IN THE MATTER OF

TransAlta Centralia Generation LLC
913 Big Hanaford Road
Centralia, Washington 98531

Pursuant to the United States Environmental Protection Agency (EPA) regulations for the Prevention of Significant Deterioration (PSD) set forth in Title 40, Code of Federal Regulations, Part 52 and regulations set forth in the Washington Administrative Code 173-400-141 and based upon the complete Notice of Construction Application (NOC) submitted by TransAlta Generation LLC on January 9, 2001, the additional information submitted on January 30, 2001, and March 26, 2001, the amendment submitted on August 16, 2002, and the technical analysis performed by the Department of Ecology (the department), the department now finds the following:

FINDINGS:

1. TransAlta Centralia Generation LLC proposes to construct and operate an electric power generation facility in Centralia, Washington.

2. This project consists of four, natural gas fired, combined cycle turbines with the capability of generating 188 megawatts (MW) of power and an 80 MW steam turbine for a total of 268 MW. In addition, an emergency diesel generator “Black Stop Generator” and an auxiliary boiler are part of this project.

3. Amendment 1 allows the originally proposed 3,500 pounds per hour (lb/hr) Cleaver Brooks Boiler to be replaced with a 17,250 lb/hr Superior Boiler Works.

4. This project is subject to the following New Source Performance Standards (NSPS): Subpart Db (Standards of Performance or Industrial – Commercial – Institutional Steam Generating Units); Subpart Dc (Standards of Performance or Industrial – Commercial – Institutional Steam Generating Units); and Subpart GG (Standards of Performance for Stationary Gas Turbines).

5. TransAlta Centralia Generation LLC is one of the 28 source categories subject to PSD permitting if potential emissions of a criteria pollutant exceed 100 tons per year.
6. TransAlta Centralia Generation LLC is a major stationary source that emits more than 100 tons of pollutants per year.

7. This project qualifies as a major modification because nitrogen oxides (NO\textsubscript{X}), particulate matter finer than 10 microns in diameter (PM\textsubscript{10}) and particulate matter (PM), have “significant” emissions increases that are greater than 40 tons per year, 15 tons per year and 25 tons per year, respectively.

8. The emissions of all other air pollutants from the proposed modification are subject to review under SWCAA 400 and Chapter 173-460 WAC by the Southwest Clean Air Agency.

9. TransAlta Centralia Generation LLC has elected to take a federally enforceable limit on the number of hours of operation the Black Stop Generator will operate.

10. The project will result in a potential to emit up to 111.4 tons per year of NO\textsubscript{X}.

11. This amendment allows for a 0.38 lb/hr and 1.63 tons per year increase in NO\textsubscript{X} emissions.

12. Water injection and Selective Catalytic Reduction has been determined to be Best Available Control Technology (BACT) for the control of NO\textsubscript{X} emissions from the turbines.

13. Selective Catalytic Reduction has been determined to be BACT for the control of NO\textsubscript{X} emissions from the duct burners.

14. Proper operation has been determined to be BACT for the control of NO\textsubscript{X} emissions from the Black Stop Generator.

15. Proper operation has been determined to be BACT for the control of NO\textsubscript{X} emissions from the Auxiliary boiler.

16. The project will result in a potential to emit up to 63.5 tons per year of particulate matter (PM) and particulate matter finer than 10 microns in diameter (PM\textsubscript{10}).

17. This amendment allows for a 0.13 lb/hr and 0.56 tons per year increase in PM and PM\textsubscript{10} emissions.

18. Good combustion practices in conjunction with pipeline quality natural gas has been determined to be BACT for the control of PM and PM\textsubscript{10} emissions from the turbines.

19. Good combustion practices in conjunction with pipeline quality natural gas has been determined to be BACT for the control of PM and PM\textsubscript{10} emissions from the duct burners.

20. The project is located in an area that has been designated Class II for the purposes of PSD evaluation. The nearest Class I Areas are identified in Table 1 below:
Class I Area | Distance (km)
--- | ---
Mount Rainier, National Park | 72.5
Olympic, National Park | 89.9
Goat Rocks, Wilderness Area | 98.1
Mount Adams, National Wilderness Area | 110.7
Alpine Lake, Wilderness Area | 134.6

**TABLE 1**

21. The project is located in an area that is currently designated in attainment for all national air quality standards and all state air quality standards.

