NORTHWEST
AIR POLLUTION AUTHORITY

1600 South Second Street
Mount Vernon, WA 98273-5202
Tel: (360) 428-1617 / Fax: (360) 428-1620

Serving Island, Skagit and Whatcom Counties

April 2, 1993

Revision: July 22, 1997

Lori Komatar
Manager, Environmental Services
Northwest Pipeline Corporation
P.O. Box 58900
Salt Lake City, Utah 84158-0900

ORDER OF APPROVAL TO CONSTRUCT No. 320

Dear Ms. Komatar:

On April 9, 1991 Northwest Pipeline Corporation submitted a "Notice of Construction and Application for Approval" to construct and operate one Solar Turbine Centaur T4500, rated at 4,390 horsepower, to supplement compressing capacity. The turbine will be located at the existing Mount Vernon station on Lange Road in Skagit County.

An original Order of Approval to Construct was issued on July 15, 1992 prior to the issuance of the PSD permit No. 93-01. Following PSD approval, NWAPA issued a modified Order of Approval reflecting new conditions for nitrogen oxide (NO_x) emissions. The modification included two different NO_x emission standards with one standard reflecting emissions prior to installation of low-NO_x burners and the second standard corresponding to emissions after the retrofit. The permit was revised again on May 8, 1995 to incorporate carbon monoxide (CO) and nonmethane hydrocarbon (NMHC) emission standards and change reporting requirements. This permit revision, dated July 22, 1997, specifies stack testing requirements for compliance demonstration, less frequent reporting requirements, a new hourly averaging period for the NO_x emission standard, and a different correction factor for the CO and NMHC emission standards.

The information submitted was reviewed to determine that all known available and reasonable air pollution control measures would be employed. The project was reviewed and evaluated for compliance with NWAPA Regulation Section 302, WAC 173-400-110, WAC 173-460 and CFR Title 40 Part 60 Subpart GG. The Northwest Air Pollution Authority adopted the NEPA Environmental Impact Statement on June 5, 1992.

You are hereby granted approval to construct and operate the one 4,390 horsepower Solar Turbine Centaur T4500 subject to the following conditions:

1. The project shall be constructed and operated in accordance with the information submitted in the Notice of Construction and Application for Approval.

2. The turbine is subject to the applicable standards of Title 40 CFR 60 Subpart GG.

3. Pollutant concentrations from the gas turbine stack shall not exceed the following:

   a. Nitrogen Oxides (NO_x) - 160.5 ppm corrected to 15% O_2 ISO* standard conditions, 30 day rolling average.

   b. Carbon Monoxide (CO) at or above 32° F - 50 ppm corrected to 15% O_2, one hour average. Below 32° F - 120 ppm corrected to 15% O_2, one hour average.

   c. Nonmethane Hydrocarbons - 25 ppm corrected to 15% O_2, one hour average.

4. Beginning July 1, 1995 the NO_x concentration in the exhaust stack shall not exceed 42 ppm corrected to 15% O_2 and ISO* standard conditions on a one hour average basis except during idling conditions.

5. Idling time shall not exceed 30 hours per month.

6. Pollutant emission rates from the turbine stack shall not exceed the following:

a.	Nitrogen Oxides - until 06-30-95	19.4 lb/hr	85.0 T/yr
	Beginning 07-01-95	7.1 lb/hr	30.3 T/yr
b.	Carbon Monoxide - at or above 32° F	5.0 lb/hr	27 T/yr
	below 32° F	12.0 lb/hr	27 T/yr
c.	Volatile Organic Compounds	1.5 lb/hr	6.1 T/yr

7. The nitrogen oxide emissions from the significant (as per WAC 173-401 definition) emission units, both existing and new equipment, shall not exceed 716.7 tons for any twelve consecutive months after start-up of the Solar Centaur T4500.

8. Opacity from the turbine stack shall not exceed five percent (5%) as measured by EPA Reference Method 9.

*ISO standard conditions are defined as 288 degrees K, 60 percent relative humidity, and 101.3 kilo Pascals pressure.

9. Compliance monitoring shall be performed on the turbine stack and the reciprocating engines according to the following schedule:

   a. The gas turbine stack shall be tested for NO_x (EPA Method 20), CO (EPA Method 10), and NMHC (EPA Method 25) emissions in 1997 and again in 1998 (within one quarter of the 1997 test anniversary). After analysis of two years of test data, annual testing frequency may be reduced if authorized by the NWAPA.

   b. One of the two identical reciprocating engines shall be tested for NO_x (EPA Method 7A-7E) emissions once every five years, with the first test performed in 1997.

All test records shall be kept on site for a minimum of two years and made available to the NWAPA for inspection. A test plan shall be submitted to the NWAPA at least 30 days prior to testing.

10. An initial compliance test on the temporary combustor shall be conducted by an independent testing firm for NO_x (EPA Method 20), CO (EPA Method 10), and NMHCs (EPA Method 25) within 60 days after achieving maximum production but no later than 180 days after start-up. A test plan shall be submitted to the NWAPA at least 30 days prior to testing.

11. A compliance test for NO_x (EPA Method 20), CO (EPA Method 10), and NMHCs (EPA Method 25) shall be conducted by an independent testing firm after retrofitting to a low NO_x combustor, but no later than July 1, 1995. A test plan shall be submitted to the NWAPA at least 30 days prior to testing.

12. The turbine shall burn pipeline grade natural gas only.

13. Sampling ports and platforms shall be provided for the stack in conformance with 40 CFR, Part 60, Appendix A Method 20. Adequate and safe access to the test ports shall be provided.

14. The results of any stack tests performed on the gas turbine or reciprocating engines will be submitted to the NWAPA within 45 days after the end of a quarter in which the stack tests were performed.

15. Within 45 days following each quarter, a report shall be submitted to the NWAPA summarizing the number of pounds of NO_x emitted from each significant unit (as defined in WAC 173-401), both existing and new equipment, per month in the quarter and as a twelve consecutive month rolling sum.

16. An operation and maintenance manual that identifies acceptable operation and maintenance procedures that will ensure compliance with applicable air pollution rules and regulation shall be submitted to the NWAPA prior to start-up. Failure to follow the procedures outlined may be considered proof that the equipment was not properly maintained.

17. Odors from this source shall not be detected off-site that may result in a nuisance as determined by NWAPA personnel.

Final approval to operate shall be conditioned upon the facility meeting the requirements described above and conditions set forth in the application and the applicable air pollution control regulations, when in actual operation.

Please notify me when the installation is complete and provide the expected date that you propose to begin operating the facility. An on-site inspection may be required before start-up and again after the process has operated for a period of time. A "Certificate of Approval to Operate" will be issued after we determine that the process was installed in accordance with the plans and specifications submitted with the application and can operate in compliance with the regulations of this Authority and the conditions of approval.

Please call me if you have any questions about the approval of this project.

Sincerely,

James Randles for

Terryl L. Nyman
Air Pollution Control Officer

Reviewed: Anne Naismith, P.E. A.N.

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
P.O. Box 47600 • Olympia, Washington 98504-7600
(360) 407-6000 • TDD Only (Hearing Impaired) (360) 407-6006

May 20, 1998

Mr. Kirt Rhoads
Williams Pipelines - West
295 Chipeta Way
Salt Lake City, UT 84158-0900

Dear Mr. Rhoads:

The Department of Ecology and EPA have approved the amended Prevention of Significant Deterioration permits for the Northwest Pipeline's Mt. Vernon and Sumas Compressor stations. The permit numbers are PSD 93-01 Amendment #1 and PSD 92-04 Amendment #1 respectively. Enclosed are the original, signed permits.

If I can be of any further assistance, please feel free to contact me at (360) 407-6812.

