

Statement of Basis for Frederickson Power LP (Frederickson)

I. PURPOSE OF THIS STATEMENT OF BASIS

This document summarizes the legal and factual bases for the air operating permit conditions for Frederickson Power LP at Frederickson to be issued under the authority of the Washington Clean Air Act, Chapter 70.94 Revised Code of Washington, Chapter 173-401 of the Washington Administrative Code and Puget Sound Clean Air Agency (previously known as Puget Sound Air Pollution Control Agency (PSAPCA)) Regulation I, Article 7. Unlike the permit, this document is not legally enforceable. It includes references to the applicable statutory or regulatory provisions that relate to Frederickson Power LP's emissions to the atmosphere. In addition, this Statement of Basis provides a description of Frederickson Power LP's activities and a compliance history.

II. SOURCE DESCRIPTION

The Frederickson Power LP Generating Station is located at 18610 50th Avenue East in Tacoma, Pierce County, Washington.

The Frederickson Power LP facility is a natural gas-fired electrical power generating plant. The electrical power generating equipment includes the following:

- One GE-PG7241-FA Frame No. 7 (FA) primary combustion gas turbine generator (CTG);
- One Heat Recovery Steam Generator (HRSG) (which runs a secondary steam turbine) fired by duct burners; and
- Ancillary units, including a diesel-fired internal combustion engine to power an emergency firewater pump and insignificant emission units.

Both combustion sources produce a single exhaust stream, which is directed to an Oxidation Catalyst unit to control carbon monoxide (CO) and volatile organic compound (VOC) emissions, and a Selective Catalytic Reduction (SCR) unit to control oxides of nitrogen (NO_x) emissions.

The plant is rated at 270 megawatts (MW) (combined cycle with 6.66 MW auxiliary losses); the CTG is rated at 167.26 MW while burning 1,599 MMBtu/hr of natural gas; the steam turbine is rated at 108 MW; and the duct burner is rated at a heat input capacity of 315 MMBtu/hr of natural gas lower heating value or 350 MMBtu/hr of natural gas higher heating value. Given the nature of power generation equipment, these numerical descriptions are approximate.

III. COMPLIANCE HISTORY WITH THE PUGET SOUND CLEAN AIR AGENCY

A. Compliance and Inspection history prior to issuance of the original AOP

The Puget Sound Clean Air Agency has inspected Frederickson Power LP on April 5, 1993, June 17, 1994, December 11, 1995, July 16, 1996, July 2, 1997, July 8, 1998, June 29, 1999, October 16, 2000, October 28, 2002, April 6, 2004, March 9, 2005, November 11, 2005, November 20, 2006, January 29, 2008, February 17, 2009, and March 17, 2010.

On February 5, 2007, NOV 3-001819 was issued for failure to comply with condition 7 of Order of Approval No. 7968. Per that NOV, on November 28, 2006 the hourly emission standard for ammonia of 10 ppm was exceeded from 9:45 a.m. to 12:15 p.m., with ammonia hourly emission rates varying from 10 ppm to 18.6 ppm during this period. On March 2, 2007, a closure letter was issued because the December 8, 2006 deviation report included a request to excuse the violation under WAC 173-400-107. This request addressed each of the required elements in the statute, as well as all troubleshooting and causes of the event and met the requirements for an excused excess emission. The excess emission occurred during unusually cold weather and had not occurred previously. The facility conducted a thorough review of the contributing causes and implemented operational and maintenance changes to prevent future occurrences.

On January 5, 2010 WW 2-007822 was issued for a failure to submit complete copies of all required compliance reports to the agency in an electronic format as an attachment to an e-mail. On October 6, 2009, the compliance test reports (for stack tests) were not received by the agency in an electronic format in accordance with Regulation I, Section 7.09(c). A closure letter was issued January 25, 2010 because the facility provided the report in the required electronic format. There are no enforcement cases pending.

B. Complaints

The Puget Sound Clean Air Agency has not received any complaints for this facility over the past five years.

IV. REVIEW OF PERMIT APPLICATION

The Puget Sound Clean Air Agency received an air operating permit application from Frederickson Power LP (Frederickson) on April 15, 2003. The Puget Sound Clean Air Agency determined the application to be complete on June 13, 2003.

V. EMISSION INVENTORY

Emissions at this facility come primarily from the stationary gas turbine and the duct burner. The turbine and duct burner operate on natural gas. Puget Sound Clean Air Agency's Order of Approval No. 7968 limits the annual emissions of CO, NO_x, PM₁₀, SO₂, and VOC.

