

# Statement of Basis for the Air Operating Permit—Final

## **Puget Sound Energy Sumas Generating Station**

Sumas, Washington

March 22, 2016



*Serving Island, Skagit & Whatcom Counties*

**PERMIT INFORMATION**  
**PUGET SOUND ENERGY, SUMAS GENERATING STATION**  
**1340 Thompson Lane, Sumas, Washington 98295**

**SIC: 4911**

**NAICS: 221**

**EPA AFS: 53-073-60041**

**NWCAA ID: 637-V-W**

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<b>Air Operating Permit Number:</b>	<b>Issuance Date:</b>
021R1	March 22, 2016
<b>Permit Modifications</b>	<b>Modification Date:</b>
none	n/a
<b>Supersedes Permit Number:</b>	<b>Expiration Date:</b>
021	March 22, 2021
<b>Application Received Date:</b>	<b>Renewal Application Due:</b>
January 26, 2014	March 22, 2020

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## **1 INTRODUCTION**

Puget Sound Energy is required to obtain an air operating permit for the Sumas Generating Station (PSE Sumas), pursuant to Title V of the 1990 Federal Clean Air Act and Chapter 173-401 of the Washington Administrative Code (WAC). Emissions of air pollutants from PSE Sumas do not exceed the thresholds that require an air operating permit. The facility's potential emissions are further discussed in Section 2 of this document. PSE Sumas must obtain an air operating permit due to applicability of the acid rain provisions of Title 40 Code of Federal Regulations Parts 72 and 75 (40 CFR 72 &75).

The purpose of this Statement of Basis (SOB) is to set forth the legal and factual basis for the conditions set forth in the air operating permit and to provide background information for permit review by interested parties. In accordance with WAC 173-401-700(8), this statement of basis is not a legally enforceable document.

This is the first renewal of the air operating permit issued for PSE Sumas. The changes from the original issuance of the AOP are described below.

### **1.1 Permit Changes in the First Renewal**

The Northwest Clean Air Agency (NWCAA) received an application for the first renewal of the PSE Sumas AOP on December 26, 2014. The application was found to be complete and PSD Sumas was notified on January 6, 2015.

For this first AOP renewal, formatting throughout the AOP was updated to current NWCAA standards. Changes specific to each permit section are listed below.

#### **1.1.1 General Information and Attest**

- The Responsible Official and Corporate Inspection Contact information was updated. Dates were incremented generally by five years, except that the renewal application is now due one year, rather than six months, before permit expiration.
- NWCAA signatories were updated.

#### **1.1.2 Section 2 Standard Terms and Conditions**

Section 2 of the AOP was updated with the current NWCAA standard version, which includes new and modified applicable regulations and updated reference dates.

#### **1.1.3 Section 3 Standard Terms and Conditions for NSPS and NESHAP**

Section 3 of the AOP was updated with the current NWCAA standard version consistent with the NSPS regulations that apply to PSE Sumas. New and modified applicable regulations and updated reference dates are included.

The AOP now includes applicable requirements from 40 CFR 63 Subpart ZZZZ pertaining to the Cummins emergency diesel generator. This new regulation was promulgated since the original PSE Sumas AOP was issued. Therefore, Section 3 now contains the current NWCAA standard version consistent with the NESHAP regulations that apply to the facility.

#### **1.1.4 Sections 4 and 5 Generally and Specifically Applicable Requirements**

Changes made to the Generally and Specifically Applicable Requirements sections in the current AOP are summarized below:

- Section 4 requirements reflect current NWCAA language for sources similar to PSE Sumas.
- Updates to the combustion turbine Order of Approval to Construct (OAC) 304g, issued on 8/27/15 were incorporated into the AOP.
- Requirements from the newly applicable 40 CFR 63 Subpart ZZZZ pertaining to the Cummins emergency diesel generator are now included in Section 5.

#### **1.1.5 Section 6 Acid Rain Permit**

The permittee is required to resubmit the Acid Rain Permit Application and Certificate of Representation every five years. The new documents are included in the AOP.

## **2 FACILITY DESCRIPTION**

### **2.1 General Facility Description**

Puget Sound Energy, Inc. (PSE) owns and operates the Sumas Generating Station (PSE Sumas) which is comprised of a single natural gas fired turbine used to generate electricity for the local PSE grid. The generating station has a rated output capacity of 125 megawatts (MW) of electricity. In addition to the combustion turbine, the plant includes a steam turbine generator, a cooling tower and a 500 kilowatt (KW) diesel fired emergency generator. The facility is located on a site of approximately two acres located at 1340 Thompson Lane in Whatcom County, approximately a half mile southwest of the City of Sumas.

On July 25, 2008, PSE purchased the facility from Sumas Cogeneration Company, L.P. (SCCLP), a subsidiary of Northwest Energy Systems Co., LLC. Following the ownership change, PSE began operating the facility on August 22, 2008.

Construction of the plant was originally approved by the Northwest Clean Air Agency (NWCAA) on June 25, 1991, under Order of Approval to Construct (OAC) 304. Original construction included the natural gas fired combustion turbine and diesel fired emergency generator. On April 14, 1997, the NWCAA issued OAC 611 approving the construction of a 700 HP natural gas fired boiler at the site. However, SCCLP (now dba Socco Forest Products) has retained ownership of this boiler and it is therefore not included in this air operating permit.

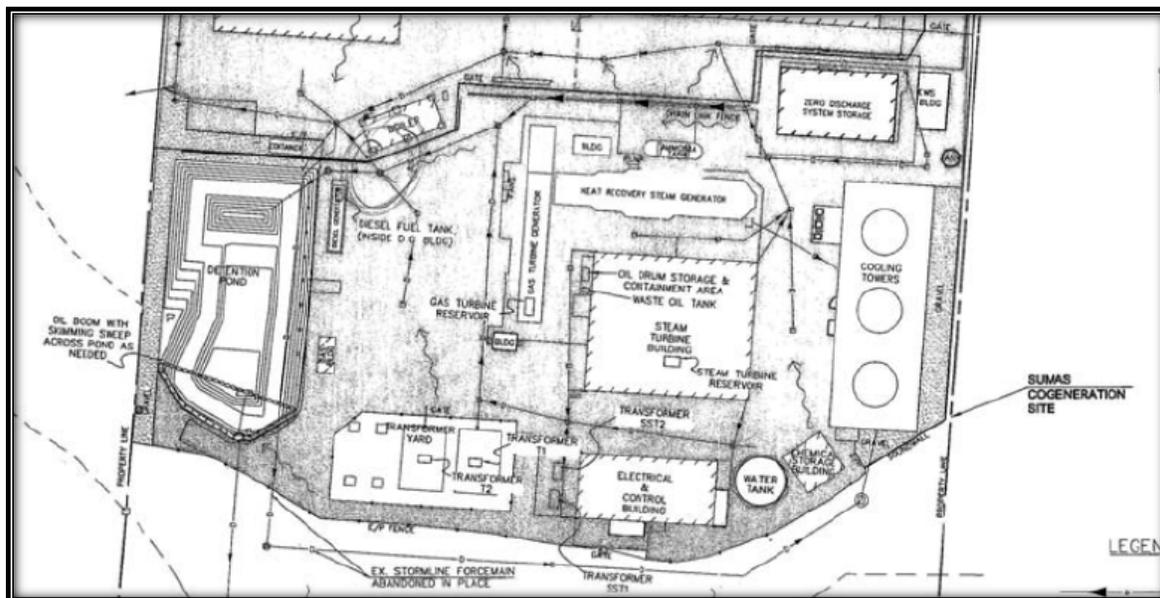
When the facility was purchased by PSE, a regulated utility, it became subject to the acid rain provisions of 40 CFR 72 and 40 CFR 75. Because of acid rain program applicability, the facility became subject to the air operating permit program of 40 CFR 70. The first air operating permit (AOP) for the facility was issued by NWCAA on 1/1/2011.



