Pursuant to the United States Environmental Protection Agency (EPA) regulation for the
Prevention of Significant Deterioration (PSD) set forth in Title 40, Code of the Federal
Regulations (CFR), 40 CFR Part 52.21, and regulations set forth in the Washington
Administrative Code 173-400-141 and based upon the PSD application submitted by Puget
Sound Energy (PSE) on May 7, 2001, the additional information submitted on October 5 and
technical analysis performed by the Department of Ecology (Ecology). Ecology determined the
application to be complete on March 14, 2003. Following all the information submitted by PSE,
Ecology now finds the following:

FINDINGS

1. PSE proposes to install and operate two Pratt & Whitney FT-8 Twin Pac simple-cycle
   combustion turbines at the Fredonia Generating Station (FGS). PSE currently refers to
   these combustion turbines as "Fredonia Generating Station Turbine 3 and Turbine 4."
   The turbines may use either natural gas or distillate fuel. Each turbine has the capability
to supply a gross power output of approximately 54 MW. PSE has an Administrative
Order on Consent (signed April 6, 2001), which grants PSE permission to construct and
operate two turbines prior to obtaining a PSD permit.

2. FGS is located in Skagit County, Washington near the City of Mt. Vernon (48°27′17″ N
   latitude, 122°26′14″).  

3. The site of the proposed project is within a Class II area that is in attainment with regard to
   all pollutants regulated by the National Ambient Air Quality Standards (NAAQS).

4. The five Class I areas closest to the Fredonia generating facility are identified in the table,
   below.
<table>
<thead>
<tr>
<th>Class I Area</th>
<th>Approximate Distance from Facility, km</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Cascade National Park</td>
<td>68</td>
</tr>
<tr>
<td>Glacier Peak Wilderness</td>
<td>75</td>
</tr>
<tr>
<td>Olympic National Park</td>
<td>78</td>
</tr>
<tr>
<td>Pasayten Wilderness</td>
<td>110</td>
</tr>
<tr>
<td>Alpine Lakes Wilderness</td>
<td>129</td>
</tr>
</tbody>
</table>

5. This project is subject to New Source Performance Standards (NSPS): Subpart GG (Standards of Performance of Stationary Gas Turbines).

6. The emissions of all air pollutants from the proposed modification are subject to review under Chapter 173-400 WAC, Chapter 173-460 WAC, and the regulations of the Northwest Air Pollution Authority (NWAPA). Chapter 173-400 WAC includes provision for PSD review (WAC 173-400-141). This permit considers only PSD applicable issues. All other air quality related notice of construction approval issues are subject to NWAPA’s authority.

7. FGS currently has the potential to emit more than 250 tons per year of a pollutant that is subject to the federal Clean Air Act. This qualifies FGS as an existing major stationary source as defined in federal regulations 40 CFR Part 52.21(b)(1)(i)(b).

8. The project will use natural gas and/or distillate fuel as the turbines’ fuels.

8.1 The project may use low-sulfur distillate fuel having not greater than 0.032% sulfur by weight until the inventory of such fuel existing at the time of issuance of this permit has been consumed by all fuel-burning equipment at or otherwise removed from the Fredonia Generating Station.

8.2 Use of distillate fuel having greater than 0.01% sulfur-content by weight is prohibited during the months of May through July in any year.

8.3 Distillate fuel having a sulfur content not greater than 0.01% by weight may be used at any time.
9. The Best Available Control determinations are shown in the table, below:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>BACT</th>
<th>Emissions Concentration</th>
<th>Annual Emissions, tons per year (TPY)</th>
<th>PSD Significance Level TPY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen oxides (NO\textsubscript{x})</td>
<td>Selective Catalytic Reduction</td>
<td>5 parts per million on a dry volumetric basis (ppmdv) at 15% O\textsubscript{2}</td>
<td>102</td>
<td>40</td>
</tr>
<tr>
<td>Sulfur oxides as sulfur dioxide (SO\textsubscript{2})</td>
<td>Low sulfur fuels (natural gas and 0.01% sulfur distillate fuel, see Finding 8, above)</td>
<td>1.5 ppmdv at 15% O\textsubscript{2}</td>
<td>45</td>
<td>40</td>
</tr>
<tr>
<td>Sulfuric acid mist (H\textsubscript{2}SO\textsubscript{4})</td>
<td>Low sulfur fuels (natural gas and 0.01% sulfur distillate fuel, see Finding 8, above)</td>
<td>Daily limit is 176 lbs.</td>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td>Particulate matter smaller than 10 microns (PM/PM\textsubscript{10})</td>
<td>Clean burning fuel and good combustion practice</td>
<td>0.01 grains/dry standard cubic foot (gr/dscf)</td>
<td>272</td>
<td>15</td>
</tr>
</tbody>
</table>