Annual emissions of these pollutants from the plant over the past four years are listed below in Table 1.

Table 1 Criteria Pollutant Emissions, ton/yr

	2005	2004	2003	2002
Carbon Monoxide (CO)	0.3	0.2	0.5	0.6
Nitrogen Oxides (NO _x)	25.9	30.3	32.1	21.3
Particulate Matter (PM ₁₀)	25.4	28.2	26.7	12.5
Sulfur Dioxide (SO ₂)	1.6	1.7	1.6	0.8
Volatile Organic Compounds,(VOC)	11.8	13.1	12.4	5.8

VI. EXPLANATION OF APPLICABLE REQUIREMENTS

A. Applicable Requirements

Frederickson Power is subject to all the requirements listed in Section I of the permit. Section I.A. contains the requirements that are applicable facility-wide and Section I.B. contains requirements applicable only to specific emission units. The requirements in Section I.B. only apply to the specific emission units cited; however, the requirements in Section I.A. also apply to the specific emission units or activities described in Section I.B. If the monitoring, maintenance and recordkeeping method for any requirement in Section I.A. is more extensive for specific emission units, that requirement is repeated in Section I.B. with the additional monitoring, maintenance and recordkeeping requirements.

1. Section I – Emission limits and operating requirements

Section I in Puget Sound Clean Air Agency air operating permits is set up in tabular form. Section I.A. contains the requirements that are applicable to Frederickson Power on a facility-wide basis. Section I.B. contains requirements applicable only to specific emission units within the facility. It should be noted here that all the requirements in Section I.A. apply to the specific emission units as well. If the monitoring, maintenance and recordkeeping method for any requirement in Section I.A. is more extensive for a specific emission unit, that requirement is repeated in Section I.B. with the additional monitoring, maintenance and recordkeeping requirements.

The tables in Section I of the air operating permit list all the local (Puget Sound Clean Air Agency), state (Department of Ecology), and federal (EPA) emission limits and emission limiting operational requirements that apply to the facility and emission units within the facility. All requirements are federally enforceable unless they are identified in column two by the words “STATE ONLY.”

The first column identifies the requirement. I.A.1 is the first facility-wide requirement. EU-1.5 is the fifth requirement for Emission Unit 1.

The second column contains the actual rule citation for each individual requirement. This can be a Puget Sound Clean Air Agency requirement from Regulation I, II, or III, a Washington State Department of Ecology requirement (WAC or RCW), or a federal requirement (generally a PSD permit condition or a New Source Performance Standard requirement).

The third column (Date) contains the adoption or effective date of the requirement. In some cases, the effective dates of the Federally Enforceable, or “SIP¹,” Requirement and the Non-Federally Enforceable, or “State/Local Only,” Requirement are different because only rules approved by EPA through Sections 110, 111, and 112 of the federal Clean Air Act are federally enforceable and either the state has not yet submitted the regulation to the EPA or the EPA has not yet approved it. “*STATE ONLY*” adoption dates are in *italicized* font. When the EPA does approve the new requirement by adopting it into the SIP, the old requirement will be replaced and superseded by the new requirement. This replacement will take place automatically, with no changes being made to this permit until the permit is renewed. The new requirement will be enforceable by the EPA as well as the Puget Sound Clean Air Agency from the date that it is adopted into the SIP, and the old requirement will no longer be an applicable requirement.

The fourth (Requirement Paraphrase) column paraphrases the requirement. *The first and fourth columns are for information only and are not enforceable conditions of this permit.* The actual enforceable requirement is embodied in the requirement cited in the second and third columns.

The fifth column (Monitoring, Maintenance & Recordkeeping Method) identifies the methods described in Section II of the permit. Following these methods is required to “reasonably assure continuous compliance” with, and is an enforceable requirement of, this air operating permit. Note that all inspections, tests, and other actions must be documented (the specific recordkeeping requirement for this is in paragraph 4 of Subsection V.P of the air operating permit).

The sixth (Emission Standard Period) column identifies the averaging time for the reference test method. The last column (Reference Test Method) identifies the reference method associated with an applicable emission limit that is to be used if and when a source test is required. In some cases where the applicable requirement does not cite a test method, one has been added.

