



October 6, 2015

Jim La Spina
Siting Specialist
Energy Facility Site Evaluation Council
905 Plum Street, Building 3
P.O. Box 43172
Olympia, WA 98504-3172

Re: Chehalis Generation Facility Title V Operating Permit Renewal Application

Dear Mr. La Spina:

The Chehalis Generating Facility operates under Title V air operating permit (AOP) # EFSEC/06-01-AOP which expires October 10, 2016. As stated in the permit, a renewal application is due by October 10, 2015. This cover letter and enclosed application is being submitted to EFSEC to meet the Chehalis Title V AOP renewal application requirement.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Smith", written over a horizontal line.

Jeremy Smith
Environmental Analyst
PacifiCorp – Chehalis Generating Facility
360.219.8901

Enclosure (Title V Renewal Application)

C: Clint Lamoreaux – Southwest Clean Air Agency
Bill Lawson
David Lucas
Mark Miller



Air Operating Permit Application

Form 1: General Information and Certification

- 1. Company Name: PacifiCorp
- 2. Plant or Facility Name: Chehalis Generating Facility
- 3. Existing Air Operating Permit Number: EFSEC/06-01-AOP Rev. 1
- 4. Unified Business Identification Number (UBI#): 409-000-070
- 5. Facility Address: 1813 Bishop Road, Chehalis, WA 98532
- 6. County: Lewis
- 7. Mailing Address: (if different)
- 8. Owner: PacifiCorp
- 9. Parent Company:
- 10. Parent Company Address if Different Than Above:
- 11. Plant or Facility site manager / contact: Mark Miller
- 12. Title: Gas Plant Manager
- 13. Telephone: (360) 827-6462
- 14. Claim of Confidentiality:

Some of the records and information contained in this application are / are not (check one) unique to the applicant and/or are likely to adversely affect the competitive position of the applicant if released to the public or a competitor. If a claim of confidentiality is made for this application, provide a separate application for general distribution that is devoid of confidential information.

- 15. I certify that I am the responsible official, as defined in WAC 173-401-200(27) for this facility. I further certify as required by WAC 173-401-520, which, based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.

David M. Lucas October 2, 2015
 Signature of Responsible Official Date

Title: Managing Director, Gas and Geothermal Generation
 Printed Name: David M. Lucas
 Phone Number: (801) 796-1911
 Mailing Address: 1825 North Pioneer Land
 Vineyard, UT 84042



Air Operating Permit Application

Form 2: Emissions Units Form

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Emissions and Emissions Units						
Emissions Point Identifier	Emission Point Description (including existing air pollution control equipment)	Emissions			Compliance Assurance Monitoring	
		Annual Potential Emissions (for all regulated air pollutants)	Have Potential Emissions Changed Since Submittal of Most Recent AOP Application?	Actual Emissions for Calendar Year <u>2014</u>	Annual Potential Emissions without regard to Control Device	CAM needed? (yes or no)
EU-1	Combustion Turbine #1 (NO _x)	120.3 tons	No	44.4 tons	3313.8 tons	No
EU-1	Combustion Turbine #1 (CO)	39.7 tons	No	6.9 tons	742.4 tons	No
EU-1	Combustion Turbine #1 (SO ₂)	84.6 tons	No	2.4 tons	84.6 tons	No
EU-1	Combustion Turbine #1 (VOC)	29.2 tons	No	6.0 tons	29.2 tons	No
EU-1	Combustion Turbine #1 (PM ₁₀)	70.7 tons	No	45.4 tons	70.7 tons	No
EU-1	Combustion Turbine #1 (H ₂ SO ₄)	14.9 tons	No	3.2 tons	14.9 tons	No
EU-1	Combustion Turbine #1 (NH ₃)	112.8 tons	No	15.0 tons	112.8 tons	No



Air Operating Permit Application

Form 2: Emissions Units Form

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Emissions and Emissions Units						
Emissions Point Identifier	Emission Point Description (including existing air pollution control equipment)	Emissions			Compliance Assurance Monitoring	
		Annual Potential Emissions (for all regulated air pollutants)	Have Potential Emissions Changed Since Submittal of Most Recent AOP Application?	Actual Emissions for Calendar Year <u>2014</u>	Annual Potential Emissions without regard to Control Device	CAM needed? (yes or no)
EU-2	Comb. Turbine #2 (NO _x)	120.3 tons	No	42.3 tons	3313.8 tons	No
EU-2	Comb. Turbine #2 (CO)	39.7 tons	No	7.5 tons	742.4 tons	No
EU-2	Comb. Turbine #2 (SO ₂)	84.6 tons	No	2.3 tons	84.6 tons	No
EU-2	Comb. Turbine #2 (VOC)	29.2 tons	No	4.1 tons	29.2 tons	No
EU-2	Comb. Turbine #2 (PM ₁₀)	70.7 tons	No	30.2 tons	70.7 tons	No
EU-2	Comb. Turbine #2 (H ₂ SO ₄)	14.9 tons	No	0.0 tons	14.9 tons	No
EU-2	Comb. Turbine #2 (NH ₃)	112.8 tons	No	16.0 tons	112.8 tons	No



Air Operating Permit Application

Form 2: Emissions Units Form

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Emissions and Emissions Units						
Emissions Point Identifier	Emission Point Description (including existing air pollution control equipment)	Emissions			Compliance Assurance Monitoring	
		Annual Potential Emissions (for all regulated air pollutants)	Have Potential Emissions Changed Since Submittal of Most Recent AOP Application?	Actual Emissions for Calendar Year <u>2014</u>	Annual Potential Emissions without regard to Control Device	CAM needed? (yes or no)
EU-3	Auxiliary Boiler (NO _x)	1.1 tons	No	0.0	7.2 tons	No
EU-3	Auxiliary Boiler (CO)	2.7 tons	No	0.0	6.0 tons	No
EU-3	Auxiliary Boiler (SO ₂)	0.1 tons	No	0.0	0.1 tons	No
EU-3	Auxiliary Boiler (VOC)	3.0 tons	No	0.0	3.0 tons	No
EU-3	Auxiliary Boiler (PM ₁₀)	1.3 tons	No	0.0	1.3 tons	No

Note: EU-3 is a new emission source authorized under August 27, 2009 Approval NOC No. EFSEC/2009-01



Air Operating Permit Application

Form 3: Facility SIC Codes and Products

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Principal Product Name	Principal Product Description	Maximum Annual Production	Units of Measure	SIC Code	SIC Description
Electricity	Electricity provided	4,537,680	MWH	4911	Electric Services
	by Combustion Turbines	(Potential)			
	and Steam Turbine				

Notes: The maximum annual potential electrical generation production value of 4,555,200 MWH is based on a total facility electrical power generation capacity rate of 518 MW and a potential annual operating time of 8,760 hours/year.



