

**ENERGY FACILITY SITE EVALUATION COUNCIL
P.O. BOX 43172
OLYMPIA, WASHINGTON 98504-3172**

IN THE MATTER OF:]	NO. EFSEC/95-02 AMENDMENT 2
Chehalis Generation Facility]	NOTICE OF CONSTRUCTION AND
Electrical Generating Facility]	PREVENTION OF SIGNIFICANT
Chehalis, Washington]	DETERIORATION
]	FINAL APPROVAL

Pursuant to the Energy Facility Site Evaluation Council (EFSEC) regulation for air permit applications (Washington Administrative Code 463-60-536), the Washington Department of Ecology (Ecology) regulations for new source review (Washington Administrative Code 173-400-110 and Chapter 173-460 WAC), the federal Prevention of Significant Deterioration regulations (40 CFR 52.21), the complete Notice of Construction/Prevention of Significant Deterioration Application, the 18 month extension application submitted by Chehalis Power Generating, Limited Partnership (Chehalis Power), the January 10, 2000, Site Certification Agreement amendment application, the March 22, 2001, Administrative Order on Consent between Chehalis Power and US EPA Region 10, modification requests dated November 16, 2004 and February 18, 2005, and the technical analysis performed by Ecology for EFSEC, EFSEC finds the following:

FINDINGS

1. Chehalis Power constructed the Chehalis Generation Facility (CGF) near Chehalis, Washington. The 520 megawatt (MW) project consists of two (2) 175 MW natural gas and oil-fired combustion gas turbines, (each operating with a heat recovery steam generator (HRSG) in a combined cycle mode) and a single steam turbine generator. Two auxiliary boilers were originally planned but not installed.
2. Permit Amendment 2 modifies the facility's opacity monitoring requirements while combusting natural gas (Approval Condition 8), and also modifies the length of time allowed to start up the turbines when they have been down for more than 72 hours (Approval Condition 10). No emission limits are modified. Since the boilers were not constructed, all provisions concerning them are removed.
3. The project is subject to PSD regulations under Title 40 Code of Federal Regulations (CFR) 52.21 because it is one of 28 listed industries that becomes a "major source," when emitting more than 100 tons per year of any regulated pollutant. CGF has the potential to emit significant quantities of nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM₁₀), volatile organic compounds (VOC), and sulfuric acid mist (H₂SO₄).
4. The site of the facility is within a Class II area that is in attainment with regard to all pollutants regulated by the National Ambient Air Quality Standards (NAAQS) and state air quality standards. The site is 80 kilometers (km) from the nearest Class I Area, Mt. Rainier National Park.
5. The project is subject to new source review requirements under Chapter 173-400 WAC, Chapter 173-460 WAC, 40 CFR 52.21, 40 CFR 60.330; to emission monitoring requirements under RCW 70.94, Chapter 173-400 WAC, 40 CFR 60 Appendices A, B, and F, and 40 CFR 75; to gas fuel