In the event of conflict or omission between the information contained in the fourth and sixth columns and the actual statute or regulation cited in the second column, the

¹ “SIP” is an abbreviation for “state implementation plan” which is a plan for improving or maintaining air quality and complying with the Federal Clean Air Act. The Federal Clean Air Act requires states to submit these plans to the US EPA for its review and approval. This plan must contain the rules and regulations of the state agency or local air authority necessary to implement the programs mandated by Federal law. Once the EPA adopts the plan or elements of it, the plan and its requirements become “federally enforceable” by EPA. New or modified state or local rules are not federally enforceable until they are “adopted into the SIP” by the EPA.

requirements and language of the actual statute or regulation cited shall govern. For more information regarding any of the requirements cited in the second and third columns, refer to the actual requirements cited.

2. Section II – Monitoring methods, recordkeeping and reporting

These are the basic air operating permit requirements:

- Each air operating permit has to contain all the air quality requirements that apply to the facility.
- The permit has to describe exactly how the source would comply with each of the requirements.
- The “responsible official” for the facility has to certify “continuous compliance” with every applicable requirement.

Puget Sound Clean Air Agency air operating permits have the emissions standards and operating limits in tabular form in Section I of the air operating permit, and the monitoring methods in Section II. An air operating permit is not supposed to add any new requirements, or make any existing requirements more stringent, but sometimes “gap-filling” a monitoring method is necessary:

- All emission limits contained in EPA’s National Emission Standards for Hazardous Air Pollutants have acceptable monitoring methods built in. These may be simply placed in the air operating permit.
- PSD permits and minor new source review permits issued after the launch of the air operating program usually include monitoring methods that are designed to reasonably assure continuous compliance. Those also may be placed in the air operating permit.
- Older minor new source review permits, older federal New Source Performance Standards (NSPS), and state and local emission limits either had very little or no on-going monitoring. Special “gap-filling” monitoring methods had to be developed for these requirements, as provided under WAC 173-401-615(1)(b).

Whenever the Puget Sound Clean Air Agency uses a “gap-filling” monitoring method, we determine the monitoring frequency using criteria contained in EPA’s April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*. We consider “the five criteria” in determining how often the facility should perform a monitoring activity: hourly, once per shift, daily, weekly, monthly, quarterly, annually, or once per five-year permitting period. The five criteria are:

- (1) Initial compliance. One source may have never have violated a requirement, but it still applies. The next source, however, may really have to work to stay in compliance with the requirement. Walk-around inspections for fugitive emissions should be done more frequently at a steel mill than a truck assembly facility, for example.

- (2) Margin of compliance. The monitoring method and frequency are designed so that the source will identify a problem early and take corrective action before a violation occurs. The generic opacity limit on a fabric filter control device might be 20%, but a properly maintained baghouse should not have any visible emissions at all.
- (3) Variability of process and emissions. A highly variable process may need more frequent watching than one that runs only intermittently, or one that runs continuously at an “easy” rate.
- (4) Environmental impacts of problems. More frequent inspections would be required for a process for which a maintenance problem is likely to result in emissions that would have a significant environmental impact.
- (5) Technical considerations. The facility is required to periodically inspect and perform routine maintenance on all equipment in accordance with an acceptable operation and maintenance (O&M) Plan. What technical aspects of the equipment under consideration would influence inspection frequency above and beyond O&M Plan requirements? Usually it is sufficient to operate and maintain (and monitor) equipment in accordance with manufacturer’s instructions.

The statements of basis for all original air operating permits contained analyses of “the five factors” for each monitoring requirement for which a monitoring frequency was not set in an underlying requirement.

B. Section I.A. (Facility-Wide)

1. Requirement I.A.2 (Opacity)

Both WAC 173-400-040(1) and Puget Sound Clean Air Agency Regulation I, Section 9.03 standards are 20% opacity and apply to all stationary sources.

The monitoring method is based on monthly (during months that the facility operates) visual inspections of all emission points at Frederickson Power. Frederickson Power must take corrective action or use the reference test method, WDOE Method 9A, to determine opacity if any visible emissions are noted. The original permit called for *monthly* monitoring. This has been changed to *monthly during months that the facility operates* because there are many months during which the Frederickson Power Frederickson facility does not operate.

- (1) Initial compliance. The Puget Sound Clean Air Agency has not observed visible emissions from the facility during any inspection, nor has Frederickson Power during any scheduled monitoring inspection, or at any other time.
- (2) Margin of compliance. The monitoring method is designed so that the source will take corrective action before a violation of the underlying emission standard occurs.
- (3) Variability of process and emissions. With scheduled downtime and production fluctuations, emissions from Frederickson Power are intermittent but are relatively constant on a yearly basis.

- (4) Environmental impacts of problems. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.
- (5) Technical considerations. Natural gas combustion yields virtually no particulate emissions.