Air Operating Permit Application

Form 4: Process Information

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process Number	Process Name	SIC Code	Process Description
1	Electricity Generation	4911	Two combustion gas turbines fired on natural gas are used to drive generators that provide electricity to the power grid. Exhaust from the gas turbines is routed to heat recovery steam generators which provide steam used to drive a separate steam turbine and generator. (The Chehalis facility is a combined cycle power plant.)
2	Combustion Turbine Startup	4911	A natural gas fired auxiliary boiler is used to provide steam to the facility to reduce the duration of combustion turbine startup events.



Air Operating Permit Application

Form 5: Raw Materials Used by Processes

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Number of Process Using Raw Material	Raw Material Name/Description	Maximum Annual Use	UOM
1	None	0	NA
2	None	0	NA
Note:	Fuel (natural gas) is the primary raw material used in the combined cycle process to generate electricity. Natural gas is also used in the auxiliary boiler which provides steam for use in combustion turbine startup events.		



Air Operating Permit Application

Form 6: Fuels Used by Processes

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Number of Process Using Fuel	Fuel Name/Description*	Maximum Annual Use	Unit of Measure
1	Natural Gas (Primary Fuel)	3.5 x 10 ¹⁰	SCF
1	Fuel Oil (Backup Fuel)	2.1 x 10 ⁷	Gallons
2	Natural Gas	1.4 x 10 ⁸	SCF
Notes: 1.	Potential natural gas usage is based on maximum heat input of 2,067 MMBtu/hour for each combustion turbine, maximum heat input of 16.9 MMBtu/hour for the auxiliary boiler, an annual operating time of 8760 hours/year, and a natural gas heating value of 1030.3 Btu/SCF.		
2.	Potential fuel oil usage is based on maximum heat input of 2,067 MMBtu/hour for each combustion turbine, annual operating time of 720 hours/year, and fuel oil heating value of 140,000 Btu/gallon.		



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-1	20% opacity limit	X	Visible emissions monitoring	Perform weekly visible emissions monitoring
Req-2	No PM fallout beyond boundary	X	Visible emissions monitoring	Monthly visible emissions monitoring
Req-3	Prevent fugitive emissions	X	Visible emissions monitoring	Monthly visible emissions monitoring
Req-4	Control odors	X	Respond to complaints	Investigate and respond to complaints
Req-5	Prevent emissions detrimental to persons or property	X	Respond to complaints	Investigate and respond to complaints
Req-6	Do not conceal emissions	X	NA	NA
Req-7	Prevent fugitive dust emissions	X	Respond to complaints	Visible emissions monitoring
Req-8	0.1 gr/dscf particulate matter limit for non-combustion sources	X	Visible emissions monitoring	EPA Method 5 testing as required
Req-9	Operate equipment with good pollution control practices	X	NA	NA



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generation Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-10	Combustion turbine fuel sulfur limit of 0.8 percent by weight	X	Monitor fuel sulfur content	NA
Req-11	Combustion turbines fueled by pipeline quality natural gas	X	CEMS SO ₂ monitoring	NA
	Combustion turbines fuel oil sulfur limit of 0.05% weight	X	CEMS SO ₂ monitoring	NA
Req-12	HRSG stack NO _x limits:	X	CEMS NO _x monitoring and performance testing	EPA Method 7E
	3.0 ppmvd @ 15% O ₂ (1-hour ave.) on natural gas	X		
	491 lb/day on natural gas	X		
	14.0 ppmvd @ 15% O ₂ (1-hour ave.) on oil	X		
	2,538 lb/day on oil	X		
	241 tons/year annual total NO _x emissions	X		



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-13	HRSG stack CO limits:		CEMS CO monitoring and performance testing	EPA Method 10
	3.0 ppmvd @ 15% O ₂ (1-hour ave.) when firing natural gas			
	7.7 lb/hour (1-hour average) when firing natural gas			
	8.0 ppmvd @15% O ₂ (1-hour ave.) when firing oil			
	24.4 lb/hour (1-hour average) when firing oil			
Req-14	HRSG stack SO ₂ limits:		CEMS SO ₂ monitoring and performance testing	Mass balance
	10.4 lb/hour when firing natural gas			
	119 lb/hour when firing on oil			



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-15	HRSG stack VOC limits:		Performance testing	EPA Method 18 or 25A
	7.0 lb/hour or 152 lb/day when firing on natural gas (whichever is more restrictive)			
	11.5 lb/hour or 252 lb/day when firing on oil (whichever is more restrictive)			
Req-16	HRSG stack filterable PM ₁₀ limits:		Performance testing	EPA Method 5
	379 lb/hour when firing on natural gas			
	480 lb/hour when firing on oil			



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-17	HRSG stack H ₂ SO ₄ limits:		Performance testing	EPA Method 8, modified
	2.0 lb/hour when firing on natural gas			
	19.0 lb/hour when firing on oil			
Req-18	HRSG stack opacity limit of 10% over six-minute average		Visible emissions monitoring	Method 22 visible emissions monitoring. Method 9 if >0.
Req-19	HRSG stack ammonia limits:		Performance testing and CEMS	BAAQMD Method ST-1B
	10.0 ppmvd @ 15% O ₂ (1-hour ave.) when firing on natural gas			
	612 lb/day when firing on natural gas			
	10.0 ppmvd @ 15% O ₂ (1-hour ave.) when firing on oil			
	683 lb/day when firing on oil			



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-20	No more than 2 startups within a 24-hour period and no more than 200 startups may occur per calendar year. Shutdowns are limited to 3 hours per occurrence.		CEMS and process monitoring	NA
Req-21	During startup and shutdown, emissions shall not exceed:		CEMS and process monitoring	EPA Methods 7E and 10
	263 lb/hour CO on natural gas			
	417 lb/hour CO on oil			
	292 lb/hour NO _x on natural gas			
	407 lb/hour NO _x on oil			



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-22	Sampling ports and platforms shall be provided on each stack		NA	NA
Req-23	Adequate permanent and safe access shall be provided to the test ports		NA	NA
Req-24	Operation and maintenance manuals for all equipment that has the potential to affect air emissions shall be developed.		NA	
Req-25	SO ₂ allowances shall be held not less than the total annual SO ₂ emissions for the previous calendar year		SO ₂ general standard monitoring	40 CFR Part 75



Air Operating Permit Application

Form 7: Applicable Requirements

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 2

Applicable Requirement Identifier	Applicable Requirement	State Only?	Required Monitoring Recordkeeping & Reporting	Proposed Monitoring Recordkeeping & Reporting Adequate to Assure Compliance
Req-26	Auxiliary boiler has a NO _x limit of 12.0 ppmvd @ 3% O ₂		Performance testing	EPA Method 7E
	Auxiliary boiler has a CO limit of 50 ppmvd @ 3% O ₂		Performance testing	EPA Method 10
	Auxiliary boiler has a PM ₁₀ limit of 0.3 lb/hour		Source Testing	Combust natural gas
	Auxiliary boiler has a PM _{2.5} limit of 0.3 lb/hour		Source Testing	Combust natural gas
Req-27	Opacity shall not exceed zero percent for more than three minutes in any one hour period.		Visible Emissions	Method 22 visible emissions monitoring. Method 9 if >0.
Req-28	Auxiliary shall burn only natural gas as a fuel.		NA	Combust natural gas



Air Operating Permit Application

Form 8: Compliance Schedule

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Current Compliance Status (In or Out)	Compliance Status over Past Year (Continuous or Intermittent)	Method used to Determine Compliance Status
Req-1	In	Continuous	Weekly visible emissions monitoring
Req-2	In	Continuous	Monthly visible emissions monitoring
Req-3	In	Continuous	Monthly visible emissions monitoring
Req-4	In	Continuous	Respond to complaints
Req-5	In	Continuous	Respond to complaints
Req-6	In	Continuous	Do not conceal emissions
Req-7	In	Continuous	Respond to complaints

- The source shall continue to comply with applicable requirements with which it is currently in compliance.
- The source shall meet applicable requirements on a timely basis that become effective during the permit term.
- A Schedule of Compliance, for any applicable requirement that the source is out-of-compliance, must accompany this application.
- The source shall meet the Compliance Schedule in order to assure continuous compliance with all applicable requirements.