Figure 1 PSE Sumas Location, circled in red

## 2.2 Emission Unit Description

PSE Sumas is a combined-cycle, co-generation plant powered by a single natural gas-fired combustion turbine (EU-1). The combustion turbine has a maximum fuel consumption rating of 1,138 million British thermal units per hour (MMBtu/hr). The high temperature exhaust produced by the combustion turbine generates steam in the heat recovery steam generator (HRSG). High pressure steam from the HRSG drives a steam turbine generator. Medium pressure steam is injected into the combustion turbine to help control NO<sub>x</sub> emissions. Low pressure steam can be sent to the adjacent lumber mill for kiln drying. The plant includes a non-contact cooling tower where water is evaporated to dissipate heat and condense the steam. The cooling tower is equipped with drift eliminators to reduce water loss. The plant also includes a 500 KW diesel-fired emergency generator (EU-2) that is used to provide backup heat and lighting in the event of an electrical power outage.



**Figure 2 PSE Sumas Site Plan**

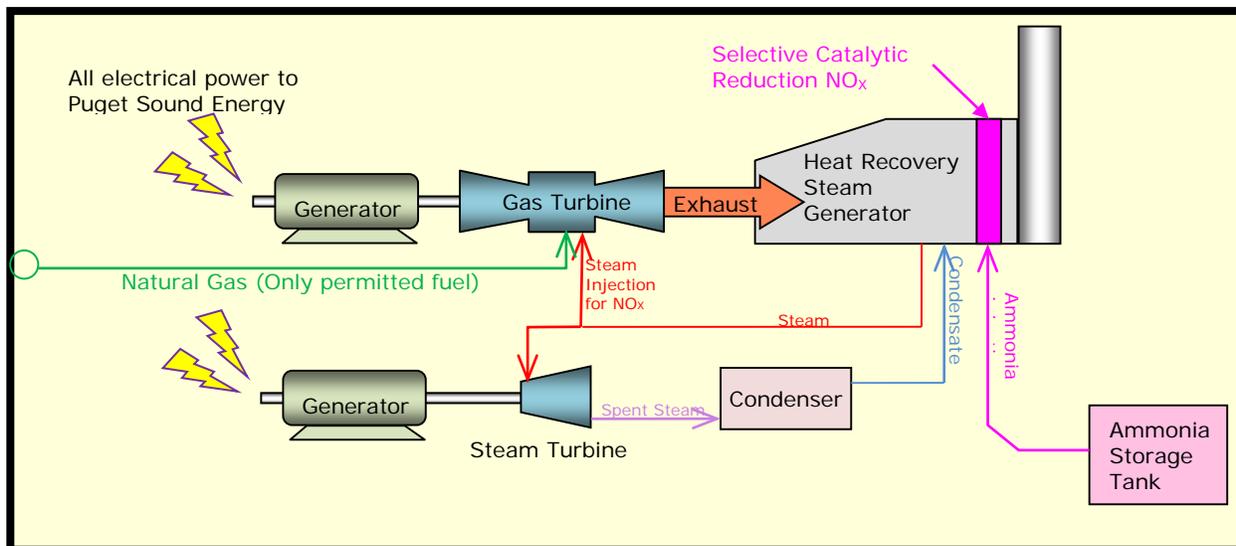
Emissions units are listed in Section 1 of the AOP. These include the natural gas fired combustion turbine (EU-1) and emergency diesel fired generator (EU-2). Other, "insignificant emission units" (IEU) are listed in Section 6 of this document.

### **2.2.1 Combustion Turbine (EU-1)**

The General Electric Frame 7EA combustion turbine emits products of combustion including nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), particulate matter (PM<sub>10</sub>, and PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and volatile organic compounds (VOC). NO<sub>x</sub> emissions are controlled using steam injection in the combustion section of the turbine and through selective catalytic reduction (SCR) for the exhaust gas. Ammonia (NH<sub>3</sub>) is injected into the SCR bed and any excess ammonia that is not consumed in the reaction is emitted from the stack. These ammonia emissions are commonly referred to as ammonia slip.

Air pollution emission rates for PSE Sumas are based on emission factors derived from source testing, gas sulfur content values, and CEMS measurements. OAC 304g contains maximum emission limits for NO<sub>x</sub>, CO and NH<sub>3</sub>. These limits represent the facility's federally enforceable potential to emit (PTE) for these pollutants.

Toxic air pollutant (TAP) and hazardous air pollutant (HAP) emission rates from the combustion turbine are based on heat input in millions of British thermal units per hour (MMBtu/hr) and emission factors (pound pollutant per MMBtu) from EPA's AP-42 Section 3.1, Stationary Gas Turbines.



**Figure 3 PSE Sumas Process Flow Diagram**

**2.2.2 Emergency Generator (EU-2)**

Emissions of from the Cummins Turbo 500 kW diesel-fired emergency generator are based on fuel use rates as heat input (MMBtu) and emission factors from EPA's AP-42 Section 3.4, Large Uncontrolled Stationary Diesel Engines. OAC 304g limits generator operation to no more than 132 hours per year.

**2.3 Emissions Inventory**

**2.3.1 Potential to Emit**

PSE Sumas has submitted their annual potential emissions for both criteria and toxic pollutants with their renewal application. These potential emissions are shown in Tables 2-1 and 2-2.