Sincerely,

Alan R Newman P.E.

for Robert C. Burmark
Air Quality Program

RB:kh
Enclosure

Cc: Annie Naismith, NWAPA
Ray Nye, EPA
Bob Bachman, NFS
Barbara Samora, NPS

WASHINGTON DEPARTMENT OF ECOLOGY
P.O. Box 47600
OLYMPIA, WASHINGTON 98504-7600

IN THE MATTER OF:	]	**NO. PSD-93-01 AMENDMENT # 1**
	]	**FINAL APPROVAL**
Northwest Pipeline Company	]	**OF PSD APPLICATION**
Mount Vernon Compressor Station	]	
Mount Vernon, Washington	]	

Pursuant to the U.S. Environmental Protection Agency (EPA) regulations for the Prevention of Significant Deterioration (PSD) set forth in Title 40, Code of the Federal Regulations, Part 52 and based upon the complete Prevention of Significant Deterioration application submitted by the Northwest Pipeline Company dated March 1991, and the technical analysis performed by the Department of Ecology (Ecology) dated September 30, 1992, Ecology now finds the following:

FINDINGS

1. PSD 93-01 granted the Northwest Pipeline Company (NWP) approval to modify its compressor station located at Mount Vernon, Washington. NWP operates a natural gas pipeline system that reaches from the Canadian border near Sumas, Washington, to the San Juan Gas Fields in New Mexico. The modification consisted of the addition of one Centaur T4500 gas-fired turbine (Unit 3) which has an ISO rating of 4390 horsepower (HP) and is manufactured by Solar Turbines, Incorporated. Based on amount of future gas deliveries from the main line and its associated lateral lines identified by the customers of NWP as a part of their future planning, NWP predicted a large increase in the demand for natural gas from the pipeline system. To meet these demands, NWP added the Solar Centaur T4500 gas turbine to augment the existing reciprocating engines, and to expand its pipeline system. The existing compressors consisted of two 4,000 HP gas-fired Clark TCV-12 reciprocating engines (Units 1-2). NWP submitted a Prevention of Significant Deterioration application in March 1991. Additional information was required to complete the review, and it was submitted on January 10, July 9, September 21, 1992, and January 23, 1993. Ecology determined the application to be complete on February 4, 1993. PSD 93-01 received final approval on August 13, ~~1992~~ 1993. On July 9, 1996, NWP requested the department modify the monitoring requirements for NO_x. Northwest Air Pollution Authority (NWAPA) also requested several changes to make the permit fit better into Title V.

2. NWP's Mount Vernon compressor station qualifies as a major source of air pollutants because it has the potential to emit more than 250 tons per year of nitrogen oxides (NO_x). The expansion project was a major modification of Mount Vernon compressor station because it had the potential of increasing emissions of NO_x by more than the significant emission rate of 40 tons per year. It is in an area designated as Class II for the purposes of PSD evaluation, under 40 CFR 51.24.

3. The site of the modification is within an area that is in attainment with regard to all pollutants regulated by the national ambient air quality standards.

4. The emissions of NO_x from the modification of the Mount Vernon compressor station were subject to PSD review.

5. The emissions of all other air pollutants from the modification were subject to new source review required by Chapter 173-400 WAC, Section 110, "General Regulation for Air Pollution Sources - New Source Review". Northwest Air Pollution Authority (NWAPA) conducted the new source review on all air pollutants except NO_x.

6. NWP used Best Available Control Technology (BACT) for all PSD reviewable air pollutants.

7. The manufacturer of the Centaur T4500 turbine, Solar Turbines, Incorporated, was developing a dry low NO_x combustor for the turbine in 1992. NWP committed to having the dry low NO_x combustor in service by January 1, 1995.

8. The initial modification of the Mount Vernon compressor station (Unit 3) generated up to 85 tons per year of nitrogen oxides (NO_x). After installation of the dry low NO_x combustor, the unit generated up to 30.3 tons per year of NO_x. The installation of dry low NO_x combustor reduced the potential NO_x emissions by about 55 tons per year (64%). The actual emissions from the existing sources (Units 1-2) were 117.8 tons for 1990, and 229.2 tons for 1991.

9. The modification resulted in less than significant increase as defined by PSD of all other pollutants.

10. The project has no significant adverse impact on air quality as defined by PSD.

11. Odors from the facility will be kept to a reasonable minimum.

12. No noticeable effect on industrial, commercial, or residential growth in the Mount Vernon area is anticipated due to the project.

13. The project will not impair visibility in any Class I area. Screening analyses showed no significant visibility degradation resulting from the modification.

14. Ecology finds that all requirements for PSD are satisfied. Approval of the PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS

1. NO_x emissions from the exhaust stack of the proposed Unit 3 of the Mount Vernon compressor station shall not exceed 160 ppm corrected to 15 percent oxygen and ISO (ISO standard day conditions denote 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilo Pascals pressure) conditions on a 30 day rolling average. Compliance shall be determined by EPA Reference Method 20. NO_x emissions from the Unit 3 shall not exceed 85 tons per year.

2. NWP shall install dry low NO_x combustors on Unit 3 by January 1, 1995. After July 1, 1995, NO_x emissions from the exhaust stack of Unit 3 of Mount Vernon compressor station shall not exceed 42 ppm corrected to 15 percent oxygen and ISO conditions on a 1 hour average except during the turbine idling condition. The idling period shall not exceed thirty (30) hours per month. NWP may propose to Ecology for approval an alternate NO_x concentration standard for loads outside the range of 70 to 100 percent base load. NO_x emissions from Unit 3 shall not exceed 30.3 tons per year.

Compliance shall be determined by EPA Reference Method 20 or by a Continuous Emission Monitoring System (CEMS) meeting the requirements of Condition 7 below. NWP may propose alternative means for continuous assessment and reporting of NO_x emissions. An alternative method may use valid source testing results, emission factors or relationships, operating

parameters, and hours of operation to calculate NOx emissions. The alternative method shall be submitted to Ecology for review and approval before implementation. Source testing shall be performed annually. After the first two years of source testing, the annual testing frequency may be reduced if approved by Ecology.

3. The twelve month total NO_x emissions from NWP Mount Vernon facility shall not exceed 716.7 tons for any twelve consecutive months. The emissions from Units 1-2 shall be determined based on load and emission factors in AP-42 which is an EPA document entitled "Compilation of Air Pollutant Emission Factors", or other data approved by Ecology. Ecology approves the use of an EPA Method 7 (Method 7 through 7E) stack test on one of the two identical reciprocating engines once every five years to establish both units NO_x load and emission factors.

4. Within sixty days after achieving maximum production, but not later than 180 days after start-up of the temporary combustor, NWP shall conduct performance tests for NO_x at the modified facility. The test must be performed by an independent testing firm and reported to Ecology within 60 days after the test completion. NWP shall submit a test plan for Ecology's approval at least 30 days before the testing.

5. By July 1, 1995, NWP shall conduct performance tests for NO_x on Unit 3 at the modified facility. The test must be performed by an independent testing firm and, reported to Ecology within 60 days after the test completion. NWP shall submit a test plan for Ecology's approval at least 30 days prior the testing.

6. Sampling ports and platforms must be provided for each affected source after the final pollution control device. The ports must meet the requirements of 40 CFR, Part 60, Appendix A Method 20. An adequate and safe access to the test ports must be provided. Other arrangements may be acceptable if approved by Ecology before installation.

7. By January 1, 1995, NWP shall install a continuous emission monitoring system (CEMS) to determine compliance with NO_x requirements, unless they opt to use an approved alternative continuous emissions monitoring method described in Condition 2 above. A quality control plan for the monitoring method shall be submitted to the department for approval before the method

is implemented. For CEMS, the plan shall conform with 40 CFR 60 Appendix F. For an equivalent continuous monitoring system, the plan shall be equivalent in scope and effect to that appendix. Ecology may require NWP to periodically update the Plan.

8. NWP shall report CEMS (or approved NWP alternative emissions monitoring methodology) data required in Conditions 1, 2 and 3 to Ecology at least quarterly (unless a different testing and reporting schedule has been approved by Ecology) within forty five days of the end of each quarter and in a format approved by Ecology that may include but not be limited to the following:

   a. Process or control equipment operating parameters.
   b. Operating hours and emissions for each pollutant monitored.
   c. The duration and nature of any monitor down time.
   d. Results of any monitor or stack tests.

   For each occurrence of monitored (by CEMS or approved NWP alternative methodology) emissions in excess of the standard the report shall include the following:

   a. The time of the occurrence.
   b. Magnitude of the emission or process parameters excess.
   c. The duration of the excess.
   d. The probable cause.
   e. Any corrective actions taken or planned.
   f. Any other agency contacted.

9. Operation and maintenance manuals for all equipment that has the potential to affect emissions to the atmosphere shall be developed and followed. Emissions that result from a failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained.

10. Operation and maintenance of the equipment must be conducted in compliance with all performance data and specifications submitted as part of the PSD application unless otherwise approved by Ecology.