2. Requirements I.A.3 and I.A.4 (PM₁₀)

Puget Sound Clean Air Agency Regulation I, Section 9.09 limits particulate emissions to 0.05 grain per dry standard cubic foot (gr/dscf) from fuel burning equipment burning fuel other than wood. WAC 173-400-060 limits particulate emissions to 0.1 gr/dscf from general process units (i.e., units using a procedure or a combination of procedures for the purpose of causing a change in material by either chemical or physical means, excluding combustion).

The Puget Sound Clean Air Agency has determined that the monitoring should be monthly (during months that the facility operates), employing the same monitoring method at the same frequency as the opacity requirements in Requirement I.A.2. The monitoring method is based on the fact that particulate emissions less than 0.05 gr/dscf usually do not result in visible emissions.

3. Requirement I.A. 5 (PM₁₀ from combustion sources)

WAC 173-400-050(1) limits particulate emissions to 0.1 gr/dscf corrected to 7% O₂ from all combustion units, including both internal and external combustion units. There are SIP approved, federally enforceable, and newer, non-SIP-approved, non-federally enforceable versions of WAC 173-400-050(1). The requirements are, for all practical intents and purposes, identical, with identical monitoring methods. Since Frederickson Power burns only pipeline grade natural gas, it is incapable of violating this standard while complying with the other requirements in the permit. Therefore, the permit does not contain additional monitoring requirements other than facility-wide monitoring.

4. Requirement I.A. 6 (SO₂)

Both Puget Sound Clean Air Agency Regulation I, Section 9.07 and Ecology's WAC 173-400-040(6) are equivalent requirements (SO₂ emissions not to exceed 1000 ppmv), except for the second paragraph of the WAC, which is not in the Puget Sound Clean Air Agency regulation. That paragraph, which is not federally enforceable, allows for exceptions to this requirement if the source can demonstrate that there is no feasible method of reducing the SO₂ concentrations to 1000 ppm. Since the Puget Sound Clean Air Agency rules do not allow the exception, the second paragraph does not apply to Frederickson Power.

In the combustion units, Frederickson Power can only burn pipeline quality natural gas. "Natural gas" means a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the Washington Utilities and Transportation Commission. Natural gas may also be referred to as "pipeline quality natural gas." Frederickson Power receives the same natural gas as all of the other natural gas consumers, private and industrial, in the Northwest. According to Section 1.4-3 of AP-42, natural gas contains approximately 2000

grains of sulfur per million cubic feet, which is equivalent to approximately 3.4 parts of sulfur per million cubic feet of natural gas, as shown in the following calculation:

$$\frac{2,000 \text{ gr } S}{1,000,000 \text{ ft}^3 \text{ nat. gas}} \times \frac{1 \text{ lb}}{7000 \text{ gr}} \times \frac{385 \frac{\text{ft}^3}{\text{mole } S}}{32 \frac{\text{lb}}{\text{mole } S}} = 3.44 \times 10^{-6} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \equiv 3.44 \text{ ppmdv } S$$

According to *Perry's Chemical Engineer's Handbook*, each cubic foot of natural gas requires approximately 10 cubic feet of air for combustion, yielding approximately 11 cubic feet of combustion exhaust gases, consisting mostly of nitrogen, water vapor, and carbon dioxide. The sulfur in the natural gas will almost all be converted to sulfur dioxide, with each cubic foot of sulfur producing the same volume of sulfur dioxide. Since each cubic foot of natural gas contains 3.44×10^{-6} cubic foot of sulfur, each cubic foot of stack exhaust will contain approximately:

$$3.44 \times 10^{-6} \frac{\text{ft}^3 S}{\text{ft}^3 \text{ nat. gas}} \times \frac{1 \text{ ft}^3 \text{ SO}_2}{1 \text{ ft}^3 S} \times \frac{1 \text{ ft}^3 \text{ nat. gas}}{11 \text{ ft}^3 \text{ stack exhaust}} = 3.13 \times 10^{-7} \frac{\text{ft}^3 \text{ SO}_2}{\text{ft}^3 \text{ stack exhaust}}$$

This is equivalent to 0.31 ppmv SO₂. Note that this estimated value is less than one-tenth of one percent of the 1,000 ppm SO₂ standard. Therefore, it is reasonable to assume that combustion units that are fired on natural gas cannot exceed the 1,000 ppm SO₂ limits in Puget Sound Clean Air Agency Regulation I, Section 9.07 and WAC 173-400-040(6). The other emission units are not capable of generating SO₂ emissions as permitted. Therefore, the permit does not contain monitoring requirements.