**Table 2-1 Potential Emissions, criteria pollutants, tons per year**

NOx	CO	SO2	PM	PM2.5	VOC	NH3
75	52	11	27	21	2E-02	55

**Table 2-2 Potential Emissions, toxic pollutants, tons per year**

Acetaldehyde	Ethyl benzene	Propylene Oxide	Benzene	Formaldehyde	Toluene	Xylenes
0.20	0.16	0.14	6E-02	3.5	0.65	0.32

**2.3.2 Actual Emissions**

Table 2-3 shows the fuel used annually by the combustion turbine and the emergency generator. The turbine is permitted to use only natural gas as a fuel. Table 2-4 shows the criteria air pollutant emissions, and Table 2-5 shows the two highest toxic air pollutant emissions from the facility.

**Table 2-3 Fuel Use Data**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
nat. gas, 10 <sup>6</sup> scf	8,218	8,127	4,358	1,804	1,718	4,252	3,206	1,495	1,935	4,615	3,691
diesel, 10 <sup>3</sup> gal	0	0	0	1	1	1	3	1	2	0	1

**Table 2-4 Criteria Air Pollutant Emissions, Tons per Year**

YEAR	PM <sub>10</sub>	SO <sub>2</sub>	NO <sub>x</sub>	VOC	CO	NH <sub>3</sub>
2004	17	9	71	0	1	14
2005	17	9	69	0	1	14
2006	9	5	41	0	4	15
2007	19	2	18	0	6	7
2008	8	0	1	1	1	3
2009	9	13	37	2	7	26
2010	7	9	29	0	0	6
2011	3	2	12	0	0	3
2012	4	2	16	0	0	3
2013	10	4	38	0	0	8
2014	12	4	37	0	6	10

**Table 2-5 Toxic Air Pollutant Emissions, Pounds per Year**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Benzene	101	99	52	52	21	53	40	19	24	57	48
Formalde hyde			3,079	3,073	1,234	3,118	2,358	1,099	1,418	3401	2834

## 2.4 Permitting History

On January 10, 1991, NWCAA issued OAC 304 approving construction of the facility comprised of a 67 MW combined cycle, natural gas-fired combustion turbine with a heat recovery steam generator. NO<sub>x</sub> emissions are controlled with steam injection to the turbine combustion section, and SCR for post combustion control. NO<sub>x</sub> emissions are monitored with a continuous emission monitoring system (CEMS). The approval included post-combustion CO control using an oxidation catalyst bed and a CEMS to monitor CO emissions. The plant was built with the ability to send low pressure steam to the neighboring Socco Forest Products mill for kiln drying lumber. Ancillary equipment included a 3-cell cooling tower and a 500 KW diesel-fired emergency generator. Subsequently the NOC application was revised to expand the facility to 113 MW capacity, and an amended OAC 304 was issued on

June 25, 1991. The plant commenced operation in April 1993. Since the initial issuance, OAC 304 has been revised as follows.

On August 8, 1996, NWCAA issued OAC 304a. This revision allowed an expansion of production capacity to 125 MW, and changed the NO<sub>x</sub> *concentration* limit (ppm) averaging time from hourly to 24-hours, removed the annual operating time limit on the combustion turbine, and the generator specifications were changed to the unit that was installed. Also, the carbon monoxide continuous emission monitoring requirement was replaced with a requirement to source test for CO every three years.

On November 17, 1997, NWCAA issued OAC 304b. This revision changed the averaging time on the NO<sub>x</sub> emission *rate* limit (lb/hr) from hourly to 24-hour. It also changed the NO<sub>x</sub> reporting requirement.

On August 3, 1998, NWCAA issued OAC 304c. This revision allowed removal of the oxidation catalyst bed and CO CEMS conditioned upon six months of continuous CO monitoring after the catalyst bed had been removed. The revision also added a 2-hour CO limit exemption during turbine startup. The company successfully demonstrated compliance with the CO limit for the required six-month period after removing the oxidation catalyst bed, and subsequently removed the CO CEM.

On March 27, 2009, NWCAA issued OAC 304d. This revision was requested by PSE which took ownership of the plant from Sumas Cogeneration Company on July 25, 2008. This ownership transfer triggered requirements for an acid rain permit because PSE is a regulated utility. The Acid Rain program triggered Title V applicability under Section 70.1 of 40 CFR 70, Section 72.70 of 40 CFR 72, and WAC 173-401-300(1)(a)(v). To better prepare the OAC for incorporation into the AOP, PSE requested a variety of OAC revisions including updating the OAC with new owner information; deleting obsolete and completed requirements (VOC and PM/PM<sub>10</sub> limits and their initial source test requirements); adding annual source testing for CO and ammonia; changing the 18.1 pound per hour NO<sub>x</sub> limit from a 24-hour to a calendar day average; and clarifying reporting requirements.

On July 31, 2009, NWCAA issued OAC 304e. This revision removed the text "pipeline grade" associated with a condition to combust only natural gas in the turbine. For clarification the revision included the definition of "natural gas" as found in 40 CFR 72.

On July 24, 2013, NWCAA issued OAC 304f. This revision removed the requirement to monitor the water to fuel ratio. This is allowed by 40 CFR 60 Subpart GG (see §60.334(a) and §60.334(b)) since the facility operates a NO<sub>x</sub> CEM system.

On August 27, 2015, NWCAA issued OAC 304g, the current OAC. This revision removed the requirement to correct measured NO<sub>x</sub> concentrations to ISO conditions. This is allowed by 40 CFR 60 Subpart GG (see §60.335(b)(1)) since the turbine is equipped with an add-on emission control device.

## **2.5 Compliance History**

No notices of violation (NOV) have been issued by the NWCAA to PSE since they took ownership of the plant on July 25, 2008. No enforcement action has been

issued to the facility by the NWCAA in the past five years.

### **3 BASIS OF REGULATION APPLICABILITY**

#### **3.1 New Source Performance Standards (NSPS)**

##### **3.1.1 40 CFR 60 Subpart GG – Standards of Performance for Stationary Gas Turbines**

The provisions of Subpart GG are applicable to stationary gas turbines with a heat input at peak load equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuel fired, for which construction, modification, or reconstruction is commenced after October 3, 1977. The combustion turbine at PSE Sumas has a heat input rating over the 10 MMBtu/hr NSPS threshold and was constructed after the applicability date of Subpart GG. Therefore subpart GG is applicable to the facility. Subpart GG includes specific NO<sub>x</sub> and SO<sub>2</sub> limits and requirements for demonstrating ongoing compliance.

The heat recovery steam generator (HRSG) is not subject to NSPS Subparts D, Da, Db or Dc (steam generating units) because PSE Sumas has no capacity to directly fire the HRSG with duct burners.

#### **3.2 National Emission Standards for Hazardous Air Pollutants (NESHAP)**

##### **3.2.1 40 CFR 63 Subpart YYYY—National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines**

Subpart YYYY establishes emission limitations and operating limitations for hazardous air pollutants from stationary combustion turbines located at major sources of HAP emissions. Under 40 CFR 63, a major source is one that has the potential to emit 10 tons or more per year of any single HAP or 25 tons per year or more of any combination of HAPs. Subpart YYYY does not apply to PSE Sumas because it does not meet the potential to emit any single HAP or total combination of HAPs that would make it a major source under 40 CFR 63.