11. This approval shall become void if construction of the project is not commenced within eighteen (18) months after receipt of final approval, or if construction or operation of the facility is discontinued for eighteen (18) months.

12. Any activity undertaken by NWP or others, in a manner that is inconsistent with the application and this determination, shall be subject to department or NWAPA enforcement under applicable regulations. Nothing in this determination shall be construed to relieve NWP of its obligations under any state, local, or federal laws or regulations.

13. NWP shall notify Ecology in writing at least thirty days before the start-up of Unit 3.

14. Access to the source by the EPA, department or NWAPA shall be permitted upon request for the purpose of compliance assurance inspections. Failure to allow access is grounds for enforcem

REVIEWED BY:

May 6, 1998
Date

Robert C. Burmark
Robert C. Burmark, PE
Air Quality Program
Washington Department of Ecology



EXPIRES 1-4-00

APPROVED BY:

May 6, 1998
Date

for Joseph R. Williams, Manager
Air Quality Program
Washington Department of Ecology

May 11, 1998
Date

Anita J. Frankel, Director
Office of Air
U.S. EPA, Region 10

FACT SHEET

Northwest Pipeline Company Mount Vernon Compressor Station
PSD Permit 93-01 Amendment # 1
May 5, 1998

1. THE PSD CHANGE PROCESS

Prevention of Significant Deterioration (PSD) permit "changes" are classified by Environmental Protection Agency guidance into four categories. In order of increasing importance or magnitude, changes are considered: administrative, minor, significant and fundamental. An administrative change involves no increase in either emissions or ambient impacts and no fundamental change in either the source or one of the emission units at that source. This permit change falls into that category.

2. PERMIT HISTORY

Northwest Pipeline Corporation (NWP) obtained PSD 93-01 in 1993 for the addition of one Centaur T4500 gas fired turbine (Unit 3). This allowed them to expand the natural gas pumping capacity of the Mt. Vernon station. The two existing compressors were driven by two 4,000 HP gas-fired Clark TCV-23 reciprocating engines (Units 1-2). The potential NOx emissions increase created by the turbine (88 tons/year) was "significant" and made NOx a PSD applicable pollutant. Only the turbine NOx emissions were PSD applicable, and were permitted by the Washington State Department of Ecology. All other turbine and reciprocating engine emissions were permitted under minor new source review by the local air pollution control agency, Northwest Air Pollution Authority (NWAPA).

At the time of permitting, it was agreed that a low NOx emitting turbine burner, then under development, would be retrofitted to the turbine when available. This burner change was completed by the permit deadline of January 1, 1995. Turbine NOx emissions were reduced to 42 parts per million dry volume at ISO day conditions, and 30.3 tons/year. The station's total annual NOx limit is 716.7 tons per year for any twelve consecutive months.

The original permit allowed NOx monitoring by either Continuous Emission Monitors (CEMS) or by an alternative method approved by Ecology. NWP first installed a predictive emissions monitoring (PEMS) system under this option. In 1996, NWP proposed a second alternative NOx monitoring system. Source testing had shown that if the turbine burners were operating properly, the turbine emissions met permit limits. Continuous monitoring of the turbine operating parameters to insure that it was operating as designed, backed up by periodic source testing, would provide assurance that the turbine was operating within permitted limits. If an indication of out of range operation occurred, corrective action would be taken immediately to bring operating parameters back into normal range. When operating parameters trigger an action, it does not imply a permit violation, but is an indication of a need for corrective action.

The alternative monitoring strategy would be referenced generally in the PSD permit, and detailed in the Ecology approved monitoring plan. The site's Title V permit would also contain more monitoring details.

3. THIS CHANGE, "Modification 1"

PSD 93-01 is being modified at the request of both NWP and NWAPA. NWP wanted to simplify the protocol for NOx measurement from the PEMS system to a protocol based on annual testing, process operating parameters, and hours of operation. This is allowable under provisions of the original permit, but

both agencies wanted that provision clarified to better fit within the site's Title V permit. NWAPA also wanted to include further changes that would improve implementation of the site's Title V permit. NOx is the only pollutant that is subject to PSD. All others are subject to minor new source review by the local air pollution control authority.

Ecology, NWAPA, EPA Region 10, and NWP met in June 1996 to discuss and agree on simplified NOx monitoring protocols. That meeting and further discussions led to the following changes to the permit:

1. Add information on the amendment process to the permit.
2. Change many of the verb tenses of the original permit to reflect activities already accomplished under the original permit, and simplify some wording.
3. Add a specific sentence in Approval Condition 2 listing a monitoring option based on annual stack testing, operating parameters, and hours of operation, with specific details in an Ecology approvable monitoring plan.
4. Clarify source testing frequency requirements.
5. Reduce the NOx averaging period from a rolling 24-hour to a one-hour average. This more closely resembles the Method 20 source test protocol's averaging period.
6. Conduct stack testing once per 5-year period on one of the two identical existing reciprocating engines to better establish NOx emission factors for them. NWP volunteered to do this additional task. Until now, NOx emissions from these grandfathered units were estimated using AP 42 factors. These two reciprocating engines are the major source of NOx emissions from this site.
7. Reduce emissions reporting from monthly to quarterly. This coordinates reporting requirements with that planned for the Title V permit.

No emissions increases are allowed by this amendment.

No Best Available Control Technology (BACT) provisions were triggered by this amendment.

Public involvement is not required because there are no substantive changes to the permit and no permitted emissions increases resulting from this amendment.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
Northwest Regional Office, 3190 - 160th Ave S.E. • Bellevue, Washington 98008-5452 • (206) 649-7000

July 30, 1993

Lori Komatar
Northwest Pipeline Corporation
PO Box 58900
Salt Lake City, Utah 84158-0900

Dear Ms. Komatar:

The Department of Ecology has approved the Northwest Pipeline's Prevention of Significant Deterioration application for Mount Vernon Compressor Station.

Enclosed is a copy of the final approval. There were no comments during the public review period, and there are no changes from the draft to the final approval.

If I can be of any further assistance on the matter, please feel free to contact me at (206) 649-7109.

Sincerely,

Serap Erdal Brush, Ph.D.
Engineering and Technical Services
Air Quality Program

SE:mjm
Enclosure

cc: Terry Nyman, NWAPA
Jim McCormick, EPA
Bob Bachman, National Forest Service
Shirley Clark, National Park Service
Skagit County Commissioners
Ray Reep, Mount Vernon
William Stendal, Sedro-Woolley
Raymand C. Henery, Burlington

WASHINGTON DEPARTMENT OF ECOLOGY
MAIL STOP PV-11
OLYMPIA, WASHINGTON 98504

IN THE MATTER OF:	]	NO. PSD-93-01
	]	FINAL APPROVAL
Northwest Pipeline Company	]	OF PSD APPLICATION
Mount Vernon Compressor Station	]	
Mount Vernon, Washington	]	

Pursuant to the U.S. Environmental Protection Agency (EPA) regulations for the Prevention of Significant Deterioration (PSD) set forth in Title 40, Code of the Federal Regulations, Part 52 and based upon the complete Prevention of Significant Deterioration application submitted by the Northwest Pipeline Company dated March 1991, and the technical analysis performed by the Department of Ecology (Ecology) dated September 30, 1992, Ecology now finds the following:

FINDINGS

1. The Northwest Pipeline Company (NWP) is proposing a modification to its compressor station located at Mount Vernon, Washington. NWP operates a natural gas pipeline system that reaches from the Canadian border near Sumas, Washington to the San Juan Gas Fields in New Mexico. The proposed modification consists of the addition of one Centaur T4500 gas-fired turbine (Unit 3) which has an ISO rating of 4390 horsepower (HP) and is manufactured by Solar Turbines, Incorporated. Based on amount of future gas deliveries from the main line and its associated lateral lines identified by the customers of NWP as a part of their future planning, NWP predicts a large increase in the demand for natural gas from the pipeline system. To meet these demands, NWP is proposing to add the Solar Centaur T4500 gas turbine to augment the existing reciprocating engines, and to expand its pipeline system. The existing compressors consist of two

4,000 HP gas-fired Clark TCV-12 reciprocating engines (Units 1-2). NWP submitted a Prevention of Significant Deterioration application in March, 1991. Additional information was required to complete the review, and it was submitted on January 10, July 9, September 21, 1992, and January 23, 1993, Ecology determined the application to be complete on February 4, 1993.