Air Operating Permit Application

Form 8: Compliance Schedule

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Current Compliance Status (In or Out)	Compliance Status over Past Year (Continuous or Intermittent)	Method used to Determine Compliance Status
Req-8	In	Continuous	Visible emissions monitoring and testing as required
Req-9	In	Continuous	Operate equipment with good pollution control practices
Req-10	In	Continuous	Combust natural gas in combustion turbines and monitor sulfur content
Req-11	In	Continuous	Combust pipeline quality natural gas in turbines
Req-12	In	Continuous	Monitor NO _x emissions with CEMS
Req-13	In	Continuous	Monitor CO emissions with CEMS
Req-14	In	Continuous	Monitor natural gas usage and sulfur content and calculate SO ₂ emissions with CEMS

- The source shall continue to comply with applicable requirements with which it is currently in compliance.
- The source shall meet applicable requirements on a timely basis that become effective during the permit term.
- A Schedule of Compliance, for any applicable requirement that the source is out-of-compliance, must accompany this application.
- The source shall meet the Compliance Schedule in order to assure continuous compliance with all applicable requirements.



Air Operating Permit Application

Form 8: Compliance Schedule

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Current Compliance Status (In or Out)	Compliance Status over Past Year (Continuous or Intermittent)	Method used to Determine Compliance Status
Req-15	In	Continuous	Performance testing
Req-16	In	Continuous	Performance testing
Req-17	In	Continuous	Performance testing
Req-18	In	Continuous	Method 22 visible emissions monitoring; Method 9 if >0.
Req-19	In	Continuous	Monitor NH ₃ emissions with CEMS
Req-20	In	Continuous	Monitor frequency of combustion turbine startup events
Req-21	In	Continuous	Monitor CO and NO _x emissions using CEMS

- The source shall continue to comply with applicable requirements with which it is currently in compliance.
- The source shall meet applicable requirements on a timely basis that become effective during the permit term.
- A Schedule of Compliance, for any applicable requirement that the source is out-of-compliance, must accompany this application.
- The source shall meet the Compliance Schedule in order to assure continuous compliance with all applicable requirements.



Air Operating Permit Application

Form 8: Compliance Schedule

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 1

Applicable Requirement Identifier	Current Compliance Status (In or Out)	Compliance Status over Past Year (Continuous or Intermittent)	Method used to Determine Compliance Status
Req-22	In	Continuous	Construct and maintain stack test platforms
Req-23	In	Continuous	Provide safe access to stack test platforms
Req-24	In	Continuous	Develop and maintain QA/QC manuals for pollution-related equipment
Req-25	In	Continuous	Ensure that adequate SO ₂ allowances are maintained

- The source shall continue to comply with applicable requirements with which it is currently in compliance.
- The source shall meet applicable requirements on a timely basis that become effective during the permit term.
- A Schedule of Compliance, for any applicable requirement that the source is out-of-compliance, must accompany this application.
- The source shall meet the Compliance Schedule in order to assure continuous compliance with all applicable requirements.



Air Operating Permit Application

Form 8: Compliance Schedule

Facility Name: Chehalis Generating Facility

Confidentiality Claim? Yes No

Process #: 2

Applicable Requirement Identifier	Current Compliance Status (In or Out)	Compliance Status over Past Year (Continuous or Intermittent)	Method used to Determine Compliance Status
Req-26	In	Continuous	Performance testing to demonstrate compliance with NO _x limit
	In	Continuous	Performance testing to demonstrate compliance with CO limit
	In	Continuous	Performance testing to demonstrate compliance with PM ₁₀ limit
	In	Continuous	Performance testing to demonstrate compliance with PM _{2.5} limit
Req-27	In	Continuous	Method 22 visible emissions monitoring and Method 9 if emissions are visible
Req-28	In	Continuous	Combust natural gas

- The source shall continue to comply with applicable requirements with which it is currently in compliance.
- The source shall meet applicable requirements on a timely basis that become effective during the permit term.
- A Schedule of Compliance, for any applicable requirement that the source is out-of-compliance, must accompany this application.
- The source shall meet the Compliance Schedule in order to assure continuous compliance with all applicable requirements.

Attachment 1

Chehalis Generating Facility Form 2 Emission Rate Calculations

Chehalis Generating Facility Emissions Summary

Emissions Point Identifier	Controlled Potential to Emit tons/year						
	NO _x	CO	SO ₂	VOC	PM ₁₀	H ₂ SO ₄	NH ₃
EU-1: Combustion Turbine #1	120.3	39.7	84.6	29.2	70.7	14.9	112.8
EU-2: Combustion Turbine #2	120.3	39.7	84.6	29.2	70.7	14.9	112.8
EU-3: Auxiliary Boiler	1.1	2.7	0.1	3.0	1.3		
Total Emissions (tons/year):	241.7	82.2	169.4	61.4	142.7	29.8	225.5

Emissions Point Identifier	Uncontrolled Potential to Emit tons/year						
	NO _x	CO	SO ₂	VOC	PM ₁₀	H ₂ SO ₄	NH ₃
EU-1: Combustion Turbine #1	3,313.8	742.4	84.6	29.2	70.7	14.9	112.8
EU-2: Combustion Turbine #2	3,313.8	742.4	84.6	29.2	70.7	14.9	112.8
EU-3: Auxiliary Boiler	7.2	6.0	0.1	3.0	1.3		
Total Emissions (tons/year):	6,634.8	1,490.8	169.4	61.4	142.7	29.8	225.5

Facility:
Emission Source:
Emission Unit Identification:

Chehalis Generation Facility **Criteria Pollutant Emissions**
 Combustion Turbine #1
 EU-1