- monitoring requirements under 40 CFR 60.334(b)(2), and to oil fuel requirements in 40 CFR 60.334(b)(1).
6. Chehalis Power's notice of construction/prevention of significant deterioration (NOC/PSD) application for the proposed project was determined to be complete on August 14, 1995. The 18 month extension application was determined to be complete on August 24, 1998.
 7. The project uses natural gas as the primary fuel. No. 2 distillate fuel may be used as a backup and for limited testing purposes, not to exceed 720 hours per calendar year for each combustion turbine.
 8. Best available control technology (BACT) as required under WAC 173-400-113(2) and toxic best available control technology (T-BACT) as required under WAC 173-460-040(4) is used for the control of all air pollutants which will be emitted by the proposed project.
 9. Turbines using advanced dry low NO_x (ADLN) burner technology and selective catalytic reduction (SCR) for NO_x control are allowed by this permit.
 10. The facility has the potential to emit up to 129 tons per year of carbon monoxide (CO).
 11. The facility has the potential to emit up to 241 tons per year of nitrogen oxides (NO_x); as a result of NO_x emission controls, the facility will have the potential to emit up to 226 tons per year of ammonia (NH₃).
 12. The facility has the potential to emit up to 164 tons per year of sulfur oxides (SO_x).
 13. The facility has the potential to emit up to 152 tons per year of particulate matter smaller than 10 microns (PM₁₀).
 14. The facility has the potential to emit up to 65 tons per year of volatile organic compounds (VOCs).
 15. The facility has the potential to emit up to 30 tons per year of sulfuric acid mist (H₂SO₄).
 16. Allowable emissions from the new emissions units will not cause or contribute to air pollution in violation of:
 - 16.1. Any ambient air quality standard;
 - 16.2. Any applicable maximum allowable increase over the baseline ambient concentration.
 17. Ambient impact analysis indicates that there will be no significant impacts resulting from pollutant deposition on soils and vegetation in either the Mt. Rainier or Olympic National Parks, Mt. Hood Wilderness, Mt. Adams Wilderness, Goat Rock Wilderness, Alpine Lake Wilderness, or the Columbia River Gorge National Scenic Area.
 18. Ambient impact analysis indicates that the proposed emissions will cause no significant degradation of regional visibility, or impairment of visibility in any Class I area.
 19. No significant effect on industrial, commercial, or residential growth in the Chehalis area is anticipated due to the project.
 20. EFSEC finds that all requirements for new source review (NSR) and PSD are satisfied and that as approved below, the new emissions units comply with all applicable federal new source performance standards. Approval of the NOC/PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS

1. Combustion Gas Turbine fuels:

- 1.1. Each combustion gas turbine (CGT) shall be fueled only by natural gas except when natural gas is not available and during limited test periods.
- 1.2. When natural gas is not available and during limited test periods, the CGTs may be fueled by "on-road specification diesel fuel" (referred to as "oil" in this Approval) containing no more than 0.05 percent sulfur by weight, as specified in 40 CFR 80.29 as amended through July 1, 1992. Oil firing for each CGT is limited to 720 hours per calendar year.
- 1.3. Chehalis Power shall report all oil fired operations to EFSEC in accordance with the reporting requirements in Condition 16.

2. Combustion Gas Turbine NO_x emissions:

- 2.1. NO_x emissions from each HRSG exhaust stack shall not exceed 3.0 parts per million on a dry volumetric basis (ppmdv) over a one hour average when corrected to 15.0 percent oxygen when burning natural gas. NO_x emissions from each HRSG exhaust stack shall not exceed 223 kilograms (491 pounds) per day when burning natural gas. These limits are relieved during startup and shutdown.
- 2.2. NO_x emissions from each HRSG exhaust stack shall not exceed 14.0 ppmdv over a one hour average, corrected to 15.0 percent oxygen, when burning oil. NO_x emission from each HRSG exhaust stack shall not exceed 1,160 kilograms (2,538 pounds) per day when burning oil. These limits are relieved during startup and shutdown.
- 2.3. The total annual NO_x emissions of all combustion turbines shall not exceed 241 tons on a 12 month rolling summation, calculated once per month. NO_x emissions during startup and shutdown shall be included.
- 2.4. Initial compliance for each turbine shall be determined in accordance with Title 40 CFR Subpart GG and EPA Reference Method 20, except that the instrument span shall be 100 ppm or less.
- 2.5. NO_x, O₂ emissions and exhaust gas flow rate or velocity from each exhaust stack shall be measured and recorded by a continuous emission monitoring system (CEMS) that meets the requirements of Condition 14.2. Exhaust gas flow rate or velocity may be determined using F factor calculation or other method approved by EFSEC in advance instead of using a flow CEM.