##### **3.2.2 40 CFR 63 Subpart ZZZZ: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines**

Subpart ZZZZ establishes emission and operating limitations for HAP emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. PSE Sumas is an area source of HAP, and the Cummins diesel generator is a RICE, therefore Subpart ZZZZ applies to the facility.

#### **3.3 Acid Rain Program**

The acid rain program includes permits, an allowance system, sulfur dioxide opt-ins, continuous emission monitoring, excess emissions, and appeal procedures, described in 40 CFR Parts 72, 73, 74, 75, 77, and 78. The acid rain program is authorized under Title IV of the Federal Clean Air Act with the purpose of reducing SO<sub>2</sub> and NO<sub>x</sub> emissions from utility electric generating plants. These reductions will, in turn, reduce the adverse health and ecological impacts associated with acidic deposition. The EPA promulgated the acid rain provisions in 1993. The combustion turbine (EU-1) at PSE Sumas is an "affected unit" as defined in the acid rain

program. The applicable requirements are found in Section 7 of the air operating permit.

### **3.4 Compliance Assurance Monitoring (CAM)**

The requirements of Compliance Assurance Monitoring are contained in 40 CFR 64. They apply to a pollutant-specific emissions unit (PSEU)<sup>1</sup> at a major source that is required to obtain a part 70 or 71 permit provided the unit satisfies all criteria as delineated in 40 CFR 64.2(a)(1)-(3). The PSEU must meet all of the following criteria:

- is subject to an emission limitation or standard,
- uses a control device to achieve compliance, and
- has a potential pre-control emissions greater than or equal to the major source threshold for the pollutant.

The only unit at PSE Sumas with a control device is the combustion turbine (EU-1), which is equipped with steam injection and selective catalytic reduction (SCR) to control NO<sub>x</sub>. Emissions of other pollutants are not controlled by a control device. Since the turbine is the only unit with controls, and it's only controlled for NO<sub>x</sub>, further evaluation of CAM applicability is only needed for NO<sub>x</sub> at the turbine.

The combustion turbine (EU-1) is exempted from the CAM rule by §64.2(b)(1)(vi)<sup>2</sup> because ongoing compliance is determined in the Part 70 permit with a continuous emissions monitor (CEM).

### **3.5 Risk Management Plan (RMP)**

The goal of 40 CFR 68 – Chemical Accident Prevention Provisions, commonly known as Risk Management Plan provisions, is to prevent accidental releases of substances that can cause serious harm to the public and the environment from short-term exposures and to mitigate the severity of releases that do occur. For example, if a tank, or pipe at the facility contains hazardous or flammable substances listed in §68.130 in an amount above the “threshold quantity” specified for that substance, the facility operator is required to develop and implement a risk management program.

Although the facility initially used anhydrous ammonia to support operation of the SCR, PSE has since substituted an aqueous ammonia solution with an ammonia

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<sup>1</sup> The term “PSEU” means an emissions unit considered separately with respect to each regulated air pollutant. Also the term “control device” means equipment, other than inherent process equipment, that is used to destroy or remove air pollutants prior to discharge to the atmosphere.

<sup>2</sup> The requirements of this part shall not apply to any of the following emission limitations or standards. Emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method, as defined in §64.1. The exemption provided in this paragraph (b)(1)(vi) shall not apply if the applicable compliance method includes an assumed control device emission reduction factor that could be affected by the actual operation and maintenance of the control device (such as a surface coating line controlled by an incinerator for which continuous compliance is determined by calculating emissions on the basis of coating records and an assumed control device efficiency factor based on an initial performance test; in this example, this part would apply to the control device and capture system, but not to the remaining elements of the coating line, such as raw material usage).

concentration of 19% by volume. The site de-registered from the RMP and PSM plans in December 2009. Because the current operation involves aqueous ammonia with a concentration less than 20%, the facility is not subject to RMP requirements (40 CFR 68.130).

### **3.6 New Source Review (NSR)**

New Source Review (NSR) requires stationary sources of air pollution to obtain approval prior to commencing construction. There are two types of NSR permitting requirements. Major NSR permitting is required under 40 CFR 52 as Prevention of Significant Deterioration (PSD) permitting. These permits are required for large "major" sources that are new or modified as defined in the rule. The PSE Sumas facility does not have a PSD permit because minor NSR permitting during original construction (OAC 304) included federally enforceable emissions limits that effectively prevent the facility from being a "major" source under Part 52.

Minor NSR permitting is required under Section 300 of the NWCAA Regulation and issued as an "Order of Approval to Construct" (OAC). The NWCAA issues such permits for non-major sources that are new or modified as defined in the rule. PSE Sumas has one OAC. OAC 304 was issued for original construction of the plant in 1991. This OAC has been revised numerous times to its current revision, OAC 304g, which has been incorporated into the air operating permit. Section 2 of this document contains a complete NSR permit history for PSE Sumas.

### **3.7 Greenhouse Gas Regulation (GHG)**

Greenhouse gases (GHG) are gases that contribute to climate change by absorbing heat emitted from the earth. The greenhouse gases recognized by EPA and Ecology are: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF<sub>6</sub>). HFC are a class of greenhouse gases primarily used as refrigerants, consisting of hydrogen, fluorine, and carbon.

PSE Sumas is required to meet federal and state greenhouse gas emission requirements. Because federal GHG rules do not meet the criteria that define "applicable requirements" under Title V (WAC 173-401-200(4)), they are not included in the air operating permit. However, the state GHG rules do meet the definition of Title V "applicable requirements" and therefore are incorporated into the permit.

#### **3.7.1 40 CFR 98, Federal Mandatory Greenhouse Gas Emission Inventory Regulation**

This regulation applies to PSE Sumas due to its GHG emission levels and also the type of facility PSE Sumas is. The rule requires annual GHG inventories and reporting starting in calendar year 2010, with reports due to EPA by no later than March 31 of the following year. This regulation is implemented in its entirety by the EPA. This regulation is excluded from appearing in a Title V air operating permit because it does not contain applicable requirements under the Title V program.

#### **3.7.2 Chapter 173-407 WAC, Carbon Dioxide Mitigation Program,**

**Greenhouse Gases Emissions Performance Standard and Sequestration Plans and Programs for Thermal Electric Generating Facilities, Part I WAC 173-407-010 through -070, and Part II, WAC 173-407-100 through -320.**

In accordance with 173-407-120 (4)(c), this regulation applied to PSE Sumas when the facility was purchased by PSE on June 25, 2008. The rule applies because PSE Sumas is a fossil-fueled thermal electric generating facility with station-generating capability of more than 25 megawatts of electricity.