5. Requirement I.A. 7 (HCl)

Puget Sound Clean Air Agency Regulation I, Section 9.10 specifies that HCl emissions shall not exceed 100 ppm (dry), corrected to 7% O₂ for combustion sources, including both internal and external combustion units. Frederickson Power can only burn pipeline grade natural gas and diesel, and neither of these fuels can contain chlorine in sufficient quantities to cause the HCl emission limit to be exceeded. Therefore, following the O&M plan assures compliance with this requirement.

6. Requirements I.A.8 and 1.A. 9 (nuisance)

Puget Sound Clean Air Agency Regulation I, Section 9.11(a) and WAC 173-400-040(5) are similar requirements that address emissions that may be environmentally detrimental or cause a nuisance. WAC 173-400-040(5) has SIP-approved and non-SIP approved versions that are virtually identical. Puget Sound Clean Air Agency Regulation I, Section 9.11 has not been adopted into the SIP. The monitoring method for all these requirements is based on responding to complaints and general inspections of the facility to identify any emissions that are likely to be injurious to human health, plant or animal life, or property, or that unreasonably interfere with enjoyment of life and property. Therefore, the Puget Sound Clean Air Agency has determined that complaint response requirements if Section II.A.1(b) and the quarterly facility-wide inspections required in Section II.A.1(c) of the permit are sufficient to monitor for changes that would cause a fugitive emission or unexpected buildup of dust on the roadways and plant grounds.

Puget Sound Clean Air Agency Regulation I, Section 9.11(b) (non-Federally enforceable) and the WAC 173-400-040(4) address odors. The monitoring method is based on responding to complaints, monthly inspections of the facility to identify emissions of odor-bearing contaminants and correcting any problems identified as a result of the inspection or investigation. Receiving complaints does not necessarily mean Frederickson Power is in violation of this requirement, since the regulation does not prohibit the emission of odors, but prohibits the emissions of odors if good practices are not employed to control emissions. Frederickson Power does not generally emit odors that would cause a complaint. Complaints will trigger action by Frederickson Power to investigate and correct problems that could result in a violation.

The Puget Sound Clean Air Agency has determined that the monitoring should be monthly (during months that the facility operates) for the reasons listed below. These factors are consistent with EPA's April 30, 1999 Draft *Periodic Monitoring Technical Reference Document*.

- (1) Initial compliance. The Puget Sound Clean Air Agency has received zero complaints regarding fugitive dust or odor emissions from this facility over the past five years, and has not observed visible or odorous emissions from plant activities during any inspection. Therefore, we conclude that it is generally in compliance with the nuisance requirements.
- (2) Margin of compliance. The monitoring method is designed so that the source will take corrective action before a violation of the underlying emission standard occurs.
- (3) Variability of process and emissions. With scheduled downtime and production fluctuations, emissions from Frederickson Power are intermittent but are relatively constant on a yearly basis.
- (4) Environmental impacts of problems. A maintenance problem is unlikely to result in emissions that would have a significant environmental impact.
- (5) Technical considerations. There are no storage piles to blow away in the wind and no processes that have a significant potential to generate fugitive particulate. The only potential sources for significant gaseous or odor-bearing emissions are ammonia and mercaptan, which are stored onsite for emission control and natural gas safety purposes, respectively. As noted, there have been no public complaints or Agency observation of odors from these chemicals over the past five years, indicating that they are handled in a manner that minimizes odors.

7. Requirements I.A.10, I.A.11 (Fugitive emissions)

WAC 173-400-040(3) addresses fugitive dust emissions for some activities, and WAC 173-400-040(8) requires reasonable precautions or reasonably available control technology (RACT) to control fugitive emissions. Puget Sound Clean Air Agency Regulation I, Section 9.15 requires the use of reasonable precautions for fugitive dust and lists some examples of reasonable precautions. Monitoring, maintenance and recordkeeping methods II.A.1(b) (Complaint Response) and II.A.1(c) (Facility-wide Inspections) are sufficient to

monitor for changes that would cause a fugitive emission or unexpected buildup of dust on the roadways and parking lots.