2. NWP's Mount Vernon compressor station qualifies as a major source of air pollutants because it has the potential to emit more than 250 tons per year of nitrogen oxides (NO_X). The expansion project will be a major modification of Mount Vernon compressor station because it has the potential of increasing emissions of NO_X by more than the significant emission rate of 40 tons per year. It will be located in an area designated as Class II for the purposes of PSD evaluation, under 40 CFR 51.24.

3. The site of the proposed modification is within an area that is in attainment with regard to all pollutants regulated by the national ambient air quality standards.

4. The emissions of NO_X from the proposed modification of the Mount Vernon compressor station are subject to PSD review.

5. The emissions of all other air pollutants from the proposed modification are subject to new source review required by Chapter 173-400 WAC, Section 110, "General Regulation for Air Pollution Sources - New Source Review". Northwest Air Pollution Control Authority (NWAPA) shall conduct the new source review on all air pollutants except NO_X.

6. NWP will use the Best Available Control Technology (BACT) for all PSD reviewable air pollutants.

7. The manufacturer of the Centaur T4500 turbine, Solar Turbines, Incorporated, is presently developing a dry low NO_X combustor for the turbine. Solar Turbines, Inc. has committed to the dry low NO_X combustor. NWP has committed to having the dry low NO_X combustor in service by January 1, 1995.

8. The proposed modification of the Mount Vernon compressor station (Unit 3) would generate up to 85 tons per year of nitrogen oxides (NO_X). After installation of the dry low NO_X combustor, the

units would generate 30.3 tons per year of NO_x. The actual emissions from the existing sources (Units 1-2) were 117.8 tons for 1990, and 229.2 tons for 1991. The installation of dry low NO_x combustors in 1995 will reduce the potential NO_x emissions by about 55 tons per year (64%).

9. The modification will result in less than significant increase as defined by PSD of all other pollutants.
10. The project will have no significant adverse impact on air quality as defined by PSD.
11. Odors from the facility will be kept to a reasonable minimum.
12. No noticeable effect on industrial, commercial, or residential growth in the Mount Vernon area is anticipated due to the project.
13. The proposed project will not impair visibility in any Class I area. Screening analyses showed no significant visibility degradation resulting from the modification.
14. Ecology finds that all requirements for PSD are satisfied. Approval of the PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS

1. NO_x emissions from the exhaust stack of the proposed Unit 3 of the Mount Vernon compressor station shall not exceed 160 ppm corrected to 15 percent oxygen and ISO (ISO standard day conditions denote 288 degrees Kelvin, 60 percent relative humidity and 101.3 kilo Pascals pressure) conditions on a 30 day rolling average. Compliance shall be determined by EPA Reference Method 20. NO_x emissions from the Unit 3 shall not exceed 85 tons per year.
2. NWP shall install dry low NO_x combustors on Unit 3 by January 1, 1995. After July 1, 1995, NO_x emissions from the exhaust stack of Unit 3 of Mount Vernon compressor station shall not exceed 42 ppm corrected to 15 percent oxygen and ISO conditions on a 24 hour rolling average except during the turbine idling condition. The idling period shall not exceed thirty (30) hours per month. Compliance shall be determined by EPA Reference Method 20 or by a Continuous Emission Monitoring System(CEMS). NWP may propose alternative means for continuous assessment and reporting of NO_x emissions for approval by Ecology. Any proposed alternative

NO_X reporting shall be at a minimum equivalent to a CEMS that meets the requirements of Condition 8. After 1994, NWP may propose to Ecology for approval an alternate NO_X concentration standard for loads outside the range of 70 to 100 percent base load. NO_X emissions from Unit 3 shall not exceed 30.3 tons per year.

3. The twelve month total NO_X emissions from NWP Mount Vernon facility shall not exceed 716.7 tons for any twelve consecutive months. The emission from Unit 3 shall be determined by the monitoring system in Condition 8. The emissions from Units 1-2 shall be determined based on load and emission factors in AP-42 which is an EPA document entitled "Compilation of Air Pollutant Emission Factors", or other data approved by Ecology.

4. With the exception of NO_X, emissions of any pollutant regulated under the Clean Air Act shall be less than the significant levels in 40 CFR 52.21(b)(23)(i).

5. Within sixty days after achieving maximum production, but not later than 180 days after start-up of the temporary combustor, NWP shall conduct performance tests for NO_X at the modified facility. The test must be performed by an independent testing firm and reported to Ecology within 60 days after the test completion. NWP shall submit a test plan for Ecology's approval at least 30 days before the testing.

6. By July 1, 1995, NWP shall conduct performance tests for NO_X on Unit 3 at the modified facility. The test must be performed by an independent testing firm and, reported to Ecology within 60 days after the test completion. NWP shall submit a test plan for Ecology's approval at least 30 days prior the testing.

7. Sampling ports and platforms must be provided for each affected source after the final pollution control device. The ports must meet the requirements of 40 CFR, Part 60, Appendix A Method 20. An adequate and safe access to the test ports must be provided. Other arrangements may be acceptable if approved by Ecology before installation.

8. By January 1, 1995, NWP shall install a continuous emission monitoring system (CEMS) to determine compliance with NO_X requirements. The system shall be subject to prior approval by

NORTHWEST AIR POLLUTION AUTHORITY
NWAPA

302 Pine Street, #207 Mount Vernon, Washington 98273-3852
(206) 428-1617 Scan 542-1617

March 28, 1991

H. Lee Bauerle
Environmental Services
Northwest Pipeline Corporation
P.O. Box 8900
Salt Lake City, Utah 84108-0899

Order of Approval #311A

Dear Mr. Bauerle:

On January 14, 1991 you submitted a "Notice of Construction and Application for Approval" to install and operate a 5.25 MMBTU/hour natural gas boiler to provide building heat and pre-heat jacket water of compressor engines at the Mount Vernon Pumping Station, 1539 Lange Road, Mount Vernon, Washington.

The information submitted was reviewed to determine that all known available and reasonable air pollution control measures would be employed. The project was reviewed subject to NWAPA Regulation Section 302 and Washington Administrative Code 175-403-050. You are granted approval to construct subject to the following conditions:

1. The project shall be constructed and operated in accordance with the information submitted in the Notice of Construction.

2. The boiler shall only burn natural gas.

3. Fuel consumption data shall be made available to the NWAPA upon request.

4. Payment of the plan and examination fee shall be received prior to start-up.

Final approval to operate will be conditioned upon facility meeting the requirements described above and conditions set forth in the application and the applicable air pollution control regulations, when in actual operation.

Please notify me, in writing, when the installation is complete and provide the expected date that your propose to begin operating the facility. An on-site inspection may be required before start-up and again after the process has operated for a period of time. A "Certificate of Approval to Operate" will be issued after we determine that the process was installed in accordance with the plans and specifications submitted with the application and can operate in compliance with the regulations of this Authority and the conditions of approval.

Please call me if you have any questions about the approval of this project. A statement is enclosed for the plan, examination and inspection fee and the legal publication costs in the amount of $283.00.

Sincerely,

Terryl L. Nyman
Air Pollution Control Officer

TLN(JR):sj

NORTHWEST AIR POLLUTION AUTHORITY
NWAPA

302 Pine Street, #207 Mount Vernon, Washington 98273-3852
(206) 428-1617 Facsimile (206) 428-1620

21 October, 1992

Lori Komatar
Manager, Environmental Services
Northwest Pipeline Corporation
295 Chipeta Way
Salt Lake City, Utah 84158

ORDER OF APPROVAL TO CONSTRUCT # 402

Dear Ms. Komatar:

On September 18, 1992 Northwest Pipeline Corporation submitted a "Notice of Construction and Application for Approval" to construct and operate a 250 kilowatt standby emergency generator, and a 2.5 MBtu/hr gas-fired boiler at the existing Mt. Vernon compressor station.

The information was reviewed to determine that all known, available, and reasonable air pollution control measures would be employed. The project was reviewed subject to NWAPA regulation Section 302 and WAC 173-400-110. The NWAPA adopted the NEPA Northwest Pipeline Expansion Project Environmental Impact Statement on June 5, 1992.