Part II of the rule applies to PSE Sumas and includes a GHG emissions performance standard of less than or equal to 1,100 pounds of CO<sub>2</sub> equivalent per megawatt-hour generated on a calendar year average basis. The rule specifies that the GHG emissions performance standard is based on total emissions of carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>), each weighted based upon their global warming potential (GWP = 1.0 for CO<sub>2</sub>, 21 for CH<sub>4</sub>, and 310 for N<sub>2</sub>O). The resulting sum is expressed in metric tons of carbon dioxide equivalents (CO<sub>2</sub>e). PSE Sumas has opted to demonstrate ongoing compliance with this performance standard as follows.

*3.7.2.1 Carbon Dioxide (CO<sub>2</sub>)*

Carbon Dioxide (CO<sub>2</sub>) emissions are estimated through fuel carbon content monitoring, emission factors developed during stack testing using Ecology or EPA approved methods, and through other methods meeting the requirements of 40 CFR Sections 75.10 and 75.13 and 40 CFR Part 75 Appendix G. Part 75 requires that fuel consumption in the combustion turbine be continuously monitored using certified volumetric flow meters that are certified initially and have ongoing QA requirements delineated in 40 CFR Part 75, Appendix D to assure accuracy.

PSE Sumas completed four consecutive quarterly stack tests for CO<sub>2</sub> during the 2009 calendar year using Method 3A – *Determination of Oxygen and Carbon Monoxide Concentrations in Emissions from Stationary Sources*. Results from testing are used to determine emission factors for CO<sub>2</sub> based on natural gas fuel consumption rates.

*3.7.2.2 Nitrous Oxide (N<sub>2</sub>O) and Methane (CH<sub>4</sub>)*

Nitrous Oxide (N<sub>2</sub>O) and methane (CH<sub>4</sub>) emissions are estimated through the use of specific emission factors developed during stack testing using Ecology or EPA approved methods. Testing is required at various loads and during four separate test periods spaced evenly throughout first year of operation under the rule. PSE Sumas completed four consecutive quarterly stack tests for N<sub>2</sub>O and CH<sub>4</sub> during the 2009 calendar year using EPA Method 320 - *Measurement of Vapor Phase Organic & Inorganic Emissions by Extractive Fourier Transform Infrared (FTIR) Spectrometry* with the results being used to determine emission factors for those GHGs.

**Chapter 173-441 WAC, Reporting of Emissions of Greenhouse Gases**

Chapter 173-441 WAC, "Reporting of Emissions of Greenhouse Gases", is a mandatory greenhouse gas reporting rule for:

- Suppliers that supply applicable fuels sold in Washington state of which the complete combustion or oxidation would result in at least 10,000 metric tons of carbon dioxide annually; or
- Any listed facility that emits at least 10,000 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e) of greenhouse gases annually in the state.

Chapter 173-441 WAC was adopted by Ecology on December 1, 2010 and became effective on January 1, 2011. This regulation applies to PSE Sumas due to the fact that it emits at least 10,000 metric tons of CO<sub>2</sub>e of greenhouse gases per year. For 2013 and 2014, PSE Sumas reported about 262,000 tons and 230,000 tons of CO<sub>2</sub>, respectively. Similar to the federal reporting rule under 40 CFR 98, the rule requires annual GHG inventories due to Ecology by no later than March 31 of the following year beginning for calendar year 2012. This regulation is implemented in its entirety by Ecology. Because the statutory authority for chapter 173-441 WAC was the state Clean Air Act (chapter 70.94 RCW), it is considered an applicable requirement under the air operating permit program (WAC 173-401-200(4)); as such, it is included in the AOP.

## **4 GENERAL ASSUMPTIONS OF THE PERMIT**

### **4.1 Permit Content**

Applicable requirements that were satisfied by a single past action on the part of the source are not included in the permit, but are discussed in the statement of basis. An example would be performance testing to demonstrate compliance with applicable emission limitations as a requirement of initial startup. Also, regulations that require action by a regulatory agency, but not of the regulated source, are not included as applicable permit conditions.

### **4.2 One-Time Requirements**

The following actions were noted as having been completed as required by Notice of Construction Approvals or Federal New Source Performance Standards:

- Initial NSPS notifications and performance testing and initial performance testing required under OAC 304 were done long before the facility was purchased by Puget Sound Energy.
- PSE Sumas notified NWCAA that the Sumas Cogeneration Company, L.P. was transferring ownership of the gas-fired electrical cogeneration facility to Puget Sound Energy in compliance with Section 323.3 of the NWCAA Regulation.
- PSE Sumas submitted a Certificate of Representation to EPA on October 15, 2008 pursuant to 40 CFR 72.24.
- PSE Sumas submitted a CEMS Monitoring Plan for the Sumas Generating Station, pursuant to 40 CFR 75.53 on December 30, 2008.
- PSE Sumas provided notification of initial certification testing of the monitoring system at the Sumas Generating Station under the Acid Rain Rules, pursuant to 40 CFR 75.61(a)(1) on December 30, 2008. Testing was to take place from January 20 through 26 of 2009.
- PSE Sumas submitted an Acid Rain Permit application to EPA on May 28, 2009 pursuant to 40 CFR 72.30 and 72.31.
- PSE Sumas submitted an air operating permit application to NWCAA on July 21, 2009. Additional information was submitted in response to NWCAA request on August 20, 2009.
- PSE Sumas performed a series of four, equally-spaced quarterly tests for determination of the GHG gases N<sub>2</sub>O and CH<sub>4</sub> and establishment of emission factors as required by WAC 173-407-120, -140, and -230, and Section 367 and Appendix A of the NWCAA Regulation. Tests were performed during 2009, with the final testing performed on November 5<sup>th</sup> and 6<sup>th</sup>, 2009.
- PSE Sumas submitted a request for a new source review determination for the Aqueous Ammonia Conversion Project. The project includes converting the existing anhydrous ammonia storage, handling and injection system to an aqueous ammonia system. NWCAA determined that the project would not require a NOC application, so long as the facility continues to comply with

existing ammonia emission limits, and the project is completed by no later than March 7, 2011. The project has been completed.

#### **4.3 Federal Enforceability**

Federally enforceable requirements are terms and conditions required under the Federal Clean Air Act (FCAA) or under any of its promulgated regulations. NWCAA and state regulations may become federally enforceable by formal approval and incorporation into the State Implementation Plan (SIP). Federally enforceable requirements are enforceable by the EPA and citizens. All applicable requirements in the permit including standard terms and conditions, generally applicable requirements, and specifically applicable requirements are federally enforceable unless they are identified in the permit as enforceable only by the state. Two different versions (identified by the date) of the same regulatory citation may apply to the source if SIP approval/delegation lags behind changes made to the Washington Administrative Code (WAC) or to the NWCAA Regulation. For Washington Administrative Code (WAC) regulations, the date listed in parenthesis in the air operating permit represents the State Effective date. For NWCAA regulations, the date represents the most recent NWCAA Board of Directors adoption date, which is identified as the "Passed" or "Amended" date in the NWCAA Regulation. The date associated with an OAC or PSD permit represents the latest issuance date of that order. For Federal rules, the date is the rule's most recent promulgation date.

