirements in the Application for SCA Amendment.

- 11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

Grays Harbor Energy LLC, (the Certificate Holder) is proposing to add two combustion turbine generators (Units 3 and 4) and a single steam generator to the existing Grays Harbor Energy Center. This will increase the maximum electrical generation capacity by approximately 650 MW, to a total project capacity of approximately 1,300 MW.

Units 3 and 4 would be constructed entirely within the boundaries of the approximately 22-acre Satsop Combustion Turbine (Grays Harbor Energy) project site, for which an SCA already has been approved by the State of Washington. A 10-acre site immediately east of the project site would be used for construction laydown and access and would become part of the overall site boundary.

The fuel will be natural gas that will be supplied by a pipeline constructed as part of initial site development.

Power produced by Units 3 and 4 will be routed through new transmission lines installed on existing tower structures that connect to the Bonneville Power Administration (BPA) system at BPA's Satsop substation, approximately 4,000 feet east of the project site. As a part of the Grays Harbor Energy Center, transmission lines were installed in the existing BPA right-of-way (on land owned by the Grays Harbor Public Development Authority [PDA]) from the site to the

substation, and the new lines will be installed on the same structures. No new clearing will be required for the transmission lines.

A more detailed description, including a project location map, a project site map, and other relevant data describing the project can be found in Section 2.1 Site Description and Section 2.3 Construction on Site in the Application for SCA Amendment.

- 12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The approved site is located at 401 Keys Road, on property owned by Grays Harbor Energy LLC, near the town of Elma. The 1600-acre Satsop Development Park surrounds the site on all four sides. The site is located along a plateau approximately 290 to 315 feet in elevation situated approximately 0.5 mile southwest of the Chehalis River, and 3 miles southeast of Satsop, Washington. Fuller Creek is approximately 0.5 mile to the east, and Workman Creek is located approximately 2 miles to the east. Units 3 and 4 would be located entirely within the approximately 22-acre site approved by Site Certification Agreement (SCA) for the Grays Harbor Energy Project. The legal description of the 22-acre site is as follows.

The Grays Harbor Energy project is located as follows:

All that portion of the southwest quarter of the southeast quarter of Section 7, Township 17 North, Range 6 West, W.M. described as follows:

Commencing at the south quarter corner of said Section 7;  
Thence S88°58'07"E along the south line of said Section 7, a distance of 1026.55 feet;  
Thence N03°30'07"E, 291.86 feet to a point on the north line of the Bonneville Power Administration (B.P.A.) right of way and the POINT OF BEGINNING;  
Thence continuing N03°30'07"E, 545.21 feet;  
Thence N86°29'56"W, 989.04 feet to a point on the east line of Keys Road right of way;  
Thence S03°46'56"W along said east line of Keys Road, 595.78 feet to an intersection with said north line of the B.P.A. right of way.

Thence  $S88^{\circ}48'12''E$  along said north line of the B.P.A. right of way, 904.96 feet;  
Thence  $N84^{\circ}19'49''E$  along said north line of the B.P.A. right of way, 88.86 feet to the POINT OF BEGINNING.

Situated in Grays Harbor County, Washington

and:

All that portion of the southwest quarter of the southeast quarter of Section 7, Township 17 North, Range 6 West, W.M. described as follows:

Commencing at the south quarter corner of said Section 7;  
Thence  $S88^{\circ}58'07''E$  along the south line of said Section 7 a distance of 1026.55 feet;  
Thence  $N03^{\circ}30'07''E$ , 837.07 feet to the POINT OF THE BEGINNING;  
Thence continuing  $N03^{\circ}30'07''E$ , 319.39 feet;  
Thence  $N86^{\circ}29'53''W$ , 220.60 feet;  
Thence  $N03^{\circ}30'07''E$ , 107.60 feet;  
Thence  $N86^{\circ}29'53''W$ , 766.35 feet to a point on the east line of Keys Road right of way;  
Thence  $S03^{\circ}46'56''W$  along said east line of Keys Road, 427.00 feet;  
Thence  $S86^{\circ}29'53''E$ , 989.04 feet to the POINT OF BEGINNING.

Situated in Grays Harbor County, Washington

In addition, a 10-acre site immediately to the east of the project site would be used for construction laydown and access and would become part of the project site. The 10-acre site is not part of the existing SCA, and would constitute an expansion of the area included within the SCA. The legal description for the 10-acre site is as follows:

All that certain real property situate in Grays Harbor County, Washington designated as "Option B" on that certain Survey filed September 7, 1999 in Book 20 of Surveys, pages 59 through 69, Grays Harbor County, and being described as follows:

That portion of the Southwest One Quarter of the Southeast One Quarter and the Southeast One Quarter of the Southeast One Quarter of Section 7, Township 17 North, Range 6 West, W.M., in Grays Harbor County, Washington, described as follows:

BEGINNING at the South One Quarter Corner of said Section 7, as monumented by an Iron Bar as shown on Record of Survey, Volume 11, Page 132; thence South  $88^{\circ}58'07''$  East along it's South line, 2479.21

feet to the Southeast corner of said Section 7, as monumented by a Department of Natural Resources concrete monument, as shown on Record of Survey Volume 11, Page 132; thence North 59E45'57" West 1047.69 feet to a point on the North line of the Bonneville Power Administration Right-of-Way and the True Point of Beginning; thence South 84E18'36" West along said Right-of-Way, 453.55 feet; thence North 03E29'21" East 1010.02 feet to the Southerly margin of an unnamed road; thence South 88E50'40" East along said Southerly margin and said southerly margin extended, 438.66 feet; thence South 02E55'21" West 955.59 feet to the true point of beginning. Together with and subject to easements, restrictions, reservations and covenants of record.

A project location map is included in Section 2.1 of the Application for SCA Amendment; a survey map showing the 10 acre construction laydown and access map is included in Section 2.2 of the Application, and a project site map showing the existing and proposed plant configuration is included in Section 2.3 of the Application.

Power produced by Units 3 and 4 will be routed through new transmission lines installed on existing tower structures that connect to the Bonneville Power Administration (BPA) system at BPA's Satsop substation, approximately 4,000 feet east of the project site. As a part of the Grays Harbor Energy Center, transmission lines were installed in the existing BPA right-of-way (on land owned by the Grays Harbor PDA) from the site to the substation, and the new lines will be installed on the same structures. No new clearing will be required for the transmission lines.