You are hereby authorized to construct and operate the boiler and standby generator subject to the following conditions:

1. The project shall be constructed and operated in accordance with the information submitted with your application dated September 9, 1992.

2. Visible opacity from the gas-fired boiler and standby generator exhaust shall not exceed 5 percent for more than 6 minutes in any one hour period as measured by EPA method 9.

3. An operation and maintenance plan shall be made available to operators.

Representing Island, Skagit and Whatcom Counties

BOARD OF DIRECTORS

Chairman: Tim Douglas, Mayor, Bellingham - Cities & Towns, Whatcom County
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Terryl L. Nyman, Air Pollution Control Officer
James B. Randles, Assistant Air Pollution Control Officer

4. The boiler and emergency generator will burn only natural gas.

5. The standby emergency generator is limited to no more than 200 hours of operation per year.

6. An annual inventory of fuel usage and hours of operation must be maintained for both the boiler and the standby generator.

7. You are required to notify NWAPA when the installation is complete and the unit begins operation.

8. A plan examination and review fee of $100.00 is due and payable prior to start up.

Please notify me, in writing, when the installation is complete. An on-site inspection may be required before initial start-up. A "Certificate of Approval to Operate" will be issued after we determine that the process was installed in accordance with the plans and specifications submitted with the application and can operate in compliance with the Regulations of this Authority and the conditions of approval.

Please contact me if you have any questions. A statement is enclosed for the Plan and Examination fee in the amount of $100.00.

Sincerely yours,

Terryl L. Nyman
Air Pollution Control Officer

Reviewed by V. H. Lagen, P. E.

NORTHWEST
AIR POLLUTION AUTHORITY

1600 South Second Street
Mount Vernon, WA 98273-5202
Tel: (360) 428-1617 / Fax: (360) 428-1620
Serving Island, Skagit and Whatcom Counties

May 12, 1998

Kirt Rhoads
Northwest Pipeline Corporation
P.O. Box 58900
Salt Lake City, Utah 84158-0900

ORDER OF APPROVAL TO CONSTRUCT No. 657

Dear Mr. Rhoads:

On April 7, 1998 Northwest Pipeline Corporation submitted a "Notice of Construction and Application for Approval" to construct and operate one mobile Solar Centaur Model 40-T4700S gas turbine, rated at 4846 horsepower. The application states that the gas turbine will be operated when existing reciprocating engine units undergo offline maintenance activities. The turbine will be periodically located at the existing Mount Vernon station on Lange Road in Skagit County.

The information submitted was reviewed to determine that all known available and reasonable air pollution control measures would be employed. The project was reviewed and evaluated for compliance with NWAPA Regulation Section 302, WAC 173-400-110 (version dated 9/13/96), WAC 173-460 and CFR Title 40 Part 60 Subpart GG. The Northwest Air Pollution Authority issued a Determination of Nonsignificance on April 27, 1998.

The proposed gas turbine will be retrofitted with nitrogen oxide (NO_x) and carbon monoxide (CO) pollution controls. Best Available Control Technology (BACT) for the pollutants was determined to be dry low NO_x combustion control and good combustion. The dry low NO_x technology proposed in the permit application will be operational prior to the unit's startup.

You are hereby granted approval to construct and operate the one 4,846 horsepower Solar Centaur 40-T4700S subject to the following conditions:

1. The turbine is subject to the applicable standards of Title 40 CFR 60 Subpart GG and Subpart A, including, but not limited to, preconstruction and initial startup notification requirements in 40 CFR Part 60.7(a)(1), (a)(2), and (a)(3). Notification should be provided to the Environmental Protection Agency, Region 10.

2. Pollutant concentrations from the gas turbine stack shall not exceed the following:

   a. Nitrogen Oxides (NO_x) - 42 ppmdv corrected to 15% O_2 ISO* standard conditions, one hour average, except during idling conditions.

   b. Carbon Monoxide (CO) - 50 ppmdv corrected to 15% O_2, one hour average.

*ISO standard conditions are defined as 288 degrees K, 60 percent relative humidity, and 101.3 kilo Pascals pressure.

3. Idling time shall not exceed 30 hours per month.

4. Pollutant emission rates from the turbine stack shall not exceed the following:

   a. Nitrogen Oxides - 7.59 lb/hr 33.2 T/yr

   b. Carbon Monoxide - 5.50 lb/hr 24.1 T/yr

5. Opacity from the turbine stack shall not exceed five percent (5%) as measured by EPA Reference Method 9.

6. The mobile Solar Centaur turbine shall operate only when one of the existing Clark TCV-12 reciprocating engines is not operating. Records shall be kept verifying the operational status of the off-line Clark engine during turbine operation.

7. Compliance monitoring shall be performed on the turbine stack according to the following schedule:

   An initial compliance test on the gas turbine stack shall be conducted by an independent testing firm for NO_x (EPA Method 20) and CO (EPA Method 10) within 60 days after achieving maximum production but no later than 180 days after start-up following the first relocation to the Mount Vernon station. A similar test shall be performed following each accumulation of 5000 hours of operation at the Mount Vernon location. The number of hours of operation at the Mount Vernon station will be recorded. Tests on the gas turbine performed at other compressor stations may be sufficient to fulfill this condition, if submitted to and approved by the NWAPA.

   All test records shall be kept on site, or at the Northwest Pipeline Corporation district office, for a minimum of two years and made available to the NWAPA for inspection. A test plan shall be submitted to the NWAPA at least 30 days prior to testing.

8. The turbine shall burn pipeline grade natural gas only.

9. Sampling ports and platforms shall be provided for the stack in conformance with 40 CFR, Part 60, Appendix A Method 20. Adequate and safe access to the test ports shall be provided.

10. The results of any stack tests performed on the gas turbine will be submitted to the NWAPA within 45 days after the end of a quarter in which the stack tests were performed.

11. Within 45 days following each quarter with turbine operation, a report shall be submitted to the NWAPA summarizing the number of hours of operation during the quarter and the pounds of NO_x and CO emitted from the gas turbine, per month in the quarter and as a twelve consecutive month rolling sum.

12. An operation and maintenance manual that identifies acceptable operation and maintenance procedures that will ensure compliance with applicable air pollution rules and regulations shall be maintained at the Mount Vernon compressor station. Failure to follow the procedures outlined may be considered proof that the equipment was not properly maintained.

13. Odors from this source shall not be detected off-site that may result in a nuisance as determined by NWAPA personnel.

14. Provide written notification to the NWAPA of intent to operate prior to the first relocation to the Mount Vernon compressor station.

Final approval to operate shall be conditioned upon the facility meeting the requirements described above and conditions set forth in the application and the applicable air pollution control regulations, when in actual operation.

An on-site inspection may be required before start-up and again after the process has operated for a period of time. A "Certificate of Approval to Operate" will be issued after we determine that the process was installed in accordance with the plans and specifications submitted with the application and can operate in compliance with the regulations of this Authority and the conditions of approval.

Please call Anne Naismith at (360) 428-1617 if you have any questions about the approval of this project. Thank you for your prepayment of the Plan, Examination, and Inspection fee of $1500 and the SEPA processing fee of $100.

Sincerely,

Terryl L. Nyman
Air Pollution Control Officer

Reviewed: Anne Naismith, P.E.

F\USERS\COMMON\NOC\NWPIPE\NOC657.WPF

WASHINGTON STATE DEPARTMENT OF ECOLOGY
POST OFFICE BOX 47600
OLYMPIA, WASHINGTON 98504-7600

IN THE MATTER OF:	]	
	]	
Northwest Pipeline Corporation	]	**NO. PSD-01-09 Amendment 5**
Mount Vernon Compressor Station	]	
Williams Gas Pipeline - West	]	**FINAL APPROVAL**
295 Chipeta Way	]	**OF PSD APPLICATION**
Salt Lake City, UT 84158-0900	]	

This approval is issued 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 (WAC) 173-400-700. The original approval was based upon the complete application submitted by Williams Gas Pipeline - West for the Northwest Pipeline Corporation (NWP) Mount Vernon Compressor Station on December 4, 2001. The first amendment was based on a letter of request dated April 23, 2004. The second and third amendments were based on letters of request dated April 23 and July 21, 2004, respectively. The fourth amendment was based on a letter of request dated September 20, 2004. The fifth amendment was based on a letter of request dated February 8, 2006. The technical analysis performed by the Department of Ecology (Ecology) finds the following:

FINDINGS:

1. The reason for the fifth amendment is to allow a reduction in the required frequency of nitrogen oxides (NO_X) routine monitoring testing. A portable emissions analyzer is used for these routine monitoring tests. More than three years of testing every 14 days has shown that testing every 28 days is sufficient to monitor compliance. There are no changes to emission limits in this amendment.