10. The proposed net increases in potential emissions from this project for NO\textsubscript{x}, SO\textsubscript{2}, H\textsubscript{2}SO\textsubscript{4}, and PM/PM\textsubscript{10} are each above the corresponding PSD significance levels. All are subject to review under PSD.

11. Allowable emissions from the new emissions units are below modeling significance for all pollutants, and therefore, will not cause or contribute to air pollution in violation of:

11.1 Any ambient air quality standard;

11.2 Any applicable maximum allowable increase over the baseline ambient concentration.

12. Ambient impact analysis indicates that pollutant deposition on soils and vegetation in any of the surrounding Class I areas will not exceed 60% of federal land manager criteria for significance.

13. Ambient impact analysis indicates that degradation of regional visibility, or impairment of visibility in any Class I areas from the proposed emissions will not exceed 75% of federal land manager criteria for concern.

14. No significant effect on industrial, commercial, or residential growth in the Fredonia/Skagit County area is anticipated due to the project.

15. Pursuant to requirements under the April 6, 2001 Administrative Order on Consent, PSE
completed several compliance tests and has been continuously monitoring NOX and CO since operation startup in July 2001. Ecology has determined that these compliance demonstration and relative accuracy tests on the continuous monitoring systems satisfy the following initial compliance demonstrations listed in the Approval Conditions, below:

15.1 Conditions 5.

15.2 Condition 8 on both turbines for natural gas and on FGS Turbine #3 for distillate fuel.

15.3 Condition 11 on FGS Turbine #3.

15.4 Condition 14 for natural gas

16. Pursuant to requirements under the April 6, 2001 Administrative Order on Consent, PSE satisfied Condition 29 prior to finalization of this PSD permit.

17. Ecology finds that all requirements for PSD application are satisfied and that as approved below, the new emissions units comply with all applicable federal new source performance standards. Approval of the PSD application is granted subject to the following conditions:

APPROVAL CONDITIONS

1. Definitions:

1.1 Unless otherwise indicated, "turbine" or "turbines" in this permit shall mean the turbines designated at the time of issuance of this permit as Fredonia Generating Station Turbine 3 and/or Turbine 4.

1.2 "Low-sulfur distillate fuel" shall mean distillate fuel having not greater than 0.01% sulfur content by weight.

1.3 The 60 day deadline for initial compliance demonstration using distillate fuel referred to in Conditions 5.1, 1.8.1, 11.1, and 14.1 shall not be counted as including days in May, June, or July.

2. The turbines shall be fueled only with natural gas and/or distillate fuel:

2.1 Distillate fuel having more than 0.01% and not more than 0.032% sulfur by weight may be used subject to the following:

2.1.1 May be used in Fredonia Generating Station Turbine 3 or Turbine 4 only during the months of January through April and August through December of any year.

2.1.2 May not be used in Fredonia Generating Station Turbine 3 or Turbine 4 after a total of 2,900,000 gallons of said fuel have been consumed by all fuel-burning equipment at the Fredonia Generating Station or otherwise removed from the facility.

2.2 Low-sulfur distillate fuel may be used at any time.

3. NOX emissions from each turbine exhaust stack shall not exceed 5.0 parts per million on a dry volumetric basis (ppmdv) over a three hour average when corrected to 15.0 percent oxygen.

4. NOX emissions from each turbine exhaust stack shall not exceed
4.1 290.4 pounds (132 kg.) per day.

4.2 51 tons (46,266 kg.) in any consecutive twelve month period.