Emissions Summary		
	Controlled Emissions (tons/year)	Uncontrolled Emissions (tons/year)
NO _x (Natural Gas)	89.6	2,897.1
NO _x (Fuel Oil)	38.1	654.8
Potential NO_x	120.3	3,313.8
CO (Natural Gas)	33.7	742.4
CO (Fuel Oil)	8.8	56.6
Potential CO	39.7	742.4
SO ₂ (Natural Gas)	45.6	45.6
SO ₂ (Fuel Oil)	42.8	42.8
Potential SO₂	84.6	84.6
VOC (Natural Gas)	27.7	27.7
VOC (Fuel Oil)	3.8	3.8
Potential VOC	29.2	29.2
PM ₁₀ (Natural Gas)	69.2	69.2
PM ₁₀ (Fuel Oil)	7.2	7.2
Potential PM₁₀	70.7	70.7
H ₂ SO ₄ (Natural Gas)	8.8	8.8
H ₂ SO ₄ (Fuel Oil)	6.8	6.8
Potential H₂SO₄	14.9	14.9
NH ₃ (Natural Gas)	111.7	111.7
NH ₃ (Fuel Oil)	10.2	10.2
Potential NH₃	112.8	112.8

Pollutant	Emission Factor	Reference	Uncontrolled Emission Factor	Reference
NO _x (Natural Gas)	491 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	0.32 lb/MMBtu	AP-42 Table 3.1-1
NO _x (Fuel Oil)	2,538 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	0.88 lb/MMBtu	AP-42 Table 3.1-1
CO (Natural Gas)	7.7 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.082 lb/MMBtu	AP-42 Table 3.1-1
CO (Fuel Oil)	24.4 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.076 lb/MMBtu	AP-42 Table 3.1-1 (Note 1)
SO ₂ (Natural Gas)	10.4 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	10.4 lb/hour	Note 2
SO ₂ (Fuel Oil)	119 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	119 lb/hour	Note 2
VOC (Natural Gas)	152 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	152 lb/day	Note 2
VOC (Natural Gas)	7.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	7.0 lb/hour	Note 2
VOC (Fuel Oil)	252 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	252 lb/day	Note 2
VOC (Fuel Oil)	11.5 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	11.5 lb/hour	Note 2
PM ₁₀ (Natural Gas)	379 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	379 lb/day	Note 2
PM ₁₀ (Fuel Oil)	480 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	480 lb/day	Note 2
H ₂ SO ₄ (Natural Gas)	2.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	2.0 lb/hour	Note 2
H ₂ SO ₄ (Fuel Oil)	19.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	19.0 lb/hour	Note 2
Ammonia (Natural Gas)	612 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	612 lb/day	Note 2
Ammonia (Fuel Oil)	683 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	683 lb/day	Note 2
Production Data		Reference		
Maximum Annual Operational Time (Natural Gas):	8,760 hours/year	Maximum Potential		
Maximum Annual Operational Time (Natural Gas):	365 days/year	Maximum Potential		
Maximum Annual Operational Time (Fuel Oil):	720 hours/year	Operating Permit Limit		
Maximum Annual Operational Time (Fuel Oil):	30 days/year	Operating Permit Limit		
Maximum Fuel Sulfur Content:	0.8 percent	Operating Permit EFSEC/06-01 AOP Rev. 1 (Natural Gas)		
Maximum Fuel Sulfur Content:	0.05 percent	Operating Permit EFSEC/06-01 AOP Rev. 1 (Fuel Oil)		
Maximum Combustion Turbine Heat Input:	2,067 MMBtu/hou	CEM Monitoring Plan		

Note 1: Used highest available uncontrolled CO emission factor for distillate (fuel oil) combustion turbine

Note 2: Assume that uncontrolled emission rates are equivalent to operating permit emission limits

Facility:
Emission Source:
Emission Unit Identification:

Chehalis Generation Facility **Criteria Pollutant Emissions**
 Combustion Turbine #2
 EU-2

Emissions Summary		
	Controlled Emissions (tons/year)	Uncontrolled Emissions (tons/year)
NO _x (Natural Gas)	89.6	2,897.1
NO _x (Fuel Oil)	38.1	654.8
Potential NO_x	120.3	3,313.8
CO (Natural Gas)	33.7	742.4
CO (Fuel Oil)	8.8	56.6
Potential CO	39.7	742.4
SO ₂ (Natural Gas)	45.6	45.6
SO ₂ (Fuel Oil)	42.8	42.8
Potential SO₂	84.6	84.6
VOC (Natural Gas)	27.7	27.7
VOC (Fuel Oil)	3.8	3.8
Potential VOC	29.2	29.2
PM ₁₀ (Natural Gas)	69.2	69.2
PM ₁₀ (Fuel Oil)	7.2	7.2
Potential PM₁₀	70.7	70.7
H ₂ SO ₄ (Natural Gas)	8.8	8.8
H ₂ SO ₄ (Fuel Oil)	6.8	6.8
Potential H₂SO₄	14.9	14.9
NH ₃ (Natural Gas)	111.7	111.7
NH ₃ (Fuel Oil)	10.2	10.2
Potential NH₃	112.8	112.8

Pollutant	Emission Factor	Reference	Uncontrolled Emission Factor	Reference
NO _x (Natural Gas)	491 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	0.32 lb/MMBtu	AP-42 Table 3.1-1
NO _x (Fuel Oil)	2,538 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	0.88 lb/MMBtu	AP-42 Table 3.1-1
CO (Natural Gas)	7.7 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.082 lb/MMBtu	AP-42 Table 3.1-1
CO (Fuel Oil)	24.4 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.076 lb/MMBtu	AP-42 Table 3.1-1 (Note 1)
SO ₂ (Natural Gas)	10.4 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	10.4 lb/hour	Note 2
SO ₂ (Fuel Oil)	119 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	119 lb/hour	Note 2
VOC (Natural Gas)	152 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	152 lb/day	Note 2
VOC (Natural Gas)	7.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	7.0 lb/hour	Note 2
VOC (Fuel Oil)	252 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	252 lb/day	Note 2
VOC (Fuel Oil)	11.5 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	11.5 lb/hour	Note 2
PM ₁₀ (Natural Gas)	379 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	379 lb/day	Note 2
PM ₁₀ (Fuel Oil)	480 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	480 lb/day	Note 2
H ₂ SO ₄ (Natural Gas)	2.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	2.0 lb/hour	Note 2
H ₂ SO ₄ (Fuel Oil)	19.0 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	19.0 lb/hour	Note 2
Ammonia (Natural Gas)	612 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	612 lb/day	Note 2
Ammonia (Fuel Oil)	683 lb/day	Operating Permit EFSEC/06-01 AOP Rev. 1	683 lb/day	Note 2
Production Data		Reference		
Maximum Annual Operational Time (Natural Gas):	8,760 hours/year	Maximum Potential		
Maximum Annual Operational Time (Natural Gas):	365 days/year	Maximum Potential		
Maximum Annual Operational Time (Fuel Oil):	720 hours/year	Operating Permit Limit		
Maximum Annual Operational Time (Fuel Oil):	30 days/year	Operating Permit Limit		
Maximum Fuel Sulfur Content:	0.8 percent	Operating Permit EFSEC/06-01 AOP Rev. 1 (Natural Gas)		
Maximum Fuel Sulfur Content:	0.05 percent	Operating Permit EFSEC/06-01 AOP Rev. 1 (Fuel Oil)		
Maximum Combustion Turbine Heat Input:	2,067 MMBtu/hou	CEM Monitoring Plan		