8. Requirement I.A.12 (maintain equipment)

Puget Sound Clean Air Agency Regulation I, Section 9.20 requires Frederickson Power to maintain equipment in good working order. Section 9.20(a) applies to sources that received a Notice of Construction Order of Approval under Puget Sound Clean Air Agency Regulation I, Article 6. Section 9.20(b) applies to equipment not subject to Section 9.20(a). Section II.A of the permit identifies the minimum monitoring criteria for maintaining equipment in good working order. The section identifies both facility-wide criteria and specific criteria for the emission units and activities. The Puget Sound Clean Air Agency has determined that following the requirements of Section II of the permit provides sufficient monitoring criteria to certify that the equipment has been maintained in good working order. However, the Puget Sound Clean Air Agency reserves the right to evaluate the maintenance of each piece of equipment to determine if it has been maintained in good working order.

9. Requirements I.A.13 and 14 (O&M plan)

In accordance with Puget Sound Clean Air Agency Regulation I, Section 7.09(b), Frederickson Power is required to develop and implement an O&M Plan to assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II and III. The requirement specifies that the plan shall reflect good industrial practice, but does not define how to determine good industrial practice. To clarify the requirement, Puget Sound Clean Air Agency added that in most instances following the manufacturer's operations manual or equipment operational schedule, minimizing emissions until the repairs can be completed and taking measures to prevent recurrence of the problem may be considered good industrial practice. This language is consistent with a Washington Department of Ecology requirement in WAC 173-400-101(4). The Puget Sound Clean Air Agency also added language establishing criteria for determining if good industrial practice is being used. These may include, but are not limited to, monitoring results, opacity observations, review of operations and maintenance procedures, and inspections of the emission unit or equipment. The Puget Sound Clean Air Agency added this wording in response to Washington State court decision, Longview Fibre Co. v. DOE, 89, Wn. App. 627 (1998), which held that similar wording was not vague and gave sufficient notice of the prohibited conduct. Puget Sound Clean Air Agency Regulation I, Section 7.09(b) also requires Frederickson Power to promptly correct any defective equipment. However the underlying requirement in most instances does not define "promptly"; hence for significant emission units and applicable requirements that Frederickson Power has a reasonable possibility of violating or that a violation would cause an air quality problem, the Puget Sound Clean Air Agency added clarification that "promptly" usually means within 24 hours. For many insignificant emission units and equipment not listed in the permit, the meaning of "promptly" will vary because the emission sources and suitable pollution control techniques vary widely, depending on the contaminant sources and the pollution control technology employed. However, the permit identifies a means by which to identify if Frederickson Power is following good industrial practice.

Frederickson Power must report to the Puget Sound Clean Air Agency any instances where it failed to promptly repair any defective equipment. Frederickson Power has the right to claim certain problems were a result of an emergency (Section V.S) or unavoidable (Section V.T).

Following these requirements demonstrates that Frederickson Power has properly implemented the O&M Plan, but it does not prohibit the Puget Sound Clean Air Agency or EPA from taking any necessary enforcement action to address violations of the underlying applicable requirements after proper investigation.

10. Requirement I.A.15

RCW 70.94.040 is similar to Puget Sound Clean Air Agency Regulation I, Section 9.11 and is listed separately here because it is not a federally enforceable requirement.

C. Emission Unit Applicable Requirements

1. Section I B. (Specific Requirements for Combustion Turbine Electrical Power Generating Plant)

All generally applicable requirements apply to the specific emission units. The Puget Sound Clean Air Agency did not repeat the general requirements for each unit unless a specific monitoring requirement is applied to a general requirement.

Section I.B.1 Emission Unit #1 (EU-1): A Combustion Turbine Electrical Power Generating Plant, consisting of a GE-PG7241-FA Frame No. 7(FA) primary combustion turbine generator and a heat recovery steam generator, with an oxidation catalyst to control CO and VOC, and a selective catalytic reduction unit to control emissions of NO_x. The combustion turbine burns natural gas. The main pollutant of concern for the turbine is NO_x, which is controlled by SCR (ammonia injection), which was considered to be best available control technology (BACT) when the Agency issued the construction approval.

Table 2 for Emission Unit #1 includes requirements from Federal New Source Performance Standard (NSPS) Subpart GG, which applies to the turbine, and NSPS Subpart Da, which applies to the duct burner. The NSPS emission limits and monitoring, recordkeeping, and reporting requirements are applicable requirements, but it is important to note that the emission limits imposed by the NOC Order of Approval are significantly more stringent than the NSPS emission limits, as shown in the tables below.