5. Initial compliance for Condition 3 at each turbine exhaust stack.

5.1 Initial compliance shall be demonstrated for operation on both natural gas and distillate fuel not later than 60 days after the date this permit has become final.

5.2 PSE will submit a test plan to Ecology and NWAPA for approval at least 30 days prior to initial performance testing.

5.3 Initial compliance testing:

5.3.1 Shall be in accordance with EPA Reference Method 20, except that the instrument span shall be 50 ppm or less.

5.3.2 Shall be conducted consistent with the requirements in 40 CFR Part 60.335

6. Compliance with NOx emissions limits from each turbine exhaust stack:

6.1 Compliance with Condition 3 shall be monitored by a Continuous Emission Monitor (CEM) for NOX and oxygen (O2) that meets the requirements of Approval Condition 16.

6.2 The CEM for NOX shall be operated during startup and shutdown periods.

6.3 Compliance for Conditions 4.1 and 4.2 shall be monitored using the emissions data monitored pursuant to Condition 6.1.

6.3.1 Mass emission rates will be determined using the appropriate procedures outlined in 40 CFR Part 60 Appendix A Method 19.

6.3.2 An equivalent mass emission rate calculation method may be used if approved in advance by Ecology.

6.3.3 Emissions data shall be converted to pounds NOX per day for monitoring Condition 4.1 compliance.

6.3.4 Emissions data shall be converted to tons NOX per year (TPY) for monitoring Condition 4.2 compliance.

7. SO2 emissions from each turbine exhaust stack:

7.1 When burning distillate fuel having more than 0.01% sulfur by weight:

7.1.1 Shall not exceed 5 ppmdv corrected to 15.0 percent oxygen, one-hour average.

7.1.2 Shall not exceed 17 pounds (7.7 kg.) per hour.

7.2 When burning natural gas or low-sulfur distillate fuel:

7.2.1 Shall not exceed 1.5 ppmdv corrected to 15.0 percent oxygen, one-hour average.

7.2.2 Shall not exceed 5.1 pounds (2.3 kg.) per hour.

8. Initial compliance for SO2 at each turbine stack:
8.1 Shall be demonstrated for operation on both natural gas and distillate fuel not later than 60 days after the date this permit has become final.

8.2 PSE will submit a test plan to Ecology and NWAPA for approval at least 30 days prior to initial performance testing.

8.3 Initial compliance testing for Condition 7:
   8.3.1 Shall be in accordance with EPA Reference Method 20
   8.3.2 The instrument span shall be 3 ppm or less.
   8.3.3 All span and calibration gases used shall follow in accordance with the method requirements.
   8.3.4 The initial compliance test shall be conducted consistent with the requirements in 40 CFR Part 60.335.
   8.3.5 Initial compliance demonstration with Condition 7.1.1 will satisfy the initial compliance demonstration for Condition 7.2.1 for use of low-sulfur distillate fuel.

8.4 Initial compliance for Condition 7.1.2 and 7.2.2 will be determined from the arithmetic mean of the SO$_2$ emissions source test results pursuant to Condition 8.3, converted to lbs. SO$_2$ per hour.
   8.4.1 Mass emission rates will be determined using the appropriate procedures outlined in 40 CFR Part 60 Appendix A Method 19.
   8.4.2 An equivalent mass emission rate calculation method may be used if approved in advance by Ecology.
   8.4.3 Initial compliance demonstration with Condition 7.1.2 shall satisfy the initial compliance demonstration for Condition 7.2.2 for use of low-sulfur distillate fuel.

9. Continuous emission monitoring of SO$_2$ is not required.
   9.1 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 consistent with 40 CFR Part 75, Appendix D, or
   9.2 By an alternative fuel monitoring schedule that has been approved by USEPA.

10. H$_2$SO$_4$ emissions from each turbine exhaust stack shall:
    10.1 Shall not exceed 310 pounds (140 kg.) per day when burning distillate fuel having more than 0.01% sulfur-content by weight:
    10.2 Shall not exceed 88 pounds (40 kg.) per day when burning natural gas or low-sulfur distillate fuel.