Note 1: Used highest available uncontrolled CO emission factor for distillate (fuel oil) combustion turbine

Note 2: Assume that uncontrolled emission rates are equivalent to operating permit emission limits

Facility:
Emission Source:
Emissions Point Identifier:

Chehalis Generation Facility
 Auxiliary Boiler
 EU-3

Criteria Pollutant Emissions

Emissions Summary		
	Controlled Emissions (tons/year)	Uncontrolled Emissions (tons/year)
NO _x	1.1	7.2
CO	2.7	6.0
PM ₁₀	1.3	1.3
PM _{2.5}	1.3	1.3
VOC	3.0	3.0
SO ₂	0.1	0.1

Pollutant	Emission Factor	Reference	Uncontrolled Emission Factor	Reference
NO _x	12.0 ppmvd @ 3% O ₂	Operating Permit EFSEC/06-01 AOP Rev. 1 (Note 1)	100 lb/10 ⁶ scf	AP-42 Table 1.4-1
CO	50 ppmvd @ 3% O ₂	Operating Permit EFSEC/06-01 AOP Rev. 1 (Note 2)	84 lb/10 ⁶ scf	AP-42 Table 1.4-1
PM ₁₀	0.3 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.3 lb/hour	Notice of Construction Permit EFSEC/2009-01
PM _{2.5}	0.3 lb/hour	Operating Permit EFSEC/06-01 AOP Rev. 1	0.3 lb/hour	Notice of Construction Permit EFSEC/2009-01
VOC	0.04 lb/MMBtu	Manufacturer (Cleaver Brooks)	0.04 lb/MMBtu	Manufacturer (Cleaver Brooks)
SO ₂	0.001 lb/MMBtu	Manufacturer (Cleaver Brooks)	0.001 lb/MMBtu	Manufacturer (Cleaver Brooks)

Production Data		Reference
Maximum Annual Operational Time (Natural Gas)	8,760 hours/year	Maximum Potential
Auxiliary Boiler Heat Input:	16.9 MMBtu/hour	Note 3
Natural Gas Heating Value	1,030 Btu/ft ³	
Natural Gas Input	0.016403 10 ⁶ ft ³ /hour	Calculated value from auxiliary boiler heat input rate and natural gas heating value

Note 1: 12.0 ppmvd NO_x emission rate at 3% O₂ is equivalent to NO_x emission rate of 0.0146 lb/MMBtu

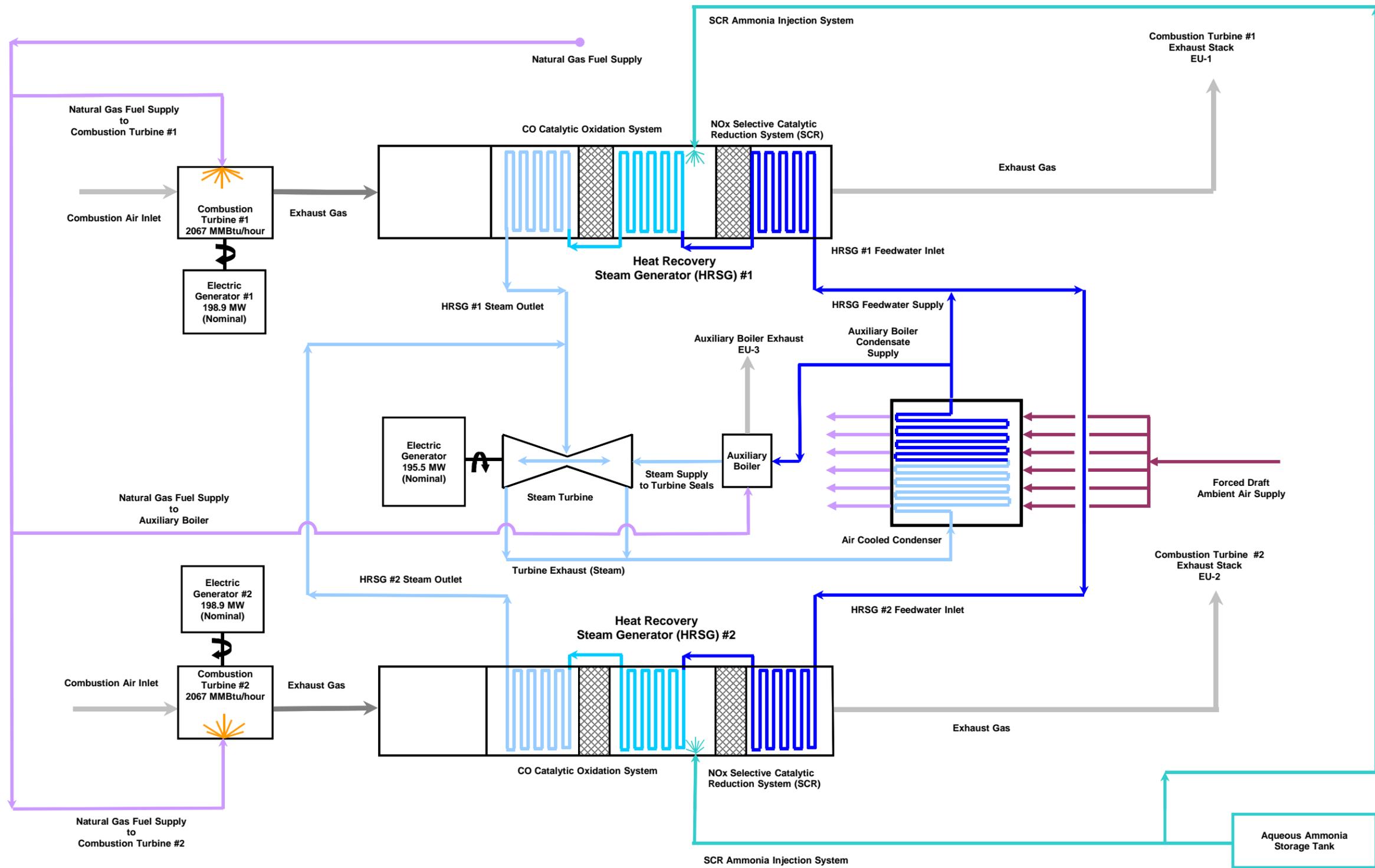
Note 2: 50 ppmvd CO emission rate at 3% O₂ is equivalent to CO emission rate of 0.0365 lb/MMBtu

Note 3: NOC authorized installation of an auxiliary boiler with a maximum heat input rate of 30.0 MMBtu/hour; installed boiler is rated at 16.9 MMBtu/hour