3. Combustion Gas Turbine CO emissions:

- 3.1. CO emissions from each HRSG exhaust stack shall not exceed 3.0 ppmdv corrected to 15.0 percent oxygen, or 3.5 kilograms (7.7 pounds) per hour on a one hour average when natural gas is burned. These limits are relieved during startup and shutdown.
- 3.2. CO emissions from each HRSG exhaust stack shall not exceed 8.0 ppmdv, corrected to 15 percent oxygen, on a one hour average, or 11.1 kilograms (24.4 pounds) per hour, when oil is burned. These limits are relieved during startup and shutdown.
- 3.3. Initial compliance for each HRSG when burning natural gas shall be determined by EPA Reference Method 10 or an equivalent method agreed to in advance by EFSEC. The span

- and linearity calibration gas concentrations in Method 10 shall be modified to a span gas concentration of 100 ppm or less, with all other calibration gas concentrations similarly reduced.
- 3.4. CO emissions from each of the exhaust stacks shall be measured and recorded by CEMS that meet the requirements of Condition 14.1.
 4. Combustion Gas Turbine SO₂ emissions
 - 4.1. SO₂ emissions from each HRSG exhaust stack shall not exceed 4.72 kilograms (10.4 pounds) per hour when natural gas is burned.
 - 4.2. SO₂ emissions from each HRSG exhaust stack shall not exceed 54.0 kilograms (119 pounds) per hour when oil is burned.
 - 4.3. Initial compliance for each HRSG shall be determined by EPA Reference Method 6, or an equivalent method approved in advance by EFSEC. If Method 6C is used, the instrument span shall be at maximums of 3 ppm when natural gas is burned, and 30 ppm when oil is burned, and all span and calibration gases used shall follow in accordance with the method requirements.
 - 4.4. Continuous emission monitoring of SO₂ is not required. Continuous compliance with the limit for each of the stacks shall be by means of fuel sulfur content reporting and fuel flow monitoring to each turbine.
 5. Combustion Gas Turbine VOC emissions:
 - 5.1. VOC emissions from each HRSG exhaust stack shall not exceed 3.2 kilograms (7.0 pounds) per hour, or 69 kilograms (152 pounds) per day, whichever is more restrictive, when natural gas is burned.
 - 5.2. VOC emissions from each HRSG exhaust stack shall not exceed 5.22 kilograms (11.5 pounds) per hour, or 115 kilograms (252 pounds) per day, whichever is more restrictive, when oil is burned.
 - 5.3. Initial compliance for each HRSG shall be determined by EPA Reference Methods 25A or 25B, or an equivalent method agreed to in advance by EFSEC.
 6. Combustion Gas Turbine PM₁₀ emissions:
 - 6.1. PM₁₀ emissions (filterable only) from each HRSG exhaust stack shall not exceed 172 kilograms (379 pounds) per day when natural gas is burned.
 - 6.2. PM₁₀ emissions (filterable only) from each HRSG exhaust stack shall not exceed 218 kilograms (480 pounds) per day when oil is burned.
 - 6.3. Initial compliance for the HRSGs shall be determined by either EPA Reference Methods 5, 201, or 201A, or an equivalent method agreed to in advance by EFSEC.
 7. Combustion Gas Turbine H₂SO₄ emissions:
 - 7.1. H₂SO₄ emissions from each HRSG exhaust stack shall not exceed 0.91 kilograms (2.0 pounds) per hour when natural gas is burned.
 - 7.2. H₂SO₄ emissions from each HRSG exhaust stack shall not exceed 8.62 kilograms (19.0 pounds) per hour when oil is burned. All limits are on a one hour average.