11. Initial compliance for H$_2$SO$_4$ at each turbine stack:
    11.1 Shall be demonstrated for operation on distillate fuel not later than 60 days after the date this permit has become final.
11.2 PSE will submit a test plan to Ecology and NWAPA for approval at least 30 days prior to initial performance testing.

11.3 Initial compliance testing for Condition 10 shall be by EPA Reference Method 8 with incorporation of the procedures given in EPA Reference Method 6, Section 7.3 for elimination of ammonia interference, or an equivalent method approved in advance by Ecology or NWAPA.

11.4 Mass emission rates will be determined using the appropriate procedures outlined in 40 CFR Part 60 Appendix A Method 19 as modified for H$_2$SO$_4$.

11.5 An equivalent mass emission rate calculation method may be used if approved in advance by Ecology.

11.6 Initial compliance demonstration with Condition 10.1 will satisfy the initial compliance demonstration for Condition 10.2 for use of low-sulfur distillate fuel.

12. Emissions of particulate matter less than 10 micron diameter (PM$_{10}$) from each turbine exhaust stack shall not exceed 0.01 gr/dscf corrected to 15.0 percent oxygen one-hour average.

13. PM$_{10}$ emissions from each turbine exhaust stack shall not exceed 31.0 pounds (14.1 kg.) per hour.

14. Initial compliance for PM$_{10}$ emissions for each turbine exhaust stack:

14.1 Shall be demonstrated for operation on both natural gas and distillate fuel not later than 60 days after the date this permit has become final.

14.2 PSE will submit a test plan to Ecology and NWAPA for approval at least 30 days prior to initial performance testing.

14.3 Initial compliance testing for Condition 12 shall be by either EPA Reference Methods 5, 201, or 201A, plus Reference Method 202 or an equivalent method agreed to in advance by Ecology or NWAPA. Paragraph 2.2 of Reference Method 202 may be adapted to sulfates to account for ammonia interference.

14.4 Initial compliance for Condition 13 will be determined from the arithmetic mean of the PM$_{10}$ emissions source test results pursuant to Condition 14.3, converted to lbs. PM$_{10}$ per hour.

14.4.1 Mass emission rates will be determined using the appropriate procedures outlined in 40 CFR Part 60 Appendix A Method 19.

14.4.2 An equivalent mass emission rate calculation method may be used if approved in advance by Ecology.

15. Compliance with H$_2$SO$_4$ and PM$_{10}$ emissions limits from each turbine exhaust stack shall be monitored by source testing.

15.1 Source test methodology shall be the same for each respective pollutant as specified for initial compliance testing in Conditions 11, and 14 or equivalent methods agreed to in advance by Ecology or NWAPA.

15.2 Source testing shall be conducted not less frequently than annually until three
consecutive annual tests are in compliance with a specific pollutant's (H$_2$SO$_4$ or PM$_{10}$) emission limitations.

15.2.1 Source testing frequency for H$_2$SO$_4$ or PM$_{10}$ can be reduced to once every three years if the immediately previous three years' source test results have demonstrated compliance with each respective emissions compliance condition, and if agreed to in writing by Ecology or NWAPA.

15.2.2 If a source test for H$_2$SO$_4$ or PM$_{10}$ indicates noncompliance with the respective emissions compliance condition, the frequency of testing for the aberrant pollutant will return to Condition 15.2.

16. Continuous Emission Monitoring Systems: CEMS for NO$_x$, O$_2$, and (if used) exhaust gas flow rate compliance shall meet the requirements contained in 40 CFR 75, Emissions Monitoring.

17. Recordkeeping:

17.1 PSE shall retain the following records for each turbine for a period of five years:

17.1.1 Quarterly and annual (year to date) quantity summations of each type of fuel used and corresponding heat input rates.