Attachment 2

Chehalis Generating Facility Process Flow Diagram

Chehalis Generating Facility - Process Flow Diagram

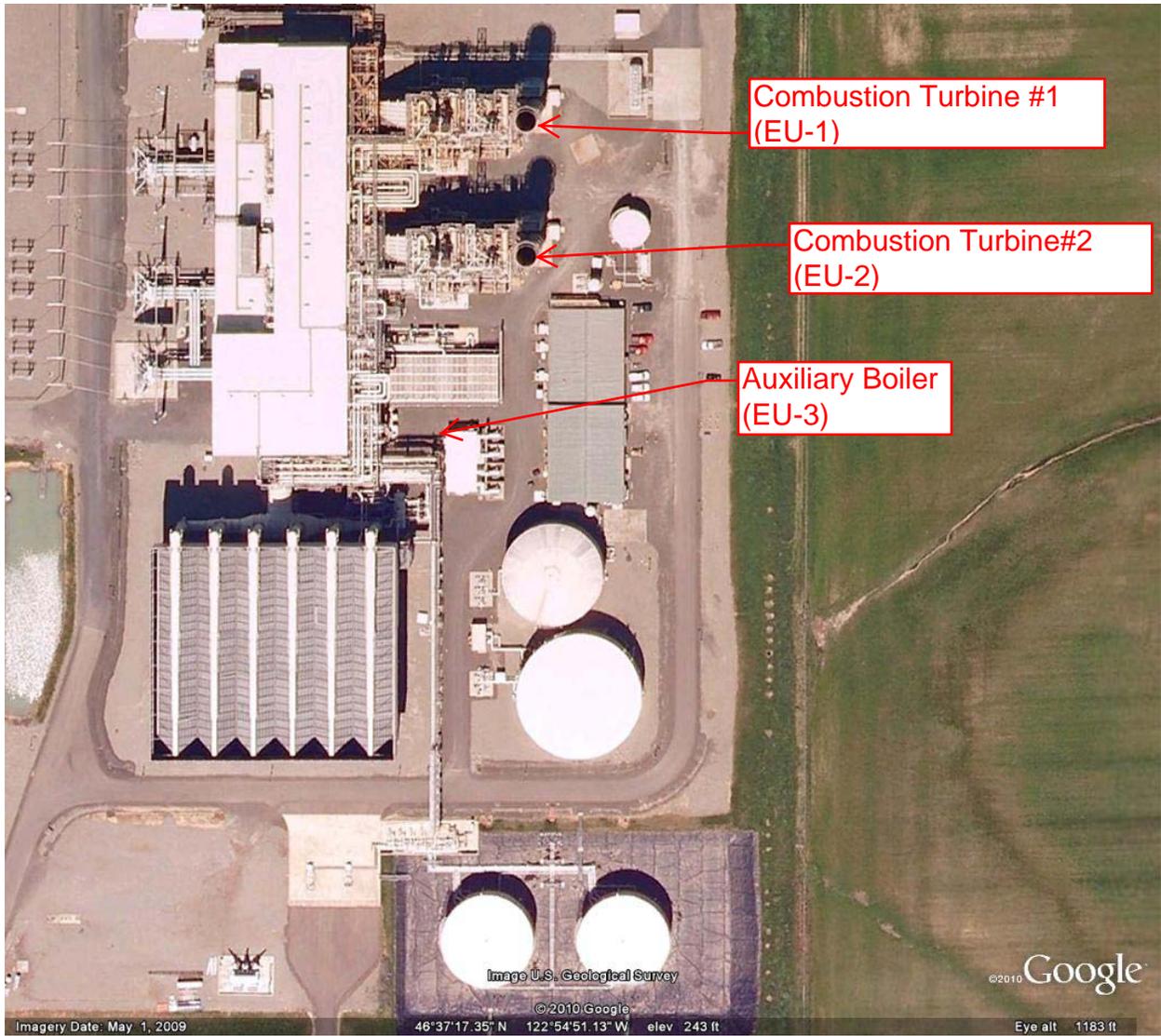


J. Doak
10/20/2010

Attachment 3

Chehalis Generating Facility Site Map

Chehalis Generating Facility
Site Plan



Attachment 4

Chehalis Generating Facility Insignificant Emission Units

The following list identifies insignificant emissions sources at the Chehalis Generating Facility. The sources are deemed to be categorically insignificant emission units as defined by WAC 173-401-532.

Chehalis Insignificant Emission Sources:

- Lubricating oil storage tanks
- Aqueous ammonia storage tanks and other facility storage tanks, reservoirs and pumping and handling equipment. These equipment sources utilize appropriate lids and covers and do not generate objectionable odors or airborne particulate matter.
- Pressurized storage tanks containing oxygen, nitrogen, carbon dioxide or inert gases.
- Vents from continuous emissions monitors and analyzers.
- Other plant activities and emission sources as described in WAC 173-401-532.

The Chehalis Generating Facility uses a portable 82.5 horsepower diesel-fired air compressor for various plant functions including maintenance and testing of the fire protection system as well as other plant maintenance activities. The air compressor diesel engine is portable and by definition not a stationary emission source, as such it is not addressed in this permit application.

Attachment 5

Chehalis Generating Facility Acid Rain Permit

Appendix D
Acid Rain Permit No. EFSEC/06-01-AR Rev. 1

Issued by the Washington State Energy Facility Site Evaluation Council

Issued to: Chehalis Generation Facility, Washington
Operated by: Chehalis Power Generating, LP
Address: 1813 Bishop Road
 Chehalis, Washington 98532
ORIS code: 55662
Affected units: CT1
 CT2
Effective: This Acid Rain permit, as part of the Chehalis Generation Facility Title V permit, will become effective upon the effective date of the Title V permit (October 10, 2011). The Acid Rain Permit shall have a permit term ending on October 10, 2016 (the expiration date of Title V Permit No. EFSEC/06-01-AOP Rev. 1)

Acid Rain Permit Contents

- 1) Statement of Basis
- 2) SO₂ allowances allocated under this permit and NO_x requirements for each affected unit.
- 3) Comments, notes and justifications regarding permit decisions and changes made to the permit application forms during the review process, and any additional requirements or conditions as per WAC 173-406-501, "Acid Rain Permit Contents" as adopted by WAC 463-78.
- 4) The permit application submitted for this source. The owners and operators of the source must comply with the standard requirements and special provisions set forth in the application and in WAC 173-406-106 "Standard Requirements" as adopted by WAC 463-78.

1) Statement of Basis

Statutory and Regulatory Authorities: In accordance with section 005 of Washington Administrative Code (WAC) 463-78 "General and Operating Permit Regulations for Air Pollution Sources," which adopts 173-406 "Acid Rain Regulation" and WAC 173-401 "Operating Permit Regulation," by reference, the Washington State Energy Facility Site Evaluation Council issues this permit pursuant to WAC 463-78. WAC 173-406 is based on the provisions of Title 40 Code of Federal Regulations (CFR) parts 72-76, which is part of the requirements established pursuant to Title IV of the Clean Air Act, 40 U.S.C. 7401, *et seq.*, as amended by Public Law 101-549 (November 15, 1990).