Chapter 173-401 WAC is not federally enforceable although the requirements of this regulation are based on federal requirements for the air operating permit program. Upon issuance of the permit, the terms based on Chapter 173-401 WAC will become federally enforceable for the source.

#### **4.4 Gap Filling**

Title V of the Federal Clean Air Act is the basis for the EPA's 40 CFR 70, which is the basis for the State of Washington air operating permit regulation, Chapter 173-401 WAC. Title V requires that all air pollution regulations applicable to the source be called out in the AOP for that source. Title V also requires that each applicable regulation be accompanied by a federally enforceable means of "reasonably assuring continuous compliance." Some of the older general regulations and federal NSPS do not have monitoring, recordkeeping and reporting requirements that are sufficient to reasonably assure continuous compliance with emission limitations. Title V, 40 CFR 70, and WAC 173-401-615 all contain a "gap-filling" provision for that situation<sup>3</sup>. The permitting agency is required to create

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<sup>3</sup> WAC 173-401-615(1) Monitoring. Each permit shall contain the following requirements with respect to monitoring:

(a) All emissions monitoring and analysis procedures or test methods required under the applicable requirements, including any procedures and methods promulgated pursuant to sections 504(b) or 114(a)(3) of the FCAA;

(b) Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit, as reported pursuant to subsection (3) of

monitoring, recordkeeping and reporting requirements that fill the gap and to put those requirements in the air operating permit. In any term where gap-filling has taken place, the regulatory citation for that term will contain the words "directly enforceable." The introductory paragraphs for the table include the reference to the citation of the gap-filling requirement in Chapter 173-401 WAC: "WAC 173-401-615(b) & (c), 10/17/02."

On August 19, 2008, the U.S. Court of Appeals vacated EPA's 2006 interpretive rule that prohibited states from enhancing monitoring in Title V permits. As a result, permitting authorities again must ensure that monitoring in each permit is sufficient to assure compliance with the terms and conditions of the permit.

#### **4.5 Future Requirements**

No pending requirements that may apply to PSE Sumas at a later date are included in the permit. Some requirements that are not applicable until triggered by an action, such as the requirement to file an application prior to constructing a new source, are addressed within the standard terms and conditions section of the permit. PSE certified in their renewal permit application that the facility will meet any future applicable requirements on a timely basis.

#### **4.6 Compliance Options**

Puget Sound Energy did not request emissions trading provisions or specify more than one operating scenario in the air operating permit application, therefore, the permit does not address these options as allowed under WAC 173-401-650. This permit does not condense overlapping applicable requirements (streamlining), nor does it provide any alternative emission limitations.

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this section. Such monitoring requirements shall assure use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Recordkeeping provisions may be sufficient to meet the requirements of this paragraph; and

(c) As necessary, requirements concerning the use, maintenance, and, where appropriate, installation of monitoring equipment or methods.

## **5 PERMIT ELEMENTS, BASIS FOR TERMS AND CONDITIONS**

The PSE Sumas air operating permit is divided into the following sections:

- Permit Information
- Attest
- Table of Contents
- Section 1 Emission unit Identification
- Section 2 Standard Terms and Conditions
- Section 3 Standard Terms and Conditions for NSPS
- Section 4 Generally Applicable Requirements
- Section 5 Specifically Applicable Requirements
- Section 6 Acid Rain Permit
- Section 7 Inapplicable Requirements

### **5.1 Permit Information**

The Information Page of the permit identifies the source and provides general information about the permit, the responsible corporate official, and the agency personnel responsible for permit preparation, review and issuance.

### **5.2 Attest**

The Attest Page provides authorization for the source to operate under the terms and conditions contained in the permit.

### **5.3 Section 1 Emission Unit Identification**

Section 1 lists emission units, emission points and control devices present at PSE Sumas. Additional information about the facility may be found in the operating permit application and in supplementary files.

### **5.4 Section 2 Standard Terms and Conditions**

The Standard Terms and Conditions section of the permit contains administrative requirements and prohibitions that do not have ongoing compliance monitoring requirements. The citations giving legal authority to the Standard Terms and Conditions are provided in the section. At times, requirements are paraphrased. In this case the language of the cited regulation takes precedence over the paraphrased summary. For understanding and readability, the terms and conditions have been grouped by function. Similar requirements from State and NWCAA regulations are grouped together where possible. There are several requirements included that are not applicable until triggered. Examples of these would be the requirement to file a "Notice of Construction and Application for Approval" (NOC).

### **5.5 Section 3 Standard Terms and Conditions for NSPS and NESHAP**

The Standard Terms and Conditions for NSPS and NESHAP contain applicable requirements from 40 CFR 60 Subpart A - General Provisions and 40 CFR 63 Subpart A - General Provisions, respectively.

## **5.6 Sections 4 and 5 Generally and Specifically Applicable Requirements**

Requirements that limit emissions and broadly apply to all sources within the jurisdiction of the NWCAA are identified in Section 4 - Generally Applicable Requirements. Requirements that limit emissions and apply specifically to emission units at PSE Sumas are identified in Section 5 - Specifically Applicable Requirements. Both section tables are organized by pollutant type for better readability. The first column contains the term number followed by the pollutant type. The second column identifies the regulatory citation. The third column provides a brief description of the applicable requirements for informational purposes and is not enforceable. The fourth column identifies monitoring, recordkeeping and reporting requirements in accordance with WAC 173-401-605(1), -615(1) & (2) and is enforceable except that insignificant emission units are exempt from all MR&R. Test methods associated with each applicable requirement or in accordance with WAC 173-401-615(1)(a) are included in this column.

Many generally applicable requirements do not specify test and/or monitoring methods within the text of the regulation or statute even though WAC 173-401-615 requires the permit to feature monitoring and recordkeeping adequate to demonstrate compliance with such requirements. In these cases, site-specific monitoring methods (gap filling) were developed based on the characteristics of the facility, the nature of the underlying requirement, the requirements of WAC 173-401-615 and EPA guidance on monitoring.

Opacity limitations are visually monitored using EPA Method 9 or Ecology Method 9a, as required by the underlying requirement. Opacity measurements are taken by PSE staff on a monthly basis when turbine operates. Additional monitoring is conducted when operators observe visual emissions. If opacity is greater than the applicable emission standard, immediate corrective action is required and an upset condition shall be reported to NWCAA. All Method 9 or 9a opacity readings must be taken by an individual holding a valid Certification of Completion for Plume Evaluation Training from the Washington State Department of Ecology or other authorized training facility.