2. The reason for the fourth administrative amendment was to address NWP's request for less frequent emissions testing for the boiler (Seller C-80-w with heat input of 3.348 MMBtu/hr) and standby generator. NWP requested that Ecology change the permitted frequency of NO_X performance tests from an annual basis to every five years starting from the date of the most recent compliance test.

   At their fully allowed operating time, NO_X emissions from the standby generator and the boiler together are less than three-quarters of a ton per year. Ecology agreed that a once every five years emissions test for these small emission units was satisfactory to assure air quality protection.

3. The reason for the third administrative amendment was to implement changes requested by NWP that clarified and streamlined the permit. There were no changes to the emission limits in this amendment. Therefore, public notice was not required.

4. The reason for the second amendment was that NWP and Ecology discovered the inability of the Predictive Emissions Monitoring System (PEMS) to accurately predict real-time emissions. This finding was based upon completion of one year of PEMS data gathering and

analysis, and Ecology agreed with NWP. There was no change to emission limits in the second amendment as well. Therefore, public notice was not required.

5. NWP owns and operates the existing Mount Vernon Compressor Station (MVCS) located about nine miles east of Mt. Vernon, Washington (48°N 25' 19" latitude, 122°W 12' 58"longitude).

6. MVCS is located within a Class II area that is currently designated in attainment for all national and state air quality standards. PSD permit 01-09 allowed an expansion to this facility described in findings 6 through 19 below.

7. The site is 57 kilometers (km) from the nearest Class I Area, North Cascades National Park, and within 100 km of four other Class I areas (Alpine Lakes Wilderness, Glacier Peak Wilderness, Olympic National Park, and Pasayten Wilderness).

8. The site is about 45 kilometers from the U.S. - Canadian border.

9. This project consists of:

   9.1. Adding one Mars 90-TI3002S (Mars 90S) gas turbine site-rated at 12,787 horsepower (59° F),

   9.2. Substituting an existing Centaur 40-T4500 upgraded to a Centaur 50-T6100S (Centaur 50S) at 5,950 hp (59° F.) for the originally permitted Centaur 40-T4700S (Centaur 40S) gas turbine site-rated at 4,554 horsepower.

   9.3. Replacing an existing standby generator with one of larger capacity (450 kW) as originally permitted.

   9.4. Replacing an existing 2.5 million British thermal units per hour (MMBtu/hr.) heater/boiler with one of larger capacity (3.348 MMBtu/hr. Sellers C-80-w) as originally permitted.

10. This project is subject to New Source Performance Standards (NSPS): 40 CFR Subpart GG (Standards of Performance for Stationary Gas Turbines).

11. 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 Clean Air Agency (NWCAA). Chapter 173-400 WAC includes provision for PSD review (WAC 173-400-700). This permit considers only PSD applicable issues. All other air quality related notice of construction approval issues are subject to the NWCAA.

12. MVCS currently has the potential to emit more than 250 tons per year of any one pollutant that is subject to the federal Clean Air Act. This qualifies MVCS as an existing major stationary source. Any net increases in potential emissions from the site that are considered significant will be subject to PSD review under WAC 173-400-700.

13. Because of this project, the net increase in MVCS's potential to emit nitrogen oxides (NO_X) is 62.8 tons per year (TPY).

14. Because MVCS is an existing major stationary source, and the net emissions increase for NO_X is more than 40 tons per year, the project qualifies as a major modification. As a result, the project is subject to PSD review under WAC 173-400-700. Additionally, the project is

subject to federal PSD review because it qualifies as a major modification under federal rules [40 CFR 52.21(b)(2)(i), 40 CFR 52.21(b)(3)(i), and 40 CFR 52.21(b)(23)(i)].

15. Other than NO_x, the net emissions increases of all pollutants subject to regulation under the federal Clean Air Act are below the significance levels specified in 40 CFR 52.21(b)(23)(i). As a result, they are not subject to inclusion in this PSD permit.

16. The PSD permit application was submitted December 4, 2001, and determined to be complete on January 3, 2002.

17. MVCS will operate the standby generator fewer than 500 hours in any calendar year. The limit will be federally enforceable under the conditions of this PSD permit.

18. The Mars 90S turbine, the Centaur 50S turbine, the standby generator, and the heater/boiler being installed for this project will burn only natural gas from the pipeline.

19. Best Available Control Technology (BACT) determinations for NO_x emissions:

    19.1. Dry low-NO_x control (SoLoNOX) for the Mars 90S and Centaur 50S turbines.

    19.2. Non-selective catalytic reduction for the standby generator.

    19.3. Good combustion practice for the Sellers C-80-w heater/boiler.

20. Allowable emissions from the new emissions units will not cause or contribute to air pollution in violation of:

    20.1. Any ambient air quality standard.

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

    20.3. National Ambient Air Quality Standards NAAQS) and PSD increment consumption: Modeling to determine impacts was not required because the applicant demonstrated the impacts to be below modeling significance thresholds.

    20.4. Visibility impact in the surrounding Class I areas: The highest modeled impact was a 4.8% degradation, which occurred in North Cascades National Park in mid-winter. Federal land manager guidance considers this to be below the "concern" threshold.

    20.5. Visibility impact in nearby Class II parks and recreational areas: The highest modeled impact in Mt. Baker Wilderness was a 6.2% degradation in mid-winter, and less than 4% the rest of the year. Federal land manager guidance considers this acceptable under PSD procedures and BACT requirements.

21. Ambient impact analysis indicates that there will be no significant pollutant deposition on soils and vegetation in the Class I or Class II areas.

    21.1. Modeled emissions ambient impact levels are substantially below all secondary NAAQS. This indicates a low likelihood of negative impact on Class II area flora and fauna. No sensitive species have been identified.

    21.2. NWP has agreed with the Washington Department of Fish and Wildlife to conduct a nesting survey for bald eagles expected to be near the facility.

21.3. The highest modeled nitrogen deposition in the surrounding Class I areas is less than 50% of the "concern" threshold in federal land manager guidance.

22. No significant effect on industrial, commercial, or residential growth in the Mt. Vernon, Washington area is anticipated because of this project.

Ecology 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 Mars 90S turbine, the Centaur 50S turbine, the standby generator, and the heater/boiler being installed for this project:
   1.1. Are only allowed to burn natural gas from the pipeline.
   1.2. NWP shall monitor and report (see Condition 8) the analytical data from the Sumas monitor location regarding the chemical composition of the fuel used to comply with Condition 1.1.
2. The standby generator:
   2.1. NWP shall operate the standby generator no more than 500 hours in any consecutive 12-month period.
   2.2. NWP shall monitor compliance with Condition 2.1 with:
      2.2.1. An hour meter for generator operation.
      2.2.2. NWP shall not reset the hour meter without written authorization of Ecology or NWCAA.
   2.3. NO_x emissions from the standby generator are limited to not greater than 82 grams per hour.
   2.4. NWP shall demonstrate initial compliance with Condition 2.3:
      2.4.1. Within 180 days after initial startup, NWP will have a source test performed by an independent testing firm.
      2.4.2. The run-time on the standby generator for the initial compliance demonstration test shall not count toward the operating time limit in Condition 2.1.
      2.4.3. The source test shall be in accordance with 40 CFR 60 Appendix A, Methods 2, 2A, 2C, or 2D, and Method 7E.
      2.4.4. For the source test, NWP shall run the generator at maximum achievable load.
      2.4.5. NWP shall determine the emissions rate in units of grams per hour by using the source test results in applicable engineering calculations.
      2.4.6. NWP shall submit a test plan to Ecology and NWCAA for approval at least 30 days prior to testing.

2.4.7. Within 90 days of initial startup, NWP will confirm to Ecology in writing that the existing standby generator has been taken out of service.

2.5. NWP shall monitor compliance with Condition 2.3 by periodic NO_x emission performance tests:

2.5.1. NWP shall conduct NO_x emission performance tests not less frequently than once every 500 hours of operation.

2.5.2. NWP may conduct the periodic performance tests by use of a portable emissions analyzer verified as accurate in accordance with the process outlined in Condition 6.