NSPS Subpart GG

	NOC Approval Order Limit	NSPS Limit	NOC Limit Converted to NSPS Terms
NO_x	3 ppmdv @ 15% O ₂	0.021 vol% @ 15% O ₂	0.0003 vol% @ 15% O ₂
SO₂	1.8 ppmdv @ 15% O ₂	0.015 vol% @ 15% O ₂	0.00018 vol% @ 15% O ₂

NSPS Subpart Da

	NOC Approval Order Limit	NSPS Limit	NOC Limit Converted to NSPS Terms
NO_x	3 ppm _{dv} @ 15% O ₂	1.6 lb/MW-hr 0.15 lb/MMBtu	0.081 lb/MW-hr 0.0013 lb/MMBtu
PM	0.0028 gr/scf @ 15% O ₂	0.03 lb/MMBtu	0.012 lb/MMBtu

Note: The table lists the NO_x, SO₂ as ppm_{dv} – parts per million dry by volume. NO_x and SO₂ as well as CO and VOC are not listed as “by volume” in the permit. However, the test methods used to measure concentration do so “by volume” therefore they are listed as such in the table above. The EPA test methods specify the “by volume” criteria.

VII. PROHIBITED ACTIVITIES

Some of the requirements Frederickson Power LP identified in the operating permit application are included in Section III as prohibited activities. The Puget Sound Clean Air Agency has listed these activities in this section to highlight that they cannot occur at the facility. Since these activities are prohibited, routine monitoring of parameters is not appropriate; however, the permit does require Frederickson Power LP to look for such activities during a routine facility-wide inspection.

Puget Sound Clean Air Agency Regulation I, Section 9.13 and WAC 173-400-040(7) contain similar requirements addressing concealment and masking of emissions. Although both requirements apply, the permit language has been simplified by grouping these requirements together.

VIII. ACTIVITIES REQUIRING ADDITIONAL APPROVAL

Some of the requirements Frederickson Power LP identified in the operating permit application are included in Section IV as activities that require additional approval. For new source review, the permit language has been simplified. Puget Sound Clean Air Agency’s new source review program (Regulation I, Article 6) requires approval to construct, install, establish, or modify an air contaminant source. The federal NSPS requires sources to notify the Puget Sound Clean Air Agency and EPA of new sources subject to an NSPS and the modification or reconstruction of an existing source subject to an NSPS. All these requirements apply, but the language in these requirements has been incorporated into one section to simplify the permit language.

IX. STANDARD TERMS AND CONDITIONS

Some of the requirements Frederickson Power LP identified in the operating permit application are included in Section V, Standard Terms and Conditions. This provided an easier mechanism for describing requirements that are more general in nature. This section also contains the standard terms and conditions specifically listed in WAC 173-401-620.

Section V.Q.2 of the permit requires Frederickson Power LP to report deviations of the permit to the Puget Sound Clean Air Agency, normally within 30 days after the end of the month. Section V.Q.1 of the permit requires that a responsible official certify all required reports at least once every six months. Frederickson Power LP may submit the certification

with the report or certify all the reports submitted in the previous six months. For example, if Frederickson Power LP detected a deviation in January, it must report the deviation to the Puget Sound Clean Air Agency in February. A responsible official must certify the report according to WAC 173-401-520 at the time the report is submitted or any other time within six months of submitting the report.

If Frederickson Power LP does not detect any deviations to report for a six-month period, then it is required to report that there were no deviations during the six-month period.

Section V.X of the permit requires Frederickson Power LP to submit an accidental release plan if Frederickson Power LP starts storing substances above the threshold levels or if EPA lists new substances that Frederickson Power LP currently stores in amounts greater than the threshold levels. Frederickson Power LP complies with risk management plan requirements for ammonia.

X. DEVIATIONS

“Deviation” means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or recordkeeping required by the air operating permit. For a situation lasting more than 24 hours which constitutes a deviation, each 24 hour period is considered a separate deviation. Included in the meaning of deviation are any of the following situations:

- Emissions exceed an emission limitation or standard;
- Process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
- Observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or
- An exceedance or an excursion, as defined in 40 CFR 64, occurs.