22. The ambient impacts of the proposed increase in emissions were determined with the EPA's **CALPUFF** model with *Industrial Source Complex (ISC)* formatted data.

23. Table 2 below identifies the modeling results as compared to the Modeled Significance Level (MSL):

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Averaging Period</th>
<th>Maximum Concentration (µg/m³)</th>
<th>MSL (µg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Olympic NP</td>
<td>Mount Rainier NP</td>
</tr>
<tr>
<td>NO₂</td>
<td>Annual</td>
<td>0.003</td>
<td>0.005</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>24-hour</td>
<td>0.0555</td>
<td>0.0858</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Annual</td>
<td>0.00783</td>
<td>0.0106</td>
</tr>
</tbody>
</table>

**TABLE 2**

24. The project will have no significant impact on ambient air quality.

25. The project will not have a noticeable effect on industrial, commercial, or residential growth in the Centralia area.

26. There will be three days per year when the visibility will be impaired by more than five percent, but less than ten percent, at the Mount Rainier National Park.

27. The department finds that all requirements for PSD have been satisfied. Approval of the PSD application is granted subject to the following conditions.

**APPROVAL CONDITIONS:**

1. The combustion turbines, duct burners and auxiliary boiler shall be fueled by pipeline quality natural gas.

2. The Black Stop Generator shall not operate for more than 500 hours per year on a 12-month rolling total.
3. Emissions of nitrogen oxides (NO$_X$) from each heat recovery steam generator (HRSG) exhaust stack shall not exceed 3.0 parts per million on a dry volumetric basis (ppmdv) over a three hour average when corrected to 15.0 percent oxygen and 6.33 pounds per hour. Combined emissions of NO$_X$ from all four, heat recovery steam generators shall not exceed 23.1 pounds per hour over a twenty-four hour period. Initial compliance shall be measured in accordance with 40 CFR 60 Subpart GG and 40 CFR 60 Appendix A Method 20, except that the instrument span shall be reduced as appropriate.

4. Emissions of NO$_X$ from the auxiliary boiler shall not exceed 0.025 lb/MMBtu and 2.2 tons per year on a 12-month rolling summation calculated once per month. Initial compliance shall be measured in accordance with 40 CFR 60 Appendix A, Method 7E.

5. Emissions of NO$_X$ from the Black Stop Generator shall not exceed 32.2 lb/hr annual average and 8.0 tons per year on a 12-month rolling summation calculated once per month. Initial compliance shall be measured in accordance with 40 CFR 60 Appendix A Method 7E.

6. Emissions of particulate matter (PM) from each heat recovery steam generator (HRSG) exhaust stack shall not exceed 0.009 lb/MMBtu and 4.1 lbs. per hour. Combined emissions of PM from all four, heat recovery steam generators shall not exceed 14.3 pounds per hour. Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.

7. Emissions of PM from the auxiliary boiler shall not exceed 0.01 lb/MMBtu and 0.7 tons per year. Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.

8. Emissions of PM from the Black Stop Generator shall not exceed 0.94 lb/hr averaged over 24 hours. Initial compliance with the PM limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.

9. Emissions of particulate matter finer than 10 microns in diameter (PM$_{10}$) from each heat recovery steam generator (HRSG) exhaust stack shall not exceed 0.009 lb/MMBtu and 4.1 lbs. per hour. Combined emissions of PM$_{10}$ from all four, heat recovery steam generators shall not exceed 14.3 pounds per hour. Initial compliance with the PM$_{10}$ limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F. R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.
10. Emissions of PM$_{10}$ from the auxiliary boiler shall not exceed 0.01 lb/MMBtu and 0.7 tons per year. Initial compliance with the PM$_{10}$ limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F.R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.

11. Emissions of PM$_{10}$ from the Black Stop Generator shall not exceed 0.94 lb/hr averaged over 24 hours. Initial compliance with the PM$_{10}$ limit shall be measured in accordance with 40 C.F.R. Part 60 Appendix A Reference Method 5, 40 C.F.R. Part 51 Appendix M Reference Method 201 or 201A, or an approved alternative method. Additionally, 40 C.F.R. 51 Appendix M Reference Method 202 shall be used to measure condensable particulate matter.

12. Opacity from each heat recovery steam generator (HRSG) exhaust stack shall not exceed 5%, averaged over 6 consecutive minutes as measured by 40 CFR 60 Appendix A Method 9.