2) SO₂ Allowance Allocations and NO_x Requirements for Each Affected Unit

		2011	After 2011
CT1	Facilitywide SO ₂ allowances held as of March 2011	27 ^a	To be determined
	Acid Rain NO _x limit	N/A ^b	N/A ^b
CT2	Facilitywide SO ₂ allowances held as of March 2011	27 ^a	To be determined
	Acid Rain NO _x limit	N/A ^b	N/A ^b

This Acid Rain Permit shall not be construed to exempt or exclude an affected unit from compliance with any other provisions of the Clean Air Act consistent with 40 CFR 72.9(h) and WAC 173-406-106(8) as adopted by WAC 463-78. Additional requirements for this facility include those contained in Prevention of Significant Deterioration permit EFSEC/95-02 Amendment 2.

Table Footnotes

^a Pursuant to 40 CFR 72.9(c)(i) and WAC 173-406-106(3)(a)(i) as adopted by WAC 463-78, this unit is required to hold SO₂ allowances, as of the allowance transfer deadline, in the unit's compliance subaccount not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit. Each combustion turbine has the potential to generate up to 85 tons per year of SO₂ emissions. According to 40 CFR 72.2, a fraction of a ton greater than 0.50 is equal to 1.0 ton and a fraction of a ton less than 0.50 is equal to no tons. Depending on the unit operating hours, each unit could be required to hold between 0 and 85 SO₂ allowances.

^b Since this unit is not a coal-fired unit, there are no applicable acid rain NO_x emission limits and a Phase II NO_x permit application is not required. A NO_x limitation is included in PSD permit EFSEC/95-02 Amendment 2.

3) Comments, Notes and Justifications

This Acid Rain Permit is deemed to incorporate the definition of terms under WAC 173-406-101 as adopted by WAC 463-78 unless otherwise expressly defined in this permit.

4) Permit Application

The permit renewal application was signed on January 5, 2011. A copy of the application is attached.

Standard Requirements

Permit Requirements

- (1) The designated representative of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall:

- (i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30 and WAC 173-406-301 as adopted by WAC 463-78; and
 - (ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit.
- (2) The owners or operators of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall:
 - (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and
 - (ii) Have an Acid Rain permit.

Monitoring Requirements

- (1) The owners and operators and, to the extent applicable, designated representative of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall comply with the monitoring requirements as provided in 40 CFR part 75.
- (2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operator to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act, applicable requirements of Title 463 WAC, and other provisions of the operating permit for the Chehalis Generation Facility.

Sulfur Dioxide Requirements

- (1) The owners and operator of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall:
 - (i) Hold allowances, as of the allowance transfer deadline, in the unit's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the Chehalis Generation Facility; and
 - (ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- (2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
 - (i) Starting January 1, 2000, an affected unit under WAC 173-406-103(1)(b) as adopted by WAC 463-78; or
 - (ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under WAC 173-406-103(1)(c) as adopted by WAC 463-78.
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7, 40 CFR 72.8, WAC 174-406-104 as adopted by WAC 463-78, or WAC 173-406-105 as adopted by WAC 463-78 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such an authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

- (1) Unless otherwise provided, the owners and operators of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
 - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certification of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
 - (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply;
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of the Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall submit the reports and compliance certifications

required under the Acid Rain Program, including those under WAC 173-406-800 as adopted by WAC 463-78 and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7, 40 CFR 72.8, WAC 173-406-104 as adopted by WAC 463-78, or WAC 173-406-105 as adopted by WAC 463-78, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act and by the permitting authority pursuant to Revised Code of Washington (RCW) 80.50.150.
- (2) Any person who knowingly makes any false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001 and by the permitting authority pursuant to RCW 80.50.150.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) The Chehalis Generation Facility and each affected unit at the Chehalis Generation Facility shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to the Chehalis Generation Facility (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of the Chehalis Generation Facility and to the affected units at the Chehalis Generation Facility.
- (6) Any provision of the Acid Rain Program that applies to an affected unit at the Chehalis Generation Facility (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under WAC 173-406-402 (Phase II repowering extension plans) as adopted by WAC 463-78, and 40 CFR part 76, and except with regard to the requirements applicable to a unit with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 40 CFR 75.17, and 40 CFR 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other unit of which they are not the owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of WAC 173-406-100 through 173-406-950 as adopted by WAC 463-78 and 40 CFR 72, 73, 75, 76, 77, and 78, and regulations implementing section 410 of the Act by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7, 40 CFR 72.8, WAC 173-406-104 as adopted by WAC 463-78, or WAC 173-406-105 as adopted by WAC 463-78 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affect unit from compliance with any other provision of the Act, including the

- provisions of title I of the Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;
- (2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Act;
 - (3) Requiring a change of any kind in any state law regulating electric utility rates and charges, affecting any state law regarding such state regulation, or limiting such state regulation, including any prudence review requirements under such state law;
 - (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or
 - (5) Interfering with or impairing any program for competitive bidding for power supply in a state in which such program is established.

Attachment 6

Chehalis Generating Facility Acid Rain Permit Application

Permit Requirements

STEP 3

Read the standard requirements.

(1) The designated representative of each affected source and each affected unit at the source shall:

(i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and

(ii) Submit in a timely manner any supplemental information that the permitting authority determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

(2) The owners and operators of each affected source and each affected unit at the source shall:

(i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and

(ii) Have an Acid Rain Permit.

Monitoring Requirements

(1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.

(2) The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the source or unit, as appropriate, with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.

(3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Act and other provisions of the operating permit for the source.

Sulfur Dioxide Requirements

(1) The owners and operators of each source and each affected unit at the source shall:

(i) Hold allowances, as of the allowance transfer deadline, in the source's compliance account (after deductions under 40 CFR 73.34(c)), not less than the total annual emissions of sulfur dioxide for the previous calendar year from the affected units at the source; and

(ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.

(2) Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act.

(3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:

(i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or

(ii) Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3).

Sulfur Dioxide Requirements, Cont'd.

STEP 3, Cont'd.

- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.
- (6) An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

Nitrogen Oxides Requirements

The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

Excess Emissions Requirements

- (1) The designated representative of an affected source that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77.
- (2) The owners and operators of an affected source that has excess emissions in any calendar year shall:
 - (i) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
 - (ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

Recordkeeping and Reporting Requirements

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or permitting authority:
 - (i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission

of a new certificate of representation changing the designated representative;

STEP 3, Cont'd.

Recordkeeping and Reporting Requirements, Cont'd.

- (ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
 - (iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
 - (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.
- (2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

Liability

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Act.

Effect on Other Authorities

No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or an exemption under 40 CFR 72.7 or 72.8 shall be construed as:

- (1) Except as expressly provided in title IV of the Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with

Chehalis Generating Facility

Facility (Source) Name (from STEP 1)

any other provision of the Act, including the provisions of title I of the Act relating

STEP 3, Cont'd.

Effect on Other Authorities, Cont'd.

to applicable National Ambient Air Quality Standards or State Implementation Plans;

(2) Limiting the number of allowances a source can hold; *provided*, that the number of allowances held by the source shall not affect the source's obligation to comply with any other provisions of the Act;

(3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;

(4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,

(5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

STEP 4

Read the certification statement, sign, and date.