Sulfur emission limits of all units contained in the Generally and Specifically Applicable Requirements section of the permit are inherently met if the turbines burn only natural gas containing less than 20 grain/100 SCF sulfur. This is reflected in the July 2004 NSPS Subpart GG revisions which allow the source to keep documentation from its natural gas supplier that the fuel has less than 20 grains/100 SCF sulfur in lieu of testing or perform initial testing demonstrating that the natural gas meets the definition.

Requirements pertaining to operation and maintenance, nuisance, fugitive emissions and odor may be met through adherence to PSE Sumas internal operation and maintenance (O&M) plan and a commitment to timely complaint response and follow-up corrective action. It should be noted that PSE Sumas O&M plan is not included as part of their air operating permit.

## **5.7 Section 6 Inapplicable Requirements**

Washington Administrative Code 173-401-640 allows a determination regarding

inapplicable requirements. This section contains a list of inapplicable requirements and the causal basis.

**5.8 Section 7 Acid Rain Permit**

The acid rain permit and certificate of representation for the combustion turbine (EU-1) at PSE Sumas are contained in this section of the air operating permit.

## 6 INSIGNIFICANT EMISSIONS UNITS

Some categorically exempt insignificant emission units (IEU) as defined in WAC 173-401-532 are present at PSE Sumas and are not listed in the permit. Emission units at PSE Sumas that have been determined to be insignificant on the basis of size or production rate, as defined in WAC 173-401-533 are listed in Table 6-1, and are not listed in the permit.

**Table 6-1 Insignificant Emission Units**

Emission unit	Description	Why IEU	Citation
Cooling tower	Non-contact 3-cell cooling tower	Processing non-contact cooling water	WAC 173-401-532(121)
Diesel storage tanks	One 1,000 gallon tank	Operation, loading and unloading of VOC storage tanks (including gasoline storage tanks), ten thousand gallons capacity or less, with lids or other appropriate closure, vapor pressure not greater than 80mm Hg at 21°C	WAC 173-401-533(2)(c)
Natural gas piping	Fuel supply line	Less than threshold quantities	WAC 173-401-530
Aqueous ammonia storage tank	One 12,000 gallon tank	Less than threshold quantities	WAC 173-401-530
Misc. wastewater collection pumps	50-150 gallons each	Less than threshold quantities	WAC 173-401-530
Facility operation and maintenance	Normal operation and maintenance, exclusive of fuel, associated with the operation of a combustion turbine	Less than threshold quantities	WAC 173-401-530
General welding	Welding for general maintenance and construction	Less than one ton of welding rod/day	WAC 173-401-533 (2)(i)
Emergency Generator cooling system	Non-contact, antifreeze based cooling system for generator	Not in contact with process streams, not using chromium-based corrosion inhibitors	WAC 173-401-533 (2)(m)
Space and hot water heaters	Natural gas or propane fired space heaters and hot water heaters.	Less than 5 MMBtu/hour heat input	WAC 173-401-533 (2)(r)

Emission unit	Description	Why IEU	Citation
Storage, loading and unloading of distillate fuels	Distillate fuels have very low vapor pressures.	Vapor pressure less than 5 mm Hg @ 21°C (0.1 psia )	WAC 173-401-533 (2)(t)
Site drainage retention pond	Storm water and oily water collection system	Industrial Stormwater General Permit issued by Ecology. Used for removing suspended solids and oil.	WAC 173-401-533 (3)(d)

## **7 PUBLIC DOCKET**

Copies of PSE Sumas air operating permit, permit application and any technical support documents are available at the following locations:

Online:

[www.nwcleanair.org](http://www.nwcleanair.org)

Office:

Northwest Clean Air Agency  
1600 South Second Street  
Mount Vernon, WA 98273-5202  
360-428-1617 (call for an appointment to review)

## 8 DEFINITIONS AND ACRONYMS

Definitions are assumed to be those found in the underlying regulation. A short list of definitions has been included to cover those that may not have been previously defined.

An "applicable requirement" is a provision, standard, or requirement in any of the listed regulations or statutes as it applies to an emission unit at a stationary source.

An "emission unit" is any part or activity of a stationary source that emits or has the potential to emit pollutants.

"Permit" means for the purposes of the air operating permit program an air operating permit issued pursuant to Title V of the 1990 Federal Clean Air Act.

"Technology-Based Emission Standard" means a standard, the stringency of which is based on determinations of what is technologically feasible considering relevant factors.

"State" means for the purposes of the air operating permit program the NWCAA or the Washington State Department of Ecology.

The following is a list of Acronyms and definitions used in the Air Operating Permit and/or Statement of Basis:

AOP	.....	Air Operating Permit
ASTM	.....	American Society for Testing and Materials
CEMS	.....	Continuous Emissions Monitoring System
CFR	.....	Code of Federal Regulations
BACT	.....	Best Available Control Technology
BHP	.....	Brake horse power
Btu	.....	British Thermal Units
CO	.....	carbon monoxide
dscf	.....	dry standard cubic feet
FCAA	.....	Federal Clean Air Act
GHG	.....	Greenhouse Gas
ISO	.....	International Organization for Standardization
KW	.....	Kilowatt
MMBtu	.....	Million British Thermal Units
MR&R	.....	monitoring, recordkeeping and reporting
MW	.....	Megawatt
NH <sub>3</sub>	.....	ammonia
NO <sub>x</sub>	.....	nitrogen oxides
NSPS	.....	New Source Performance Standard

NSR ..... New Source Review  
NWCAA..... Northwest Clean Air Agency  
OAC ..... Order of Approval to Construct  
PSE ..... Puget Sound Energy  
ppmvd..... parts per million by volume (dry basis)  
ppmw ..... parts per million by weight  
RCW..... Revised Code of Washington  
scf ..... standard cubic foot  
SCR ..... Selective catalytic reduction  
SIP ..... State Implementation Plan  
STP ..... standard temperature and pressure (14.7 psia and 60°F)  
SO<sub>2</sub> ..... sulfur dioxide  
VE..... Visual emissions  
WAC..... Washington Administration Code  
WDOE ..... Washington State Department of Ecology

## 9 RESPONSE TO COMMENTS

The NWCAA accepted comments on the renewal of the PSE Sumas AOP from November 13, 2015 through the end of the public comment period on December 26, 2015. During this period, NWCAA received only one comment via email on December 14, 2015, from Steve Feller, a Senior Environmental Scientist with the Environmental and Program Services of the Puget Sound Energy. The email is reproduced at the end of this section.