17.1.2 Results from

17.1.2.1 All fuel sulfur analyses.

17.1.2.2 All fuel nitrogen analyses

17.1.2.3 All stack emissions tests.

17.2 Results of any monitor audits or accuracy checks.

17.3 The duration and nature of any monitor down time.

17.4 The date and time period that each turbine operates, with totals of daily, quarterly and annual hours of operation

17.5 PSE shall record the following for all times of operation:

17.5.1 Hourly average NO$_x$ concentrations pursuant to Conditions 3.

17.5.2 NO$_x$ mass emissions pursuant to Condition 4.

17.6 PSE shall have these records readily available for NWAPA and Ecology inspection upon request.

18. Reporting:

18.1 Quarterly to Ecology or NWAPA (unless a different testing and reporting schedule has been approved by Ecology or NWAPA) within thirty days of the end of each calendar quarter:

18.1.1 CEMS, stack test, and process data pursuant to Conditions 17.1 through 17.5 shall be reported in written (or electronic if permitted by Ecology or NWAPA) form.

18.1.2 Certification by the responsible party for the facility that the relevant
equipment was operated and maintained in accordance with the operational
parameters and practices developed pursuant to Condition 19.

18.1.3 Beginning with the issuance date of this permit and until 2,900,000 gallons of
distillate fuel having more than 0.01% sulfur-content by weight has been
consumed by all fuel-burning equipment at the Fredonia Generating Station or
otherwise removed from the facility,

18.1.3.1 Quarterly and total-to-date summations of the quantity of all
distillate fuel used in Fredonia Generating Station.

18.1.3.2 Quantity of distillate fuel having more than 0.01% sulfur-content by
weight in inventory at the Fredonia Generating Station

18.2 For parameters subject to monitoring under the Title IV Acid Rain program, the
reporting requirements shall be in accordance with the requirements of that program.

18.3 Each occurrence of monitored emissions in excess of the standard shall be reported in
accordance with the requirements of WAC 173-400-107(3) [effective 9/20/93], and
shall include the following:

18.3.1 For parameters subject to monitoring under the Title IV Acid Rain program,
the reporting requirements shall be in accordance with the requirements of
that program in addition to elements indicated in Condition 18.3.2, below.

18.3.2 For all pollutants:

18.3.2.1 The time of the occurrence.

18.3.2.2 Magnitude of the emission or process parameters excess.

18.3.2.3 The duration of the excess.

18.3.2.4 The probable cause.

18.3.2.5 Corrective actions taken or planned.

18.3.2.6 Any other agency contacted.

19. A site-specific operating and maintenance (O&M) manual for the Pratt & Whitney FT-8
Twin Pac simple-cycle duel-fuel fired combustion turbines installed pursuant to this permit
shall be developed and shall at a minimum include:

19.1 Manufacturers’ operating instructions and design specifications shall be included in
the manual.

19.2 Normal operating parameters and design specifications.

19.3 Maintenance schedule and procedures.

19.4 Updates to reflect any modifications of the equipment or its operating procedures.

19.5 Copies of the manuals available at the facility for Ecology or NWAPA.

20. This approval shall become invalid if

20.1 Construction of the project is not commenced prior to eighteen (18) months after
receipt of the final approval, or if
20.2 Construction of the facility is discontinued for a period of eighteen (18) months.

20.3 PSE may extend the 18 month period upon satisfactorily showing that an extension is justified, pursuant to 40 C.F.R. 52.21(r)(2) and applicable EPA guidance.

21. 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.

22. Adequate permanent and safe access to the test ports shall be provided. Other arrangements may be acceptable if approved by Ecology or NWAPA personnel prior to or during installation.

23. Any activity that is undertaken by the PSE Fredonia Power Generation Facility or others, in a manner which is inconsistent with the application and this determination, shall be subject to Ecology or NWAPA enforcement under applicable regulations. Nothing in this determination shall be construed so as to relieve PSE Fredonia Power Generation Facility of its obligations under any state, local, or federal laws or regulations.

24. The PSE Fredonia Power Generation Facility shall notify Ecology and NWAPA in writing at when the first electricity from that turbine is delivered to the electrical power grid.

25. Access to the source by Ecology and NWAPA or the authorized representative of Ecology and NWAPA 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.

Reviewed by:

Bernard Brady, P.E.
Technical, Information, and Engineering Services
Air Quality Program
Washington Department of Ecology

Approved by:

Mary E. Burg
Program Manager, Air Quality Program
Washington State Department of Ecology