XI. BASIS FOR INSIGNIFICANT EMISSION UNITS

Insignificant emission units and activities which are categorically exempt under WAC 173-401-530(1)(b) and WAC 173-401-532 are not required to be listed in the permit. Frederickson Power LP has identified these to be the following:

Unit	Basis for IEU Designation
Lubricating Oil Storage and Handling	WAC-173-401-532(3), (4) and (69)
Glycol Storage and Handling	WAC-173-401-532(4)
Waste Oil Storage and Handling	WAC-173-401-532(4)
Trucks, Fork Lifts, Autos, etc.	WAC 173-401-532(10)

Unit	Basis for IEU Designation
Plant Upkeep/Painting	WAC 173-401-532(33)
Landscaping Activities	WAC 173-401-532(43)
Comfort Air Conditioning	WAC 173-401-532(46)
Natural Draft Hoods/Safety Valves	WAC 173-401-532(47)
Vents/Bathroom Facilities	WAC 173-401-532(48)
Office Activities	WAC 173-401-532(49)
Personal Care Activities	WAC 173-401-532(50)
Fire fighting and similar safety equipment	WAC 173-401-532(52)
Personal Cars	WAC 173-401-532(54)
Repair and Maintenance Activities	WAC 173-401-532(74)
Battery Banks	WAC 173-401-532(77)
Air Compressors	WAC 173-401-532(88)

Puget Sound Clean Air Agency Regulation I, Section 7.09(b) requires Frederickson Power LP to develop and implement an O&M Plan for its entire facility that includes sufficient monitoring and recordkeeping to assure continuous compliance with Regulations I, II and III. This section and Regulation I, Section 9.20(b) also require Frederickson Power LP to promptly correct any defective equipment.

In order for Frederickson Power LP to certify compliance with these requirements, Section II.A.1 of the permit requires quarterly monitoring of the roadways and parking areas for visible fugitive dust emissions. Section II.D. of the permit requires records be kept of these inspections and repairs. However, Frederickson Power LP is not required to certify these (or any other) insignificant emission units and activities are in compliance with generally applicable requirements, such as the opacity and fugitive dust standards.

The Puget Sound Clean Air Agency has determined that monitoring of other insignificant emission units and activities is not necessary to assure continuous compliance with Puget Sound Clean Air Agency Regulations I, II and III.

The requirements listed in Section VIII of Frederickson Power LP's air operating permit do not apply to the facility, or to the specific emissions units listed in the permit for the reasons listed below. The permit shield applies to all requirements so identified.

Frederickson Power LP's application identified a list of requirements that apply to insignificant activities and emission units. Except as noted below, these requirements are listed in Section I of the permit.

- Puget Sound Clean Air Agency Regulation I, Section 9.04 Deposition of PM was identified by Frederickson Power LP's air operating permit application as an insignificant activity and emission unit. This is no longer a Puget Sound Clean Air Agency regulation.
- Puget Sound Clean Air Agency Regulation I, Section 9.07(b) SO₂ 1000 ppm was identified by Frederickson Power LP as an insignificant activity and emission unit. This emission limit applies to Frederickson Power LP and is listed in Section I.

XII. BASIS FOR INAPPLICABLE REQUIREMENTS

The following requirement, listed in Section VIII of Frederickson Power LP's air operating permit, does not apply to the identified emission units: [WAC 173-401-640]

- 40 CFR Part 64, Compliance Assurance Monitoring, does not apply to the Frederickson Power LP facility. This is because the emission limitations or standards for which a part 70 or 71 permit specifies a continuous compliance determination method preclude the need for a CAM Plan (40 CFR 64.2(b)(1)(vi)).

XIII. BASIS FOR OBSOLETE REQUIREMENTS

Certain parts of 40 CFR 60 Subparts A and GG apply only at initial startup of a facility, and cease to be of concern once compliance has been documented. Only the "ongoing" requirements of 40 CFR 60 Subparts A and GG are listed in the Applicable Requirements section of the air operating permit. The Puget Sound Clean Air Agency has issued Notice of Construction (NOC) Order of Approval No. 7968 to Frederickson Power LP. This NOC Approval contains at least one condition that requires Frederickson Power LP to do something one time, and one-time only. The Puget Sound Clean Air Agency has determined that some of the Approval Conditions are now informational statements because they have already been complied with and, therefore, do not meet the criteria of being applicable requirements. Those Approval Conditions are described in Section X, Obsolete Requirements," and are not listed in Sections I or II of the air operating permit.

XIV. APPENDICES

The AOP contains several appendices in Section XI.

- Appendix A contains detailed descriptions of any non-EPA test methods or procedures that are specified for compliance determination in the AOP.
- Appendix B contains Puget Sound Clean Air Agency Article 12, as passed and approved August 10, 1989.
- Appendix C contains all required Title IV Acid Rain Documentation. This program is administered by the EPA, with some recordkeeping being done by Washington State Department of Ecology.

XV. PUBLIC COMMENTS AND RESPONSES

A 30-day public comment period started on June 4, 2010.

No public responses were received during the comment period or from EPA during their 45-day review.