- 7.3. Initial compliance with the H₂SO₄ emissions limits shall be determined by EPA Reference Method 8, or an equivalent method approved in advance by EFSEC.
8. Opacity from each HRSG exhaust stack shall not exceed 10 percent over a six minute average.
 - 8.1. Compliance shall be determined by EPA Reference Method 9, or an equivalent method approved in advance by EFSEC.
 - 8.2. Compliance may be monitored by EPA Method 22. If Method 22 indicates opacity greater than zero, then a Method 9 or other EFSEC approved test shall be performed within 2 non-holiday weekdays.
 - 8.2.1. If a holiday falls during the 2 day time period, the testing shall be performed on the first non-holiday weekday after the holiday.
 - 8.2.2. If the turbine is shut down before retesting using Method 9 or other EFSEC approved test, retesting shall be done on the first non-holiday weekday after restarting.
 - 8.3. Opacity monitoring shall be conducted weekly when combusting natural gas.
 - 8.4. Opacity monitoring shall be conducted daily when combusting oil.
 - 8.5. A continuous opacity monitoring system (COMS) may be used to indicate continuous compliance and satisfy Condition 8.1. The COMS must meet the requirements contained in Condition 14.4.
9. Combustion Gas Turbine NH₃ emissions:
 - 9.1. NH₃ emissions from each HRSG exhaust stack shall not exceed 10.0 ppm_{dv} on a one hour average corrected to 15.0 percent oxygen when burning natural gas.
 - 9.2. NH₃ emissions from each HRSG exhaust stack shall not exceed 278 kilograms (612 pounds) per day when burning natural gas.
 - 9.3. NH₃ emissions from each HRSG exhaust stack shall not exceed 10.0 ppm_{dv} over a one hour average corrected to 15.0 percent oxygen when burning oil.
 - 9.4. NH₃ emission from each HRSG exhaust stack shall not exceed 310 kilograms (683 pounds) per day when burning oil.
 - 9.5. NH₃ emissions from each HRSG exhaust stack shall be measured and recorded by CEMS that meets the requirements of Condition 14.3.
10. The following conditions apply to the CGTs during startup and shutdown periods:
 - 10.1. The NO_x, CO and Opacity limits in Approval Conditions 2, 3 and 8 are relieved.
 - 10.2. Each CGT is limited to 200 startup and shutdown events per calendar year.
 - 10.3. Each CGT is limited to a maximum of 2 startup and shutdown events per 24 hour period.
 - 10.4. CO emissions during startup and shutdown shall not exceed 120 kilograms (263 pounds) per hour when burning gas, or 190 kilograms (417 pounds) per hour when burning oil, averaged over the startup or shutdown period.
 - 10.5. NO_x emissions during startup and shutdown shall not exceed 132 kilograms (292 pounds) per hour when burning gas, or 185 kilograms (407 pounds) per hour when burning oil, averaged over the startup or shutdown period.

- 10.6. Startups begin when fuel is first fired in the CT. Startups include a fuel switch from oil to gas. Startups end when a turbine reaches 60% load, ammonia flow is stabilized, and the selective catalytic reduction and oxidation catalyst systems have reached stable normal operating temperatures, or when one of the following time limits is reached, whichever occurs first:
 - 10.6.1. On a cold startup, 5 hours have elapsed since fuel was first fired in the CGT. A cold startup is any startup occurring after the CGT has been shut down for 72 hours or more.
 - 10.6.2. For all other startups, 3 hours have elapsed since fuel was first fired in the CGT.
- 10.7. Shutdowns are limited to 3 hours per occurrence. Shutdowns begin when the CT is initially ramped down from normal operation with the intent of shutting the unit down. Shutdowns end when fuel feed to the CGT ceases.
11. Initial Performance Testing:
 - 11.1. Within 180 days after initial turbine start-up, Chehalis Generation Facility shall conduct performance tests for NO_x, SO₂, H₂SO₄, opacity, NH₃, CO, VOCs and PM₁₀ on each combustion turbine, to be performed by an independent testing firm.
 - 11.2. A test plan shall be submitted for EFSEC's approval at least 30 days prior to the testing.
 - 11.3. "Initial turbine start-up" means the time that the first electricity from an electric generator is delivered to the electrical power grid.
12. Sampling ports and platforms shall be provided on each stack, after the final pollution control device. The ports shall meet the requirements of 40 CFR, Part 60, Appendix A Method 20.
13. Adequate permanent and safe access to the test ports shall be provided. Other arrangements may be acceptable if approved by EFSEC prior to installation.
14. Continuous Emission Monitoring Systems
 - 14.1. Continuous emission monitoring systems (CEMS) for CO, shall, at a minimum meet the requirements contained in 40 CFR, Part 60, Appendix B, Performance Specifications and 40 CFR, Part 60, Appendix F, Quality Assurance Procedures.
 - 14.2. CEMS for NO_x, O₂, and (if used) exhaust gas flow rate or velocity compliance shall meet the requirements contained in 40 CFR 75, Emissions Monitoring.
 - 14.3. CEMS for NH₃ shall meet the requirements contained in 40 CFR, Part 60, Appendix B, Performance Specifications and 40 CFR, Part 60, Appendix F, Quality Assurance Procedures, or other EFSEC-approved performance specifications and quality assurance procedures.
 - 14.4. If CGF chooses to install a COMS to measure opacity in lieu of applying Method 22 and Method 9, the COMS shall meet the requirements contained in 40 CFR Part 60, Appendix B, Performance Specification 1, and in 40 CFR, Part 60, Appendix F, Quality Assurance Procedures.
 - 14.5. RATA for the NH₃ and CO CEMS shall be conducted at least once for every four operating quarters or eight calendar quarters, whichever comes first. RATAs shall be completed no later than 720 operating hours after the end of the fourth operating quarter or eighth calendar