2.5.2.1. Testing shall be in accordance with USEPA Designated Conditional Test Method 34. An alternate test method may be used if approved in writing by Ecology or NWCAA at least 30 days prior to its first application.

2.5.2.2. NWP shall follow the currently approved performance test procedure until acquiring approval from Ecology or NWCAA for a revised procedure.

2.5.2.3. For the source test, NWP shall run the generator at maximum achievable load.

2.5.3. NWP shall determine the emissions rate in units of grams per hour by using the source test results in applicable engineering calculations.

3. The 3.348 MMBtu/hr. Sellers C-80-w boiler:

3.1. The NO_x emissions concentration from the boiler stack is limited to not greater than 34 parts per million on a dry volumetric basis (ppmdv) over a 24-hour average when corrected to three percent oxygen.

3.2. NWP shall demonstrate initial compliance with Conditions 3.1:

3.2.1. Within 180 days after initial startup, performed by an independent testing firm.

3.2.2. By source test in accordance with 40 CFR 60 Appendix A, Methods 7E and 19.

3.2.3. NWP shall submit a test plan to Ecology and NWCAA for approval at least 30 days prior to testing.

3.2.4. Within 90 days of initial startup, NWP will confirm to Ecology in writing that the existing 2.5 MMBtu/hr heater/boiler has been taken out of service.

3.3. NWP shall monitor compliance with Condition 3.1 by periodic NO_x emission performance tests:

3.3.1. NWP shall conduct NO_x emission performance tests not less frequently than once every five years of operation.

3.3.2. NWP may conduct the periodic performance tests by use of a portable emissions analyzer capable of adjustment to the three percent oxygen concentration basis, and verified as accurate in accordance with the process outlined in Condition 6.

3.3.2.1. Testing shall be in accordance with USEPA Designated Conditional Test Method 34. An alternate test method may be used if approved in writing by Ecology or NWCAA at least 30 days prior to its first application.

3.3.2.2. NWP shall follow the currently approved performance test procedure until acquiring approval from Ecology or NWCAA for a revised procedure.

3.4. NO_x emissions from the boiler are limited to not greater than:

3.4.1. Four lbs./calendar day.

3.4.2. 0.66 tons in any 12 consecutive months.

3.5. NWP shall monitor compliance with Condition 3.4 by:

3.5.1. Keeping a log of the operating hours for the boiler, and

3.5.2. Using the following to determine the mass NO_X emissions:

3.5.2.1. The most recent performance test results intended to satisfy Condition 3.3.1.

3.5.2.2. Assume maximum achievable fuel consumption for all boiler operating hours.

3.5.2.3. Use the appropriate F-factor from 40 CFR Part 60, Appendix A Method 19 to estimate exhaust gas volumetric flowrate.

4. For the Mars 90S and Centaur 50S combustion turbines:

4.1. Startup is defined as any operating period that is ramping up from less than 90% of full load, and less than 15 minutes has elapsed since fuel was introduced to the turbine after the immediately preceding shutdown.

4.2. Shutdown is defined as any operating period below 90% of full load, and fuel feed has continued for not more than 15 minutes after going below 90% of full load operation.

4.3. NWP shall keep a record of each startup and shutdown event.

5. Emissions of nitrogen oxides (NO_x) for the combustion turbines are limited as follows:

5.1. For the Mars 90 combustion turbine:

5.1.1. Not greater than 25 parts per million NO_x emission concentration on a dry volumetric basis (ppmdv) over a 3-hour average when corrected to 15.0 percent oxygen, ISO.

5.1.2. Condition 5.1.1 is relieved during startup and shutdown.

5.1.3. Mass emissions of NO_x shall not exceed:

5.1.3.1. 258 lbs. NO_x /calendar day.

5.1.3.2. 43.6 tons of NO_x for any consecutive 12-month period.

5.1.4. NWP shall count NO_x emissions during startup and shutdown towards monitoring compliance with the 12-month mass emission limit in Condition 5.1.3.2 at a rate of 4 lbs. NO_X per startup or shutdown.

5.1.5. NWP shall demonstrate compliance with Condition 5.1.1 initially and annually thereafter:

5.1.5.1. Initial compliance shall be demonstrated within 180 days after initial startup, performed by an independent testing firm. Annual compliance shall be demonstrated no sooner than 10 months after the previous test and no later than 13 months after the previous test.

5.1.5.2. Compliance shall be demonstrated 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.

5.1.5.3. NWP shall submit a test plan to Ecology and NWCAA for approval at least 30 days prior to testing. NWP shall submit a complete test report to the NWCAA no later than 45 days after completion of the tests.

5.1.6. Compliance monitoring:

5.1.6.1. NWP shall monitor compliance with Condition 5.1.1 and 5.1.3.1 by measuring NO_X concentration from each turbine exhaust stack no less frequently than every 336 hours of turbine operation.

5.1.6.1.1. NWP may conduct these measurements by use of a portable emissions analyzer capable of adjustment to the 15% oxygen concentration basis, and verify as accurate in accordance with the process outlined in Condition 6.

5.1.6.1.2. Portable emissions analyzer testing shall be in accordance with USEPA Designated Conditional Test Method 34. An alternate test method may be used if approved in writing by Ecology prior to the test.

5.1.6.1.3. NWP shall perform three consecutive tests using the portable analyzer. Should the average of the three test results indicate potential noncompliance with Conditions 5.1.1 or 5.1.3.1, NWP shall continue testing at least every 15 minutes until three hours of testing has been completed. If at the end of three hours of testing, the average of the test results indicates noncompliance with Conditions 5.1.1 or 5.1.3.1, NWP shall shutdown the unit as soon as is practical and contact the NWCAA as promptly as possible and in no event more than 12 hours later. However, if data shows compliance with Conditions 5.1.1 and 5.1.3.1, no action is required other than reporting as specified in Condition 8.3.6.5.

5.1.6.1.4. Upon submission of six consecutive months monitoring results during which every test using the portable emissions analyzer indicates compliance with Condition 5.1.1 and 5.1.3.1 for a given turbine, NWP

may submit a request that the testing frequency for that turbine be reduced to not less frequently than every 672 hours of operation.

The request must include an analysis of the accuracy of the portable emissions analyzer using recent accuracy verification data and an analysis of the portable emissions data collected during the monitoring period and an explanation as to why these data support the request. Upon Ecology's approval of the request, NWP may test at the reduced frequency until such time as the results indicate potential noncompliance with 5.1.1 or 5.1.3.1. If this occurs, NWP must revert to the 336 hour testing frequency for the turbine in potential noncompliance with Conditions 5.1.1 or 5.1.3.1 for at least six consecutive months at which time NWP may again request the reduced testing frequency using the same process as above.

5.1.6.2. Within 20 days of the end of each month, pursuant to Condition 5.1.3.2, NWP shall determine the tons of NO_x emissions from each of the turbines for the most recent consecutive 12 months. For this calculation, NWP shall utilize a time-weighted average of the relevant reference method stack test results wherein the results of each source test shall be the presumed emission rate until the next source test.

5.2. For the Centaur 50S combustion turbine:

5.2.1. Not greater than 25 parts per million NO_x emission concentration on a dry volumetric basis (ppmdv) over a 3-hour average when corrected to 15.0 percent oxygen, ISO.

5.2.2. Condition 5.2.1 is relieved during startup and shutdown.

5.2.3. Mass emissions of NO_x shall not exceed

5.2.3.1. 106 lbs. NO_x/calendar day.

5.2.3.2. 18.5 tons of NO_x for any consecutive 12-month period.

5.2.4. NWP shall count emissions during startup and shutdown towards monitoring compliance with the 12-month mass emission limit in Condition 5.2.3.2 at a rate of 2 lbs. NO_x per startup or shutdown.

5.2.5. NWP shall demonstrate compliance with Condition 5.2.1 initially and annually thereafter:

5.2.5.1. Initial compliance shall be demonstrated within 180 days after initial startup, performed by an independent testing firm. Annual compliance shall be demonstrated no sooner than 10 months after the previous test and no later than 13 months after the previous test.

5.2.5.2. Compliance shall be demonstrated 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.

5.2.5.3. NWP shall submit a test plan to Ecology and NWCAA for approval at least 30 days prior to testing. NWP shall submit a complete test report to the NWCAA no later than 45 days after completion of the tests.