Certification

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name	David M. Lucas	
Signature		October 2, 2015 Date

Attachment 7

Chehalis Generating Facility Description

System Description

The Chehalis Generating Facility is an air-cooled natural-gas-fired combined-cycle power plant. The facility includes two combustion turbines and one steam turbine. Exhaust gas from the combustion turbines is routed through heat recovery steam generators (HRSGs) which provide steam to the steam turbine. The combustion turbines and the steam turbine are each coupled to an electric generator. Electrical energy provided by the three generators is supplied to the electric power grid.

Although the Chehalis facility has a nameplate capacity of 593.3 MW, the plant has an actual net summer capacity of 477 MW and a net winter capacity of 506 MW. The Site Certification Agreement nominal generating capacity of 520 MW is an accurate representation of the capacity for the Chehalis facility under average annual conditions.

Each combustion turbine has a maximum heat input value of 2,067 MMBtu/hour which is obtained from the ECMPS Client Tool monitoring plan.

Actual fuel consumption varies with ambient conditions (such as temperature and relative humidity) and the operating rate of the combustion turbines. At 51°F and 60 percent relative humidity the combustion turbines each consume approximately 1,782 MMBtu/hour or 1,930 MMBtu/hour (based on design heat balance) when burning gas or distillate oil, respectively. If the combustion turbines were to both operate at this rate for an entire year (including 720 hours of oil firing), the combustion turbines would consume a total of 31.4 million MMBtu.

Pollution Control Equipment Description

A Babcock-Hitachi selective catalytic reduction system (SCR) and an Engelhard Corporation oxidation catalytic system are used on each Chehalis generating unit to control emission of NO_x and CO, respectively.

Selective Catalytic Reduction System

Each SCR is comprised of a plate-type catalyst consisting of titanium dioxide (TiO₂), molybdenum trioxide (MoO₃), and vanadium pentoxide (V₂O₅) catalytic material contained in a ceramic fiber binder. Each SCR is comprised of 72 individual blocks arranged in a 4 block wide by 18 block high configuration. Each catalyst block is 1,628 mm (5.34 ft) wide, 706 mm (2.32 ft) thick, and 946 mm (3.10 ft) high with an individual weight of 473 kg (1,043 lb). The combined volume of the 72 blocks comprising one SCR is 49.3 m³.

When the combustion turbines are fired on natural gas, the SCR NO_x removal efficiency is equal-to-or-greater-than 66.67% at an exhaust gas inlet temperature of 568°F.

Oxidation Catalyst

The Engelhard carbon monoxide catalytic oxidation system is used to oxidize carbon monoxide (CO) to carbon dioxide (CO₂). The CO converter system consists of a honeycomb-shaped stainless steel substrate core utilizing an alumina and platinum catalytic matrix which oxidizes CO into CO₂.

Each Chehalis generating unit includes an oxidation catalyst consisting of 250 modules. The modules are housed in a carbon steel framework and are arranged in the combustion turbine exhaust ductwork in a 10-wide by 25-high configuration. Each catalyst module weighs approximately 30 pounds and is 25.5 inches wide by 26.08 inches high and 2.452 inches deep. The frame housing the CO oxidation modules has an overall width of 24.3 feet and an overall height of 59.3 feet.

Under design conditions when firing on natural gas at an ambient temperature of 51°F, the combustion turbine exhaust gas is at a nominal temperature of 627°F (+/-25°F) and the oxidation catalyst has a minimum CO-to-CO₂ conversion efficiency of 59.8%. Similarly, when firing on fuel oil at an ambient temperature of 51°F, the combustion turbine exhaust gas is at a nominal temperature of 630°F (+/-25°F) and the oxidation catalyst has a minimum CO-to-CO₂ conversion efficiency of 44.2%.

Continuous Emissions Monitoring System (CEMS) Description

The Acid Rain Program requires monitoring and reporting of the NO_x emission rate from the Chehalis generating facility's two combustion turbines. The NO_x emission rates are calculated using NO_x and O₂ CEMs. The facility's PSD permit requires continuous monitoring of CO and NH₃ emissions.

The Acid Rain Program requires monitoring and reporting of heat input, SO₂, and CO₂. This is accomplished by following the alternate procedures in 40 CFR 75 Appendixes D and G. Appendix D defines how heat input is calculated from certified fuel flow meters. The heat input and fuel factors are then used to calculate the mass emissions of SO₂ and CO₂.

The CEMS is a Horiba model CMA-EC642L1 which monitors NO_x, CO, O₂ and NH₃. The model CMA-EC642L1 employs the Horiba ENDA-XE modular CEMS instrument/controller. The XE is equipped with a 486 microprocessor that allows the system to automatically operate and perform daily, unattended calibrations. A Horiba model CLA-510SS instrument is utilized for the NH₃ measurement.

The ENDA provides undiluted dry-extractive sampling of exhaust gases. NO_x measurements are made using chemiluminescence NO detectors. O₂ measurements are made with a magneto-pneumatic (paramagnetic) analyzer. CO measurements are made using non-dispersive infrared

absorption (NDIR) methodology. The CMA-EC642L1 provides 4-20 mA isolated analog outputs to the ENDA-XE controller. The ENDA-XE controllers communicate to an ESC StackVision data acquisition system (DAHS) via their RS-422 serial links through a model 8832 data controller. An additional RS-232C serial port is also available on each ENDA-XE. Signals are input to the ENDA-XE for external plant equipment and auxiliary monitoring equipment such as flow meters, stack-mounted thermocouples, and source-up status. The ENDA-XE provides contact closures for alarms and system status, along with calibration-corrected NO_x, CO, O₂, and NH₃ analog outputs.

Complete system operation, including calibration and sequencing is automatic. Operator attention is necessary only for periodic manual verification of accuracy and normal maintenance.

The following table provides information on the specific measurement equipment:

Analyzer	Manufacturer and Model	Serial No.	Ranges (span and/or scale)
NO _x	Horiba CMA-EC642L1	42000560022 (CT1) 42075670031 (CT2)	0-10/10-200 ppm
CO	Horiba CMA-EC642L1	42000560022 (CT1) 42075670031 (CT2)	0-20/0-200 ppm
O ₂	Horiba CMA-EC642L1	42000560022 (CT1) 42075670031 (CT2)	0-25% O ₂
NH ₃	Horiba CLA-510SS		0-20 ppm

Attachment 8

Responsible Official Compliance Certification

As required by WAC 173-401-510(2)(h)(ii)(A) and (B), I hereby certify that the Chehalis Generating Facility is in compliance with respect to all applicable requirements; that the Chehalis Generating Facility will continue to comply with such requirements; and for applicable requirements that will become effective during the permit term, that the Chehalis Generating Facility will meet such requirements on a timely basis.

A handwritten signature in black ink, appearing to read "David M. Lucas". The signature is fluid and cursive, with the first name "David" being the most prominent.

David M. Lucas
Managing Director, Gas and Geothermal Generation

October 2, 2015