quarter, whichever comes first. An operating quarter is any quarter in which the combustion turbine is operated for 168 or more hours.

15. Compliance testing:

- 15.1. Compliance testing shall be performed for PM₁₀, VOCs, and H₂SO₄ from each stack once every eight calendar quarters. Source testing shall be completed no later than 720 operating hours after the end of the eighth calendar quarter. An operating quarter is any quarter in which the combustion turbine is operated for 168 or more hours. Source testing for these parameters is to coincide with the Relative Accuracy Test Audit required for each installed CEMS.
 - 15.2. If the compliance testing for 3 consecutive tests indicates that the source can maintain compliance with a specific pollutant's (PM₁₀, VOCs, or H₂SO₄,) emission limitations and EFSEC agrees to allow a reduced frequency of compliance testing, then the compliance testing frequency for that pollutant can be reduced to once every 4 years, until a test indicates noncompliance. When a compliance test for a pollutant indicates noncompliance with the emissions limitations, the frequency of testing will return to once every two years until the above criteria are met again.
16. CEMS and process data shall be reported in written (or electronic if permitted by EFSEC) form to the authorized representative of EFSEC and to the EPA Region X Office of Air Quality monthly (unless a different testing and reporting schedule has been approved by EFSEC) within thirty days of the end of each reporting period.
17. The format of the reporting shall match that required by EPA for demonstrating compliance with the Title IV Acid Rain program and EFSEC reporting requirements. Pollutants not covered by that format shall be reported in a format approved by EFSEC which shall include at least the following:
- 17.1. Process or control equipment operating parameters.
 - 17.2. The hourly maximum and average concentration, in the units of the standard, for each pollutant monitored.
 - 17.3. The duration and nature of any monitor down time.
 - 17.4. Results of any monitor audits or accuracy checks.
 - 17.5. Results of any stack tests.
18. For each occurrence of monitored emissions in excess of the standard, the periodic emissions report (per condition 17) shall include the following:
- 18.1. For parameters subject to monitoring and reporting under the Title IV Acid Rain program, the reporting requirements in that program shall govern excess emissions report content.
 - 18.2. For all other pollutants:
 - 18.2.1. The time of the occurrence.
 - 18.2.2. Magnitude of the emission or process parameters excess.
 - 18.2.3. The duration of the excess.
 - 18.2.4. The probable cause.

18.2.5. Corrective actions taken or planned.

18.2.6. Any other agency contacted.

19. Operating and maintenance manuals:

19.1. Operating and maintenance manuals for all equipment that has the potential to affect emissions to the atmosphere shall be developed. Copies of the manuals shall be available to EFSEC or the authorized representative of EFSEC.