The gas supply for Units 3 and 4 will be provided by the natural gas pipeline already constructed for the Grays Harbor Energy Center.

## **B. ENVIRONMENTAL ELEMENTS**

### **1. Earth**

#### **a. General description of the site (check one):**

- |                                     |                |                          |                     |
|-------------------------------------|----------------|--------------------------|---------------------|
| <input checked="" type="checkbox"/> | <b>Flat</b>    | <input type="checkbox"/> | <b>Steep slopes</b> |
| <input type="checkbox"/>            | <b>Rolling</b> | <input type="checkbox"/> | <b>Mountainous</b>  |
| <input type="checkbox"/>            | <b>Hilly</b>   | <input type="checkbox"/> | <b>Other</b>        |

The existing plant site and the adjacent 10 acres proposed for construction laydown and access are located on a flat terrace above the Chehalis River in a region characterized by finely dissected uplands cut by the valley of the Chehalis River. The terrace lies at an elevation of

approximately 305 feet (93 meters) above mean sea level (MSL), 300 feet (91 meters) above the Chehalis River. The ground surface slopes gently downward to the west and north, with a total topographic relief across the site of about 30 feet. The low point of the site is at approximately Elevation 284 at the northwest corner. Terrain in the vicinity is complex toward the south and east with elevations reaching above 1,200 feet mean sea level. To the north and west is farmland and the valley terrain of the Chehalis River.

**b. What is the steepest slope on the site (approximate percent slope)?**

The slope has a rating of 1 (low; 0 to 5% slope).

**c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.**

Soils consisted of up to approximately 75 feet of alluvial soils interpreted as Helm Creek deposits, overlying decomposed sandstone from the Astoria Formation.

The specific description of each soil unit, proceeding downward from the ground surface, is as follows:

- Gravel Surfacing - The 22-acre existing plant site is covered with a gravel fill approximately 1.5 to 2.5 feet in thickness. The gravel is subrounded, reasonably well graded and contains some silt and sand as well as cobbles. At the base of this fill cover is a geotextile. (The adjacent 10-acre site proposed for construction laydown and access has approximately 5 acres of forest and 5 acres of grassland on the surface. Subsurface conditions are expected to be consistent with the subsurface conditions of the adjacent 22-acre site.)
- Stratum 1 - Reddish Brown Medium Stiff to Stiff SILT. This soil layer is typically 5 to 12 feet thick, and medium stiff to stiff in character based on N-values, cone tip resistances, pocket penetrometer test values and unconfined compression test values. Other laboratory tests indicate that this silt is moderately to highly plastic (liquid limit of 54) and moderately compressible. Moisture contents were usually in the range of 38 to 44 percent.
- Stratum 2 - Yellowish Brown Silty SAND to Sandy SILT. This soil layer grades between a fine sand and a silt, and typically exhibits

the character of a fine-grained soil. The layer is only 4 to 10 feet thick along the western 200 feet of the site, but is typically 20 to 30 feet thick elsewhere. The soil would be characterized as stiff based on N-values and cone tip resistance values. Laboratory tests indicate that the fines content of the layer ranges from 39 to 65 percent for the samples tested. The fines appear to be non-plastic. Consolidation tests indicate that the soil is moderately compressible but drains quickly. High natural moisture contents in the range of 40 to 50 percent were measured.

- Stratum 3 - Multi-colored Medium Dense to Dense Gravelly SAND. This layer typically consists of well-graded sand with 15 to 50 percent gravel and 15 to 25 percent fines. The apparently re-worked sediments show color variations that include red, green, gray, brown and white. This layer is at least 25 feet thick, and more typically the thickness exceeds 35 feet. N-values and cone tip resistance values suggest that the layer is medium dense to dense in character.
- Stratum 4 - Brown to Grayish Brown Silty SAND. This layer is interpreted to be a residual soil derived from the Astoria Sandstone formation. It is primarily silty sand, but contains occasional zones that are primarily silt. N-values and cone tip resistance values suggest that the soil is dense in character. The last sample collected in boring B-3, at a depth of 111 feet bgs, appeared to be the weathered top of the Astoria sandstone.

**d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

None.

**e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.**

The planned finished grade of the project will be approximately elevation 305. Therefore, the construction of Units 3 and 4 will require some cutting and filling that will have an insignificant impact on topography. The amount of material to be removed and replaced is estimated at 80,000 cubic yards and the fill will come from local borrow pits with suitable materials.

**f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

The soils underlying the proposed plant site and in the immediate vicinity of the site have been assigned K factors of between 0.15 to 0.32 at the depths expected to be disturbed during construction (Soil Conservation Service, no date). These values correspond to a high potential for soil erosion. The slope at the plant site itself has a rating of 1 (low); slopes adjacent to Fuller Creek to the east have a slope rating of 3 (high). It is anticipated that the majority of disturbance during the plant construction and operation will occur on the relatively flat bench away from the creek. The Certificate Holder has an EFSEC-approved Erosion Control and Sedimentation Plan which covers the entire site, including the area proposed for the construction and operation of Units 3 and 4. This plan is designed to prevent and/or minimize the potential for erosion and would be applied to the construction and operation of Units 3 and 4. Implementation of the plan will result in minimal if any erosion impacts.

**g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

The portion of the 22-acre site proposed for Units 3 and 4 was previously graded and covered with a layer of gravel for use as an equipment and material laydown area during construction of Units 1 and 2. Additional grading will be required to prepare the site for construction of Units 3 and 4. Approximately 90 percent of the site would be impervious (including graveled surfaces). The 10-acre construction laydown area to the east will be graded and covered with a layer of gravel for use as an equipment and material laydown area during the construction of Units 3 and 4.

The EFSEC-approved Erosion and Sedimentation Control Plan and an Environmental Protection Control Plan provide surface water runoff controls for Units 3 and 4 construction and operation.

**h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

The EFSEC-approved Erosion and Sedimentation Control Plan and an Environmental Protection Control Plan provide surface water runoff controls for Units 3 and 4 construction and operation.

There should be no other impacts on the earth.

**2. Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.**

Units 3 and 4 will be a major modification of an existing stationary source located in an area that is in attainment for all criteria pollutants. For more information, see Section 3.2 Air in the Application for SCA Amendment, and Section 5.1 PSD Permit Application.