Mr. Feller requested that some conditions in Section 3.2 of the AOP, "Standard terms and conditions for NESHAP," be removed from the AOP, as they do not specifically apply to the Sumas facility. Specifically, Mr. Feller requested that AOP terms 3.2.3-3.2.6, 3.2.8-3.2.13, 3.2.15, and 3.2.8-3.2.19 be removed from the AOP. In addition, Mr. Feller requested that AOP term 5.19 be amended to remove references to §63.10(b)(2)(xiv) and §63.10(b)(2)(viii) in the MR&R column of that AOP term.

**NWCAA Response:** It is standard practice for NWCAA to include general provisions from 40 CFR 63 Subpart A in Section 3.2 of air operating permits for facilities to which any subpart of Part 63 applies. In the case of PSE Sumas, as discussed in Section 3.2.2 of this document, Subpart ZZZZ of 40 CFR 63 applies because of an emergency diesel engine that exists at the facility.

NWCAA agrees with Mr. Feller that AOP terms 3.2.3-3.2.6, 3.2.8-3.2.13, 3.2.15, and 3.2.8-3.2.19 contain references from 40 CFR 63 Subpart A that do not specifically apply to the PSE Sumas facility, even if some of these terms apply in general to facilities subject to 40 CFR 63 Subpart ZZZZ. These sections have been removed from the AOP.

AOP term 5.19 also has been modified to remove references to §63.10(b)(2)(xiv) and §63.10(b)(2)(viii) in the MR&R column of that AOP term, that do not specifically apply to the facility.

On December 24, 2015, NWCAA received a letter from PSE Sumas that requested a change of the responsible official for the facility. Ronald J. Roberts, the director of thermal resources at PSE, designated Michael Shores, the PSE Sumas Plant Manager, to be the duly authorized representative to act in his stead. This change has been made in the AOP.

**From:** [Feller, Steven L](#)  
**To:** [Christos Christoforou](#)  
**Cc:** [Michele Eva Armstrong](#); [Henderson, Joey](#); [Shores, Michael G](#); [Nims, Steve](#)  
**Subject:** RE: 2015 PSE Sumas Draft Permit  
**Date:** Monday, December 14, 2015 4:23:21 PM

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Christos,

The stationary emergency diesel generator at Sumas Generating Station was installed in 1991 or 1992 during the initial construction of the plant. It has a compression ignition system and is rated at 500 kW/750 BHP. Based on these details & specifications, the majority of the applicable requirements for this emission unit in 40 CFR Part 63 are within subpart ZZZZ and many of the requirements listed in the draft AOP under section 3.2 do not apply.

As specified in Table 8 of Subpart ZZZZ the following general provisions which are listed in Section 3.2 do not apply:

On page 40, Section 3.2.3 Operation and Maintenance. This term references 40 CFR 63.6(e) (1)(i),(ii), and (iii). The applicable O&M requirements are specified in 63.6625(e), (f), (h), (i).

On page 41, Section 3.2.4 Startup, Shutdown, and Malfunction Plan. This term references 40 CFR 63.6(e)(3).

On page 43, Section 3.2.5 Compliance With Nonopacity Emission Standards. This term references 40 CFR 63.6(f)(1)

On page 43, Section 3.2.6 Compliance With Opacity and Visible Emission Standards. This term references 40 CFR 63.6(h)(1).

On page 51, Section 3.2.17 Startup, Shutdown, and Malfunction Recordkeeping and Reports. This term references Title 40 CFR 63.10(b)(2) and (d)(5).

As specified in 40 CFR 63.6645(a)(5) the following general provisions which are listed in Section 3.2 do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b) through (e), (g) and (h).:

On page 44, Section 3.2.8 Notification of Performance Tests. This term references 40 CFR 63.7(b) and 63.9(e).

On page 44, Section 3.2.9 Conduct of Performance Tests. This term references Title 40 CFR 63.7 and 63.9(e).

On page 46, Section 3.2.12 Continuous Monitoring Systems (CMS) Quality Control Program. This term references 40 CFR 63.8(d) & (e) and 63.9(g)(1)

On page 49, Section 3.2.15 Notification. This term references 40 CFR Part 63.9(b)(4).

On page 54, Section 3.2.19 Notification of Compliance Status (NCS). This term references 40 CFR 63.9(h).

The applicable Monitoring, Installation, Collection, Operation and Maintenance requirements are listed in 40 CFR Part 63.6625(e), (f), (h), (i). Neither 40 CFR Part 63 subpart ZZZZ nor the construction permit (OAC 304) specify a CMS or CEMS for monitoring on this emergency diesel generator. This makes the following requirements not applicable:

On page 44, Section 3.2.10 Operation and Maintenance of Continuous Monitoring Systems

(CMS.)

On page 45, Section 3.2.11 Continuous Monitoring Systems (CMS) Out of Control Periods.

On page 46, Section 3.2.12 Continuous Monitoring Systems (CMS) Quality Control Program.

On page 48, Section 3.2.13 Continuous Monitoring Systems (CMS) Data Reduction.

On page 53, Section 3.2.18 Recordkeeping Requirements for Sources with Continuous Monitoring Systems.

Lastly, under permit term 5.19 on page 72, there are some inapplicable regulatory references listed within the Monitoring, Recordkeeping & Reporting:

The first bullet regarding notifications references 63.10(b)(2)(xiv) which states “All documentation supporting initial notifications and notifications of compliance status under §63.9.” The notification requirements listed in 63.9 are: 63.9(b), (d), (e), (f), (g) and (h). As specified in 40 CFR 63.6645(a)(5) the following general provisions do not apply: 63.9(b) through (e), (g) and (h). Also, the following general provisions as specified in Table 8 of Subpart ZZZZ do not apply: 63.9(f)

The third bullet regarding performance tests and evaluations references 63.10(b)(2)(viii) which covers “(b) General recordkeeping requirements for (2) The owner or operator of an affected source subject to the provisions of this part shall maintain relevant records for such source of— (viii) All results of performance tests, CMS performance evaluations, and opacity and visible emission observations.” The performance tests fall under 63.7(b), 63.9(e), the CMS performance evaluations fall under 63.8(e), opacity and the visible emissions fall under 63.6(h), 63.9 (f) and 63.10(d)(3). As previously noted in our comments, under 40 CFR 63.6645(a)(5) the following general provisions do not apply: 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), and 63.9(b) through (e), (g) and (h). Also, the following general provisions as specified in Table 8 of Subpart ZZZZ do not apply: 63.6 (h), 63.9(f), and 63.10(d)(3).

PSE respectfully requests that these terms we have identified be moved to Section 7, Inapplicable Requirements, of the Air Operating Permit and summarized in the Statement of Basis.

If you have any questions regarding our comments, I can be reached directly at 360-766-5512. Thank you.

Sincerely,

**Steve Feller**, Senior Environmental Scientist  
Puget Sound Energy, Environmental & Program Services  
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Email [Steven.Feller@pse.com](mailto:Steven.Feller@pse.com)