19.2. If a failure to follow the requirements of the manuals results in excess emissions, that failure may be considered credible evidence that the event was caused by poor or inadequate operation or maintenance for purposes of applying WAC 173-400-107.

20. This approval shall become invalid if construction of the project is not commenced within eighteen (18) months after receipt of final approval, or if construction of the facility is discontinued for a period of eighteen (18) months, unless EFSEC extends the 18 month period upon a satisfactory showing that an extension is justified, pursuant to 40 CFR 52.21(r)(2) and applicable EPA guidance.

21. Nothing in this determination shall be construed so as to relieve Chehalis Generation Facility of its obligations under any state, local, or federal laws or regulations.

22. The Chehalis Generation Facility shall notify EFSEC in writing at least thirty days prior to start-up of the project.

23. Access to the source by EFSEC or the authorized representative of EFSEC shall be permitted upon request for the purpose of compliance assurance inspections. Failure to allow access is grounds for revocation of this determination of approval.

24. Hourly and daily averaging periods throughout this permit may be based on clock hours and calendar days.

This Prevention of Significant Deterioration Permit has been prepared by:

_____	_____
Robert C. Burmark, P.E. Engineering and Technical Services Washington Department of Ecology	Date

This Prevention of Significant Deterioration Permit has been approved by:

_____	_____
James O. Luce Chair Energy Facility Site Evaluation Council	Date

_____	_____
Richard Albright Director Office of Air, Waste and Toxics U.S. Environmental Protection Agency, Region 10	Date

APPENDIX A – SUMMARY OF EMISSION LIMITATIONS for PSD EFSEC/95-02 AMENDMENT 2

COMBUSTION TURBINE WITH ADVANCED DRY LOW NO_x TECHNOLOGY, SCR, AND OXIDATION CATALYST (PER TURBINE)						
Pollutant	Natural Gas Fuel		Oil Fuel		Test Method (or equivalent approved by EFSEC)	Stack Testing or Certification Frequency
	Limit	Averaging Time	Limit	Averaging Time		
NO _x ¹ @15% O ₂	3 ppmdv 491 lb/day	1 hour daily	14 ppmdv 2538 lb/day	1 hour daily	RM 20 and CEMs	Initial and Annual RATA
CO @ 15% O ₂	3.0 ppmdv 7.7 lb/hr	1 hour 1 hour	8.0 ppmdv 24.4 lb/hr	1 hour 1 hour	RM 10 and CEMs	Initial and Annual RATA
SO ₂	10.4 lb/hr	1 hour	119 lb/hr	1 hour	RM 6 and fuel monitoring	Initial
PM ₁₀	379 lb/day	daily	480 lb/day	daily	RM 5 or 201 or 201A	Initial and once per 2 calendar years ²
VOC	7.0 lb/hr 152 lb/day	1 hour daily	11.5 lb/hr 252 lb/day	1 hour daily	RM 25A or 25B	Initial and once per 2 calendar years ²
Sulfuric Acid Mist	2.0 lb/hr	1 hour	19.0 lb/hr	1 hour	RM 8	Initial and once per 2 calendar years ²
NH ₃ @15% O ₂	10 ppmdv 612 lb/day	1 hour daily	10 ppmdv 683 lb/day	1 hour daily	Bay Area Air Quality Management District Source Test Procedure ST-1B, January 20,1982.	Initial and Annual RATA
Opacity	10%	6 minute (one weekly reading)	10%	6 minute (one daily reading)	RM 22 routinely. RM 9 if RM 22 indicates opacity.	Initial and 6 month reader certification for RM 9

1. Plant wide annual NO_x limit is 241 tons per year on a 12 month rolling summation.
2. See Condition 15 for reduced frequency of compliance certification testing options.
3. This table is a summary of the permit's conditions. If there is a conflict between this table and a permit provision, the written permit provision takes precedence.