Emissions of regulated pollutants, including fugitive dust, could occur from construction activities. The primary sources of pollution would be vehicle exhaust and fugitive dust caused by equipment movement and excavation. Incremental vehicular emissions would occur as site workers commute to and from the construction site, but would not represent a significant increase in emissions. Excavation, trenching, backfilling, grading, and similar activities could generate dust during construction. Construction impacts would be temporary and are not expected to result in significant air quality impacts.

During operation, the entire Grays Harbor Energy project (Units 1 through 4) has the potential to emit 423 tons per year of nitrogen oxides (NO<sub>x</sub>), 929 tons per year of carbon monoxide (CO), 129 tons per year of volatile organic compounds (VOCs), 373 tons per year particulate matter (PM<sub>10</sub>), and 92.2 tons per year of sulfur dioxide (SO<sub>x</sub>).

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.**

None.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any:**

- During construction activities such as excavation, trenching, backfilling, and grading, dry soil in the active construction area would be sprayed with water to minimize fugitive dust emissions.
- Access roads will be graveled or paved during construction to minimize dust emissions.

- To reduce air pollutant emissions from the power generating units, auxiliary boilers, backup diesel generators, and cooling towers, best available control technology (BACT) will be utilized.
- 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.
- CO2 emissions will comply with the emissions performance standard established by RCW chapter 80.80 and will be mitigated as required by RCW chapter 80.70.

### 3. Water

#### a. Surface:

- 1) **Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.**

The site is situated south of the Chehalis River, with Fuller Creek approximately 0.5 miles to the east and Workman Creek 2 miles to the east. Both Fuller and Workman Creeks drain into the Chehalis River from the south. Fuller Creek's drainage basin faces northeast and covers approximately 2 square miles. The Workman Creek drainage basin, which drains into the Chehalis River east of the plant site, faces northeast and covers approximately 16 square miles. The Elizabeth Creek drainage basin, encompassing approximately 4 square miles, enters the Chehalis River from the south near RM 17 crossing through the existing Ranney Well field. The Ranney Well field will continue to be the process water source for the site. The Satsop River basin, approximately 2.5 miles from the site, faces south and covers an area of 299 square miles (PNRBC 1969). A small drainage basin between Workman Creek and Fuller Creek is drained by Purgatory Creek. No wetlands exist on the project site.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

No.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

None.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.**

No new surface water diversions will be required for site development. Process water needed for operation of the existing power plant is drawn from the Ranney Well field on the Chehalis River floodplain at RM 17. Approximately 88 percent of the well supply is drawn from the Chehalis River via drawdown. The remaining 12 percent is drawn from shallow alluvial groundwater. The proposed expansion would increase the maximum water withdrawal from the Ranney Wells for project operation to 16 cubic feet per second.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

No. The plant site is over 300 feet above the flood plain of the Chehalis River. The site is outside of any flood zone listed on the FEMA maps. The probable maximum flood (PMF) at the site was computed to be 53.1 feet mean sea level (MSL). The elevation of the plant site ranges from about 290 to 315 feet MSL and therefore the plant site is not within the flood hazard area.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

The co-mingled waste streams (cooling tower blowdown water and waste stream from the oil-water separator after oil separation) from the existing power plant are discharged to the Satsop Development Park's blowdown line in accordance with the NPDES permit No.

WA-002496-1. The outfall then discharges to the Chehalis River. The proposed expansion would discharge wastewater through the same outfall and be covered by the NPDES permit. The expected flow will be a maximum of 660 gpm for Units 3 and 4, and a combined flow of 1,320 gpm for all 4 units. The chemicals used for treatment of the cooling water will either be precipitated out of the effluent stream or will be at undetectable concentrations.

These discharges are regulated by the NPDES permit. The increase in flow is not expected to require amendment of the NPDES. Discharges will meet the limitations of the NPDES permit and will be in compliance with applicable state water quality criteria (WAC 173-201A).

**b. Ground:**

**1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

As explained above, process water will continue to be supplied from the existing Ranney wells and transported through the existing supply water line. The Ranney wells are located on the southern bank of the Chehalis River, approximately 4 miles downriver of the plant site near the river's confluence with Elizabeth Creek. The wells penetrate to a depth of approximately 120 feet into the alluvial aquifer associated with the Chehalis River. The Ranney wells obtain approximately 88 percent of their water from the Chehalis River via drawdown, with the remaining 12 percent drawn from groundwater in the surrounding river alluvium. Water from the Ranney wells will continue to be transported to the Grays Harbor Energy Center plant site via the existing supply water line and the existing discharge (blowdown) line. At the plant site, a pipe is connected to the blowdown line to transport process supply water to the project. The Certificate Holder is requesting an amendment to the existing SCA to allow the use of a total of 16 cfs of water for the operations of all four units. The additional water would be obtained from the holder of an existing water right. No additional water rights or authorization are being requested.

**2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals . . .; agricultural; etc.). Describe the**

**general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

The plant site is not served by a sewer system; the Project will continue to use septic systems and leach fields for sanitary waste. On-site septic systems were constructed as part of the initial site development, and are operated in accordance with the applicable state and Grays Harbor County codes. The design of the on-site septic system included a professional engineer's report on site conditions, schedule for development, water balance analysis, and overall effects of the proposed system on the surrounding area. The placement and design of the system allows infiltration of effluent but inhibits its direct release to surface and/or groundwater bodies. The system currently serves approximately 23 employees, and is sized to serve 34 employees. The system is adequate to serve the approximately 8 additional employees who are expected to be required for operation of all 4 units.

A solid waste contractor removes solid waste from the site for disposal at an approved and regulated landfill.

**c. Water runoff (including stormwater):**

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The existing SCA and NPDES permit provide the basis for the stormwater pollution control program. Used in conjunction with the existing Erosion and Sedimentation Control Plan, the existing NPDES permit and implementing EFSEC resolutions will ensure compliance with water quality standards. 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.

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. The Environmental Protection Control Plan will be modified if necessary to include specifications for any commitments made for the operation of Units 3 and 4. BMPs consistent with those in the *Stormwater Management Manual for Western Washington* (WSDOE 2005) will be employed during operation of Units 3 and 4.

At least annually, facility employees will continue to 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.