13. Compliance with Approval Condition 1 shall be monitored by affirming that only natural gas was burned.

14. Compliance with Approval Condition 2 shall be monitored by installing and using a nonresetable time totalizer to measure the hours of generator operation.

15. Compliance with the NO$_X$ emission limit from each Heat Recovery Steam Generator (HRSG) exhaust stack in Approval Condition 3 will be monitored by a Continuous Emission Monitor (CEM) for NO$_X$ and oxygen (O$_2$) meeting the performance specifications of 40 C.F.R. Part 60, Appendix B and quality control/quality assurance requirements of 40 C.F.R. Part 60, Appendix F.

15a. TransAlta shall develop and submit for Ecology’s approval a compliance plan for the NO$_X$ emission limit from the combined heat recovery steam generator (HRSG) exhaust stacks.

16. Compliance with Approval Conditions 4, 6, 7, 9 and 10 will be monitored by source testing for NO$_X$ and PM$_{10}$ (filterable as well as condensable) from each stack (except for NO$_X$ from the four HRSG exhaust stacks). Source testing shall be conducted once every two calendar years or 500 hours of operation, whichever is longer. Source testing for these parameters is to coincide with the Relative Accuracy Test Audit required for each installed CEM.

17. Compliance with Approval Condition 12 will be monitored by monthly observations by a certified visible emissions observer.

18. The short-term NO$_X$ emission concentrations (ppm) and mass emission rates (lbs/hr) do not apply during startup and shutdown periods. Emissions during startup and shutdown shall be counted towards compliance with the annual emission limits and shall be based upon vendor recommendations, source data, or other acceptable method of measuring excess emissions. The startup period ends when one hour has elapsed after fuel was combusted by the turbine.
19. Within 180 days after initial startup, TransAlta Centralia Generation LLC shall conduct performance tests for NO\textsubscript{X} and PM\textsubscript{10} from each turbine, the Black Stop Generator and the auxiliary boiler to be performed by an independent testing firm. A test plan shall be submitted to the Southwest Clean Air Agency and the department for approval at least 30 days prior to testing.

20. TransAlta Centralia Generation LLC shall report the following monitoring data to the Southwest Clean Air Agency and the department. It will be no longer necessary to report to the department when PSD compliance and enforcement has been delegated to the Southwest Clean Air Agency or the Southwest Clean Air Agency has issued a Title V permit.

a) Submit the performance test data from the initial performance test and the performance evaluation of the CEM’s using the applicable performance specifications in 40 C.F.R. Appendix B.

b) Submit a report within 30 days of the end of each quarter, or on another approved reporting schedule, and in the format approved by the department, including the following:

1) Calendar date,
2) Average hourly NO\textsubscript{X} emission rates,
3) Identification of any days for which NO\textsubscript{X} data were not obtained, including reasons for not obtaining sufficient data and description of corrective actions taken.

c) In addition, each monthly report shall include:

1) Days for which data was not collected,
2) Reasons for which data was not collected,
3) Identification of times when the pollutant concentration exceeds span of the CEM,
4) Description of any modifications to the CEM system that could affect the ability of the system to comply with performance specifications 2 or 3, and
5) Results of any CEM drift tests.

d) In addition, TransAlta Centralia Generation LLC shall maintain monitoring records on site for at least five years, and shall submit:

1) Excess emission reports to the department and Southwest Clean Air Agency as appropriate, and
2) Results of any compliance source tests.

21. Within 90 days of startup, TransAlta Centralia Generation LLC shall identify operational parameters and practices that will constitute proper operation of the Black Stop Generator and good combustion practices for the turbines and duct burners. These operational parameters and practices shall be included in an Operation and Maintenance manual (O&M)
manual for the facility. The O&M manual shall be maintained by TransAlta Centralia Generation LLC and shall be available for review by state, federal and local agencies.

22. Any activity which is undertaken by the company or others in a manner which is inconsistent with the application and this determination shall be subject to enforcement under the applicable regulations.

23. Access to the source by the Environmental Protection Agency, state, and local regulatory personnel shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.

24. This approval shall become invalid if construction of the project is not commenced within eighteen (18) months after receipt of the final approval, or if construction of the facility is discontinued for a period of eighteen (18) months, unless TransAlta Centralia Generation LLC extends 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.

Prepared by:

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