For more information, see Section 3.3 Water in the Application for SCA Amendment.

**2) Could waste materials enter ground or surface waters? If so, generally describe.**

Waste materials will not enter ground or surface waters. Waste material during construction will be collected and disposed of in an approved manner. During operation, a power plant is not a generator of any significant quantities of waste materials. Solid waste material will be stored in buildings or work areas and disposed of in an approved manner. Liquid waste, primarily oil, will be contained in tanks within areas with impervious liners. Water runoff from areas that might have been exposed to oil will pass through an approved water/oil separator before being discharged to the retention pond. A reservoir included with the oil/water separator will collect the waste oil for off-site recycling or disposal by a licensed contractor. Large tanks containing oil will be diked and valved to “retain in place” any large oil spills for mitigation and cleanup in place.

**d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

Construction activities will be controlled to the extent possible to help limit erosion. Clearing, excavation, and grading will be limited to areas absolutely necessary for construction of the project. Areas outside the construction limits will be identified and clearly marked, and equipment operators will be instructed to avoid these areas. Also, certain construction activities would be limited, and temporary control structures such as sediment traps and silt fences would be installed. Generally, erosion control measures will include measures such as silt fences, diversion ditches, hydroseeding, and sediment traps. 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.

**4. Plants**

**a. Check types of vegetation found on the site:**

**deciduous trees:**     alder             maple  
                               aspen             other

**evergreen trees:**     fir                 cedar

pine       other

- shrubs
- grass
- pasture
- crop or grain

**wet soil plants:**       cattail                       buttercup  
                                  bullrush                       skunk cabbage  
                                  other \_\_\_\_\_

**water plants:**             water lily                       eelgrass  
                                  milfoil                          other \_\_\_\_\_

**other types of vegetation:** \_\_\_\_\_

Existing 22-acre Plant Site – none; site has been cleared for construction of the Grays Harbor Energy Project.

Construction Laydown and Access Area - The construction laydown and access area is a 10-acre site to the east of the Grays Harbor Energy Project which consists of approximately 5-acres of thinned conifers managed as a coniferous forest and 5-acres of grassland/agriculture that is mowed every year. See Section 3.4 Plants and Animals in the Application for SCA Amendment for details.

**b. What kind and amount of vegetation will be removed or altered?**

No vegetation is currently located on the site where Units 3 and 4 would be constructed; therefore, no vegetation would be removed or altered. All vegetation (trees, shrubs and grasses) would be removed from the 10-acre construction laydown and access area.

**c. List threatened or endangered species known to be on or near the site.**

There are no threatened, endangered, candidate, or sensitive plant species on or adjacent to the study area.

**d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:**

Because the plant site was previously developed and no new utility corridors are required for the construction and operation of Units 3 and 4, there is no vegetation on the project site and therefore no planting would occur to preserve or enhance vegetation. Selective planting of native and appropriate tree species has been undertaken along the berm adjacent to Keys Road for visual screening of the project from surrounding neighbors. The construction laydown area would not be revegetated after construction is completed.

**5. Animals**

**a. Check box for any birds and animals which have been observed on or near the site or are known to be on or near the site:**

**Birds:**       hawk       heron       eagle  
 songbirds  other See Section 3.4 Plants and Animals in the Application for SCA Amendment.

**Mammals:**    deer       bear       elk  
 beaver       other rodents, shrews, bats, rabbits

**Fish:**       bass       salmon       trout  
 herring       shellfish  
 other

The 22-acre site is currently used for the operation of Units 1 and 2. No birds or animals have been observed on the site since construction or operation was started. Birds and animals have been observed in vegetated areas near the site. The checked species listed above potentially occur within habitats in the vicinity of the project site, with a smaller total utilizing the area immediately adjacent to the Grays Harbor Energy Project, including the adjacent 10-acres proposed for construction laydown and access.

**b. List any threatened or endangered species known to be on or near the site.**

The USFWS, NMFS, WDNR, and WDFW were contacted for information on threatened and endangered species potentially occurring in the study area. The WDNR's Natural Heritage Data Systems were searched for documented occurrences of species of concern in the study area. Local

biologists with the WDFW were contacted to confirm specific information on species of concern in the study area (USFWS 2008; WDFW 2008; Zahn 2001).

Threatened, endangered, and candidate fish species occurring or potentially occurring in the vicinity include bull trout (federal threatened), Dolly Varden (proposed federal threatened), coho salmon (federal candidate), and cutthroat trout (proposed federal threatened). Bull trout and Dolly Varden may occur in reaches of the Chehalis River adjacent to the site, but the frequency and likelihood of occurrence is low. Cutthroat trout and coho salmon are known to use both the Chehalis River and tributary streams in the site vicinity for spawning and rearing habitat. It is unlikely that these species would be significantly affected by construction activities or plant operation, as discussed in Section 3.4 Plants and Animals in the Application for SCA Amendment.

Threatened, endangered, and candidate wildlife species potentially occurring in the vicinity of the site include the the northern spotted owl (federal threatened, state endangered), the streaked horned lark (federal candidate, state candidate), and the western pocket gopher (federal candidate, state candidate). No spotted owls have been detected during surveys in mature forest habitat of the Satsop Development Park project. It is unlikely that the streaked horned lark or western pocket gopher would be affected by this project.

**c. Is the site part of a migration route? If so, explain.**

Concentrations of waterfowl, including Canada geese, mallards, gadwalls, pintails, wigeons, shovelers, and teal, are defined as a state priority species. Seasonally flooded fields along the Chehalis River provide wintering habitat for over 10,000 wigeons, mallards, pintails, and buffleheads, 250 Canada geese, and 80 trumpeter swans (WDNR 1994). Numerous waterfowl were observed in flooded fields and emergent wetlands in the study area during field surveys in January 1994. Construction and operation of the project will not affect the migration of these or other migrating species.

The Chehalis River adjacent to the site is a migration route for several anadromous fish species, including chinook, coho, and chum salmon, cutthroat and steelhead trout, and potentially migratory bull trout and Dolly Varden. Resident cutthroat trout and other fish species are also likely to use this reach of the Chehalis River for migration. Construction and operation of the project will not affect migration of anadromous or resident fish species. See Section 3.4 Plants and Animals in the Application for SCA Amendment.

**d. Proposed measures to preserve or enhance wildlife, if any:**

Habitat conditions at the plant site are highly disturbed and provide minimal value for wildlife. Approximately 10 acres of mixed grassland and coniferous forest habitat will be removed and the 10 acres used as a construction laydown and access area. Human activity and noise generated from construction of the plant will be temporary and result in temporary disturbance of wildlife in immediately surrounding habitat areas. Wildlife tends to habituate, so only minor impacts are expected to occur.

No direct or significant indirect impacts on aquatic habitats will result from construction or operation of Units 3 and 4, therefore no measures to preserve or enhance aquatic habitats are necessary.

**6. Energy and Natural Resources**

**a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

During construction, cranes, trucks, mobile equipment, and power tools will consume energy; similarly, energy would be used during manufacturing of the combined cycle equipment and materials necessary for constructing the new combustion turbine facility. Diesel fuel and gasoline will be used during construction to power construction machinery.

The Grays Harbor Energy Center will continue to be fueled by natural gas for operation. A small amount of diesel fuel (#2 distillate) will be on site for the backup generators and the fire-water pump.

**b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No.

**c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

The project is an energy conversion facility converting natural gas to electricity. The project as designed will incorporate the most efficient commercial process available for generating electricity from natural gas.

The facility is expected to operate at approximately 54 percent as compared to 25 percent to 30 percent for a conventional steam cycle power plant. Wherever possible, energy conservation and energy efficiency features are incorporated into the project design to enhance energy conversion efficiency. Heated, continuously occupied personnel spaces will be insulated per state energy codes.

## 7. Environmental health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

The Certificate Holder has an existing Spill Prevention Control and Countermeasures (SPCC) Plan for the Grays Harbor Energy Center that will also be applicable to Units 3 and 4. Revisions of the SPCC Plan were approved by EFSEC on September 15, 2008 and revisions to the Hazardous Waste Management Procedure were approved on January 7, 2008. If needed, further revisions would be made to respond to changing site organizations or conditions, or changes in regulations. The revision process would include an engineer's review, an updated organizational structure, and updated procedures specifying locations and what checks need to be made.

The risk of a fire or explosion during construction of Units 3 and 4 is considered to be extremely low. During construction, small quantities of flammable liquids and compressed gases will be stored and used, including fuels, paints, cleaning solvents, acetylene, oxygen, helium, hydrogen, and argon for welding. The potential hazards associated with use of these materials will be mitigated by following state and federal construction safety requirements.

Operation of the Grays Harbor Energy Center will continue to require the use of two materials which can be explosive under certain conditions: natural gas and hydrogen gas. Natural gas is the operating fuel for the facility. The natural gas is piped into the site; none is stored on site. Hydrogen is used as a coolant for the electrical generator for the combustion turbines and a maximum of approximately 110,000 cubic feet will be stored.

Aqueous ammonia is used for injection into the selective catalytic reduction (SCR) system for NO<sub>x</sub> control and stored on site. However, aqueous ammonia is not considered a risk in terms of explosion potential or flammability, as it is composed of 70 percent water and will be stored

separately from non-compatible materials in compliance with fire safety regulations.

The risk of an explosion in the Grays Harbor Energy Center will be mitigated by designing, constructing, and operating the facility as required in the latest versions of the applicable codes, regulations, and consensus standards.

The Grays Harbor Energy Center will continue to be operated by qualified personnel using written procedures that provide clear instructions for safely conducting activities involved in the initial startup, normal operations, temporary operations, normal shutdowns, emergency shutdowns, and subsequent startups. The procedures for emergency shutdowns will include the conditions under which emergency shutdowns are required, and the assignment of shutdown responsibilities to qualified operators to ensure that shutdowns are done in a safe and timely manner. Also covered in the procedures will be the consequences of operational deviations and the steps required to correct or avoid the deviations.

Before being involved in operating the facility, employees will be presented with a facility plan, including a health and safety plan, and will receive training regarding the operating procedures and other requirements of safe operation of the plant. In addition, employees will receive annual refresher training, which will include testing of their understanding of the procedures. Training and testing records will be maintained.

A hazardous materials emergency response program has been prepared for the Grays Harbor Energy Project and will be applicable to Units 3 and 4. Grays Harbor Energy Project emergency responders trained and equipped to the technician level will be available at all times when the project is in operation. The emergency responders will use a written emergency response plan developed for Units 1 and 2 and expanded to include Units 3 and 4.

The existing SPCC Plan describes the oil, fuel, and hazardous material storage facilities; reporting systems; prevention requirements; and spill response procedure. The Hazardous Waste Management Procedure establishes a program for the handling, storage, and disposal of wastes from the Grays Harbor Energy Center site.

**1) Describe special emergency services that might be required.**

Assistance from the fire department/emergency medical services would be requested in the unlikely event of a fire during construction or operation or release of hazardous chemicals during equipment maintenance.

The Emergency Plan, which was approved by EFSEC on November 1, 2005, applies to all project personnel and provides the guidelines necessary to ensure timely notification and rapid response in the event of emergencies occurring on the property. Specific emergency modification procedures include contacting the following agencies:

- Fire Emergency
  - 911 (response will be by the Satsop or Elma Fire Departments)
- Medical Emergency
  - On-site personnel
  - Elma Fire Department if transport by ambulance required
  - If on-site fatality, Grays Harbor County sheriff contacted
- Bomb Threat Emergency
  - Grays Harbor County Sheriff
- Demonstration Emergency
  - Grays Harbor County Sheriff
- Hazardous Materials Accidents
  - Energy Facility Site Evaluation Council
  - Department of Ecology

Others who could be notified include National Response Center and Elma Fire Department.

**2) Proposed measures to reduce or control environmental health hazards, if any:**

The risk of an explosion in the Grays Harbor Energy Center will be mitigated by designing, constructing, and operating the facility as

required in the latest versions of the applicable codes, regulations, and consensus standards (see Section 7(a) above).

- During construction, dangerous materials will be stored, handled and disposed of in accordance with a hazardous materials management plan.
- As noted above, all equipment will be designed, constructed and operated in accordance with applicable federal, state and local codes that relate to electrical generation facilities.
- All equipment that poses environmental health or safety risks will be enclosed in access-controlled buildings or fenced enclosures. Access to these areas will be limited to staff trained in the safe operation and maintenance of the enclosed equipment.
- Physical contact with high-voltage electrical gear and resulting electric shock hazard will be reduced or eliminated. All high-voltage equipment will be placed within fenced enclosures to eliminate access by untrained and/or unauthorized individuals. Warning signs will also be prominently posted.
- Hazardous materials used in operations and maintenance will be stored in appropriate enclosures and used and disposed in accordance with state/federal requirements.

**b. Noise**

**1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

Existing noise sources would not affect the project.

**2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.**

Areas adjacent to the proposed project will be exposed to construction sounds produced by typical construction equipment and activities. Sound levels will increase 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.

The power plant would operate continuously, 24 hours per day. The plant is designed to ensure compliance with EFSEC noise regulations. The predicted noise contribution from Units 3 and 4 would not exceed maximum allowable contribution at any of the adjacent property lines, nor at any nearby receivers (see Table 4.1-6 in Section 4.1 Environmental Health in the Application for SCA Amendment).

A further discussion of project noise is included in Section 4.1 Environmental Health in the Application for SCA Amendment.

**3) Proposed measures to reduce or control noise impacts, if any:**

- The proposed acoustical design of the Project will include silencers placed within the air intake ductwork of the combustion turbines to reduce high-frequency compressor and turbine blade noise levels.
- Acoustical enclosures will be used to reduce casing radiated noise from the combustion turbines, generators, gearing and other auxiliary support equipment.
- Turbine exhaust noise will be attenuated via the heat recovery steam generators (HRSGs) as well as by absorptive silencers placed either in the HRSG ductwork leading to the stacks or hung within the stacks themselves.
- The proposed addition of Units 3 and 4 will take advantage of the existing acoustical barriers along the northern and western property boundaries.
- If necessary to comply with EFSEC noise regulations, additional acoustical barriers will be erected along the northern and southern property boundary to control property line noise levels (see conceptual barrier layout in Figure 4.1-4 in Section 4.1 of the Application for SCA Amendment). Noise level measurements would be collected during Project performance testing (prior to commercial operation) and used to determine whether

acoustical barriers along the property boundaries are necessary, and if so, the optimal height, length and placement of any barriers. Note that additional barriers are not required to achieve predicted levels at the residences.

A discussion of planned mitigation of noise emissions is in Section 4.1 Environmental Health in the Application for SCA Amendment.

## **8. Land and Shoreline Use**

### **a. What is the current use of the site and adjacent properties?**

Units 3 and 4 will be located within the approved Grays Harbor Energy Center site. Construction of Units 1 and 2 was completed in the second quarter of 2008 and commercial operation began April 25, 2008. The site is surrounded on all sides by the property boundary of the Satsop Development Park. The approximately 22-acre site was previously developed for and used as a laydown area during construction of now discontinued nuclear plants WNP-3 and WNP-5 located at the Satsop Development Park. The adjacent 10-acre construction laydown area to the east consists of approximately 5-acres of thinned conifers and 5-acres of grassland/agriculture.

Prior to the start of site work for the Satsop CT Project (Grays Harbor Energy Project), most of the site was covered by a layer of graded gravel several feet deep and surrounded by a chainlike fence topped with barbed wire. The western portions of the site adjacent to Keys Road have been paved with asphalt.

To the south of the site, the Bonneville Power Administration (BPA) maintains a transmission corridor as part of its Olympia-to-Aberdeen grid connection. Most of the other areas surrounding the site are forested. About a quarter mile to the southwest of the site, the Weyerhaeuser Timber Company manages an experimental forest that is approximately 50 acres in size. On the north side of this forest, about two-thirds of a mile west-southwest of the site is about a dozen single-family houses. To the southeast of the site is the Fuller Creek preservation area. The discontinued nuclear power plant facilities (WNP-3 and WNP-5) lie beyond this area, approximately 1 mile south and southeast of the project site. Forested areas are located to the north of the site, beyond which the grade drops rapidly down toward the Chehalis River, which is approximately 0.5 mile from the project site.

**b. Has the site been used for agriculture? If so, describe.**

While the site may have been used in the past for agriculture, the site has been cleared and used as a construction laydown area since the initiation of construction for the Satsop Nuclear Plants in 1976. No agricultural activities have taken place since that time.

**c. Describe any structures on the site.**

Units 1 and 2, and ancillary facilities, are located on the western portion of the 22-acre project site. The eastern portion of the site, where Units 3 and 4 will be located, was used for construction laydown during the construction of Units 1 and 2. There are no structures on the 10-acre site proposed for construction laydown and access.

**d. Will any structures be demolished? If so, what?**

No structures are to be demolished.

**e. What is the current zoning classification of the site?**

The project site, including the 10-acres site proposed for construction laydown and access, is located within areas having Grays Harbor County's Industrial (I-2) zoning designation (13.06.080). Development of electrical power plants in an I-2 zone is permitted outright.

**f. What is the current comprehensive plan designation of the site?**

The Grays Harbor Energy Project site, including the proposed construction laydown and access area, is located within the Rural Lands designation contained in the Rural Lands Element of the Comprehensive Plan. The Rural Lands Element provides the policy foundation to guide the county in allocating land for commercial and industrial uses, and also to protect the resources of the county's rural lands.

In October 2007, the Grays Harbor PDA published the Satsop Development Park Master Plan, which is intended to guide and direct the future infill and build-out of the site to realize its full potential. The Master Plan identifies seven planning areas. The Grays Harbor Energy Center site, and the proposed 10-acre construction laydown and access area are located within Area 2: West Park (Figure 3.1 of Satsop Development Park Master Plan.). Area 2: West Park is described in the Master Plan as developable. *"Developable areas are where development in the form of buildings, roads, parking, and other infrastructure will occur or already exists. Developed areas are generally those that have already been*

*cleared and graded, and have infrastructure in place, or are immediately adjacent to existing development. Multiuse areas encompass a variety of non-development uses, including passive recreation, forest management, wildlife habitat, infrastructure corridors, and education and research. In some areas, habitat restoration or enhancement could be achieved in order to improve natural functions and conditions. Areas 1 and 2 are designated for intensive development and Areas 3 through 7 are designated as multi-use.”*

The West Park Planning Area is further described on page 53 of the Master Plan as: *“The West Park Planning Area is a key component of the Park’s economic development goals. West Park is approximately 170 acres, much of which is currently undeveloped. It is a secondary ‘gateway’ into the Park, accessed from State Route 12 via Keys Road.”*

*The West Park area’s direct access to the highway, separation from the Main Campus, and the character of existing uses make it most suitable for more intense industrial uses. Current tenants include Livingston Boats, Simpson Door Company, L&L Machinery Company, Northwest Pipeline, and Invenergy, which owns its 32 acre parcel, where it houses a combustion turbine facility. The siting of this power plant creates a restriction on residential development within a 200-foot buffer. The BPA right-of-way cuts through the southern portion of the area. Due to its remote location within the Park and heavy industrial uses, the West Park area will have restricted public access. It is estimated that West Park has capacity for 30,000 SF of office and 690,000 SF of light and heavy industrial at full-build-out.*

**g. If applicable, what is the current shoreline master program designation of the site?**

Not applicable; neither the site or the construction laydown area are within the shoreline master program jurisdiction.

**h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.**

No part of the site has been classified as an “environmentally sensitive” area.

**i. Approximately how many people would reside or work in the completed project?**

The operation of Units 3 and 4 will require adding approximately 8 employees to the existing staff of 23. Operation of all four units would

involve approximately 20 employees working in two 12-hour shifts, with a maximum of 31 employees working on site at any time.

**j. Approximately how many people would the completed project displace?**

None.

**k. Proposed measures to avoid or reduce displacement impacts, if any:**

None required.

**l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:**

The plant site is currently zoned Industrial (I-2), a zoning designation that allows this use. In addition, the project site is located within an industrial park. Electrical power production as an industrial activity is compatible with both the existing use and zoning of the site and the surrounding Satsop Development Park Area 2: West Park. See Section 8(f) above.

**9. Housing**

**a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

No housing units are planned to be developed by the project either on the Grays Harbor Energy Center site or elsewhere. The operation of Units 3 and 4 will generate approximately 8 additional jobs, as well as secondary jobs created as a result of the direct economic impact of operation of the project. Efforts would be made to hire local individuals to staff the project as much as practicable. Operation employees would likely choose to reside in various areas from Aberdeen to Olympia based on an approximately 40-minute drive to work. Even if all 8 employees come from outside of the local area, and they all bring families, the potential impact area is sufficiently large that the project would not have an adverse impact on population or housing in the area. Workers new to the local area are expected to obtain housing from the existing local housing stock.

**b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

No housing units would be eliminated.

**c. Proposed measures to reduce or control housing impacts, if any:**

The existing operating workforce for the Grays Harbor Energy Project is 23. The operation of Units 3 and 4 will require adding approximately 8 employees, increasing the total to 31 employees. Because the total increase in permanent direct employment for the operation of Units 3 and 4 will be approximately 8, and some individuals who may be employed by the project are expected to already reside in the local area, no impact to housing is expected.

**10. Aesthetics**

**a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The tallest structure at the Grays Harbor Energy Center will be the emission stacks for Units 3 and 4, which will have an elevation of 180 feet above ground level, the same elevation as the existing exhaust stacks. The principal exterior building material will be painted metal.

**b. What views in the immediate vicinity would be altered or obstructed?**

The Grays Harbor Energy Center will continue to consist primarily of low-profile buildings and structures, with the exception of the emission stacks. Visual impacts of the constructed project (all 4 units) upon the existing regional landscape (see Figure 4.2-3 in Section 4.2 Land and Shoreline Use of the Application for SCA Amendment) are expected to be "minor adverse, not significant." Even though project buildings and ancillary facilities would not be seen from SR 12 (see Figure 4.2-2 in the Application for SCA Amendment), a small portion of the emission stacks may be visible from some viewpoints in the Chehalis River Valley. The cooling towers, juxtaposed against the horizontal profile of the background hills, are objects of attention for viewers looking across the open plain of the Chehalis River Valley. If visible, the presence of small portions of the emission stacks will be an additional, but minor, element to the west of the existing and taller cooling towers of WNP-3 and WNP-5. Depending on the time of year and weather conditions, attention to the stacks could be more pronounced when a vapor plume is present. The additional visual impact associated with adding Units 3 and 4 to the existing facility is expected to be very minor.

**c. Proposed measures to reduce or control aesthetic impacts, if any:**

Units 3 and 4 will be constructed on an industrialized, developed site as part of the Grays Harbor Energy Center. There are few nearby residences and few travelers using the adjacent Keys Road. Units 3 and 4 will be located further east of Units 1 and 2, within the same site. A screening berm was constructed adjacent to Keys Road as part of the construction of Units 1 and 2, with a 25-foot-high noise wall behind the berm. This berm and noise wall will continue to 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. The 180-foot-high emission stack will be painted a light color.

**11. Light and Glare**

**a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

The operation of Units 3 and 4 would not significantly increase the existing light and glare conditions. The area to be used for Units 3 and 4 would be illuminated at the same times and illumination levels as the existing facility. For more information, see Section 4.2 Land and Shoreline Use in the Application for SCA Amendment.

**b. Could light or glare from the finished project be a safety hazard or interfere with views?**

Light and glare impacts upon nearby residents and travelers along Keys Road are expected to be insignificant. Prior to the start of construction of Units 1 and 2, there were existing high-mast lights providing wide-area illumination of the industrial yards. Local residents are already used to this local light source and the separation distance of approximately 3,375 feet provides a buffer zone for light falloff. The 25-foot-high wall with a vegetated berm located along Keys Road will reduce the light from Units 3 and 4. Vegetation located on the berm and scattered existing vegetation between the project site and residences would 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. 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.

**c. What existing off-site sources of light or glare may affect your proposal?**

Off-site light sources are not expected to affect power production operations. See Section 11(d) below.

**d. Proposed measures to reduce or control light and glare impacts, if any:**

The 25-foot-high noise wall, vegetation located on the berm, and scattered existing vegetation between the project site and residences will continue to 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. 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.

**12. Recreation**

**a. What designated and informal recreational opportunities are in the immediate vicinity?**

There are designated and informal recreational opportunities within the Satsop Development Park, outside of the Grays Harbor Energy Center site. The Development Park's Master Plan includes planning for additional opportunities such as trails, fishing access, non-motorized watercraft access, biking and wildlife viewing. However, no recreational opportunities currently exist on or in the immediate vicinity of the site.

**b. Would the proposed project displace any existing recreational uses? If so, describe.**

The construction and operation of Units 3 and 4 would not displace any existing recreational uses. During construction, there may be temporary impacts due to the possible the use of recreational facilities by construction workers during the 22-month construction period.

**c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:**

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

### **13. Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.**

There are no places or objects listed on, or proposed for, national, state or local preservation registers on or next to the site. A cultural resources survey of the site and surrounding area was performed as part of permitting for the Satsop CT Project. Units 3 and 4 would be located within the same site boundaries, and the 10-acre site proposed for construction laydown and access is within the area previously studied; as a result, construction and operation of Units 3 and 4 would have no anticipated historic and cultural preservation impacts.

- b. Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

No significant resources are present in the proposed project area.

- c. Proposed measures to reduce or control impacts, if any:**

No impacts to cultural resources are expected and no mitigation is necessary. Should any unanticipated resources be identified during site excavation, work will halt until appropriate consultation with state and tribal officials has been made and a plan approved for the disposition of the resources.

### **14. Transportation**

- a. Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.**

Figure 4.3-1 in Section 4.3 Transportation in the Site Certification Agreement shows the major roadways in the area. State Route (SR) 12 is the predominant highway serving the plant site. SR 12 is a four-lane divided highway providing east-west access that extends from Aberdeen on the west to its intersection with SR 8 near Elma, then southeasterly to connect with Interstate 5 (I-5) north of Centralia. SR 8 continues east from Elma until it becomes US Highway 101 and connects to I-5. South of SR 8, SR 12 continues as a two-lane highway with varying width shoulders. The posted speed limit on SR 12 is 60 mph in the Elma to Montesano area. SR 12 at the intersection with Keys Road provides

dedicated left and right turn lanes in the eastbound direction, and a dedicated left turn land in the westbound direction.

Keys Road is a two-lane minor collector county arterial providing direct connection to the plant site and proposed project site. Keys Road is 24 feet in width with varying width shoulders (paved or gravel) and is stop sign controlled (two-way on Keys Road) at its intersection with SR 12. Keys Road at the intersection with SR 12 provides a dedicated right turn lane in the northbound direction, and a flared approach for right turning vehicles in the southbound direction.

Access to the site is provided directly from Keys Road by a new access driveway to be constructed within the site boundaries. The asphalt surface of Keys Road is in good condition, and the posted speed limit is 35 to 40 mph. The proposed plant site is located approximately 2.5 miles south of SR 12 along Keys Road.

The Wakefield Road corridor provides access from the east to the project site. Wakefield Road connects SR 12 to Keys Road via Lambert Road and is rated for heavy vehicle (truck) use. Wakefield/Lambert Road is two lanes and the speed limit is 45 mph.

**b. Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

No, the nearest transit is on SR 12, approximately 2.5 miles north of the site. Grays Harbor Transit Bus route 40 currently operates along SR 12 providing service between Hoquiam and Olympia. This route operates between 5:10 am and 8:25 pm in the eastbound direction, and between 6:15 am and 9:30 pm in the westbound direction on weekdays. Route 40 also operates between 8:00 am and 6:30 pm in the eastbound direction and between 9:55 am and 8:20 pm in the westbound direction on weekends.

**c. How many parking spaces would the completed project have? How many would the project eliminate?**

No parking spaces would be eliminated by the project. Approximately 41 parking spaces are provided at the plant site. This amount of parking will be sufficient for the maximum of 31 employees who will be on the site during full operation of both plants.

- d. Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

Neither construction nor operation will require new roads or improvements to existing roadways.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

Items shipped by rail will be delivered to the existing Elma rail siding located approximately 3 miles northeast of the site. The existing facilities are adequate for project-related needs, and there is no need to develop additional rail access or rail facilities for the project. Shipment by rail will require approximately 25 to 30 railcars over a 3- to 6-month period for materials to construct the project. Some equipment and materials may be delivered to the site using the existing barge slip on the Chehalis River, and then trucked to the site. The project will not use air transport during construction or operation, with the exception of personnel transport on commercial flights and the use of commercial couriers that would use existing private or commercial flights for occasional small deliveries.

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

It is anticipated that approximately 270 additional P.M. peak hour trips will be attributable to the construction of Units 3 and 4. Operation of Units 3 and 4 would add approximately 19 vehicular trips per day for the approximately 8 additional full-time permanent employees plus other deliveries. Approximately 8 trips would occur during both the A.M. and P.M. peak hours.

- g. Proposed measures to reduce or control transportation impacts, if any:**

EFSEC has approved the Certificate Holder's traffic control plan implemented for the original Grays Harbor Energy Center 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 would also be applicable to the construction of Unit 3 and 4.

**15. Public Services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

Because no extensive demand on any public service or utility is anticipated, and a traffic control plan will be implemented, the overall impact to the public services and utilities attributable to construction is expected to be minor and short-term. Operation of the expanded Grays Harbor Energy Center will not have a significant adverse impact on existing public services in the project vicinity. Grays Harbor Energy Project staff will continue to receive appropriate training in handling on-site emergencies, including fire and medical, and will provide the first line of response. As part of the initial construction, the Certificate Holder initiated consultation with the local fire departments concerning training, equipment and plant familiarity. This consultation will be expanded to include Units 3 and 4. Because there will be a relatively small staff operating the Grays Harbor Energy Center (31 total for operations of all 4 units), no effect on schools in the project vicinity is expected. The facility includes a septic system and leach field that is adequate for the 31 employees. These are operated in accordance with applicable regulations and will not affect the existing septic systems.

- b. Proposed measures to reduce or control direct impacts on public services, if any.**

Significant impacts on public services are not anticipated. Therefore, the project does not include design features associated with potential impacts to public services.

**16. Utilities**

- a. Check utilities currently available at the site:**

electricity       natural gas       water  
 refuse service       telephone       sanitary sewer  
 septic system       other \_\_\_\_\_

Electricity, water, natural gas, refuse service, and septic services are currently available at the site and are adequate to serve Units 3 and 4. Sanitary sewer service is not available.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

No new utility corridors are required for Units 3 and 4, or for the Grays Harbor Energy Project in total.

**C. SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

SIGNATURE Katy Chaney

Date Submitted: October 30, 2009