5.2.6. Compliance monitoring:

5.2.6.1. NWP shall monitor compliance with Conditions 5.2.1 and 5.2.3.1 by measuring the NO_X concentration from each turbine exhaust stack no less frequently than once every 336 hours of turbine operation.

5.2.6.1.1. NWP may conduct these measurements by use of a portable emissions analyzer capable of adjustment to the 15% oxygen concentration basis, and verify as accurate in accordance with the process outlined in Condition 6.

5.2.6.1.2. Portable emissions analyzer testing shall be in accordance with USEPA Designated Conditional Test Method 34. An alternate test method may be used if approved in writing by Ecology prior to the test.

5.2.6.1.3. NWP shall perform three consecutive tests using the portable analyzer. Should the average of the three test results indicate potential noncompliance with Conditions 5.2.1 or 5.2.3.1, NWP shall continue testing at least every 15 minutes until three hours of testing has been completed. If at the end of three hours of testing, the average of the test results indicates noncompliance with Conditions 5.2.1 or 5.2.3.1, NWP shall shutdown the unit as soon as is practical and contact the NWCAA as promptly as possible and in no event more than 12 hours later. However, if data shows compliance with Conditions 5.2.1and 5.2.3.1, no action is required other than reporting as specified in Condition 8.3.6.5.

5.2.6.1.4. Upon submission of six consecutive months monitoring results during which every test using the portable emissions analyzer indicates compliance with Condition 5.2.1 and 5.2.3.1 for a given turbine, NWP may submit a request that the testing frequency for that turbine be reduced to not less frequently than every 672 hours of operation.

The request must include an analysis of the accuracy of the portable emissions analyzer using recent accuracy verification data and an analysis of the portable emissions data collected during the monitoring period and an explanation as to why these data support the request. Upon Ecology's approval of the request, NWP may test at the reduced frequency until such time as the results indicate potential noncompliance with 5.2.1 or 5.2.3.1. If this occurs, NWP must revert to the 336 hour testing frequency for the turbine in potential noncompliance with Conditions 5.2.1 or 5.2.3.1 for at least six consecutive months at which time NWP may again request the reduced testing frequency using the same process as above.

5.2.6.2. Within 20 days of the end of each month, pursuant to Condition 5.2.3.2, NWP shall determine the tons of NO_x emissions from the turbine for the most recent consecutive 12 months. For this calculation, NWP shall utilize a time-weighted average of the relevant stack test results wherein the results of each source test shall be the presumed emission rate until the next source test.

6. NWP shall verify the accuracy of any portable emissions analyzers used to satisfy the monitoring requirements of this permit.

   6.1. NWP shall submit a protocol to Ecology and NWCAA for written approval by Ecology for verifying the accuracy of any portable emissions analyzer.

   6.2. NWP shall use the procedure specified in the protocol required by Condition 6.1 to verify the accuracy of any portable emissions analyzer prior to its use in satisfaction of the monitoring requirements of this permit.

   6.3. Not less than once every calendar year, NWP shall use the procedure specified in the protocol required by Condition 6.1 to verify the accuracy of any portable emissions analyzer intended to be used in satisfaction of the monitoring requirements of this permit.

   6.4. NWP shall keep records of the emissions analyzer accuracy verifications on site for not less than five years for Ecology or NWCAA review.

7. NWP shall provide safe access and sampling ports for source testing of the standby generator, the heater/boiler, the Mars 90S turbine, and the Centaur 50S turbine being installed for this project, after each final pollution control device:

   7.1. Safe access for the standby generator and the heater/boiler shall consist of not less than a man-lift or situation-specific scaffolding.

   7.2. Safe access for the Mars 90S turbine, the Centaur 50S turbine shall consist of permanently constructed platforms on the respective stacks.

   7.3. The sampling ports shall meet the requirements of 40 CFR, Part 60, Appendix A, Method 20.

   7.4. Other arrangements may be acceptable if approved by Ecology prior to installation.

8. NWP shall report the monitoring and process data from MVCS to Ecology and NWCAA as follows:

   8.1. Notifications:

      8.1.1. Commencement of construction of the project described in Finding 5 of this permit: In accordance with 40 CFR 60.7(1), no later than 30 calendar days after such date.

      8.1.2. Initial startup of the project described in Finding 5 of this permit: In accordance with 40 CFR 60.7(3), no later than 15 calendar days after such date.

8.1.3. Completion of the entry into the operation and maintenance manual of the items specified in Condition 9.

8.1.4. In the first quarterly report required under Condition 8.2, certification by the responsible party for the facility that the relevant equipment was installed consistent with the parameters developed pursuant to Condition 9.

8.2. Submit reports not less than once each calendar quarter or on another reporting schedule approved by Ecology, and in the format approved by Ecology.

8.3. The reports shall include, but not necessarily be limited to, the following:

8.3.1. Certification by the responsible party for the facility that only natural gas from the pipeline has been used as fuel.

8.3.2. Analytical data on the fuel composition per Condition 1.2.

8.3.3. 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 9.2.

8.3.4. For the standby generator:

8.3.4.1. Total hours of operation for the 12 immediately preceding months.

8.3.4.2. The total NO_X mass emissions for the 12 immediately preceding months.

8.3.4.3. Results of any compliance monitoring source tests performed since the last report.

8.3.5. For the 3.348 MMBtu/hr. Sellers C-80-w boiler:

8.3.5.1. The total NO_X mass emissions for the 12 immediately preceding months.

8.3.5.2. Results of any compliance monitoring source tests performed since the last report.

8.3.6. For each combustion turbine stack:

8.3.6.1. All exhaust stack NO_X concentrations since the last report pursuant to measurement under Conditions 5.1.6.1 and 5.2.6.1.

8.3.6.2. The total NO_X mass emissions for the 12 immediately preceding months ending with each month included in the report.

8.3.6.3. Results of any compliance monitoring source tests received since the last quarterly report including verification of the accuracy of NO_X concentration portable analyzers emissions allowed in Conditions 2.5.2, 3.3.2, 5.1.6.1.1, and 5.2.6.1.1. If reported separately, these results need not be duplicated in the quarterly reporting.

8.3.6.4. For each occurrence of NO_X monitored emissions pursuant to measurement under Conditions 5.1.6.1 and 5.2.6.1 in excess of the limits in Conditions 5.1.1 or 5.2.1:

8.3.6.4.1. The time of the occurrence.

8.3.6.4.2. Magnitude of the emission or process parameters excess.

8.3.6.4.3. The duration of the excess.

8.3.6.4.4. The probable cause.

8.3.6.4.5. Corrective actions taken or planned.

8.3.6.4.6. Any other agency contacted.

8.3.6.5. For each occurrence of extended (3-hour) NO_X monitoring as per Conditions 5.1.6.1.2.3 and 5.2.6.1.2.3 that ultimately shows compliance with Conditions 5.1.1 and 5.2.1, respectively, include: (1) detailed test result and (2) detailed emission unit operating data during the test.

8.4. NWP shall maintain MVCS monitoring and process records for at least five years.

8.4.1. NWP shall inform Ecology and NWCAA on the location of the monitoring and process records.

8.4.2. NWP shall provide Ecology and NWCAA with the monitoring and process records for any period within the 5-year archive within 10 working days of request.

8.4.3. The monitoring and process records maintained in the 5-year archive shall include, but not necessarily be limited to, the following:

8.4.3.1. Fuel monitoring records pursuant to Condition 1.2.

8.4.3.2. Operating time records pursuant to Condition 2.2.

8.4.3.3. Operating hours records pursuant to Condition 3.5.1.

8.4.3.4. Record of startups and shutdowns for the Mars 90S and Centaur 50S turbines pursuant to Condition 4.3.

9. An operation and maintenance (O&M) manual for the facility:

9.1. Within 90 days of startup, NWP shall identify operational parameters and practices for MVCS.

9.1.1. The operational parameters and practices will constitute proper operation relative to compliance with the emission limitation conditions of this permit.

9.1.2. The operational parameters and practices will be for the standby generator, the 3.348 MMBtu/hr Sellers C-80-w boiler, and the combustion turbines.

9.2. NWP shall include these operational parameters and practices in the MVCS O&M manual. As a minimum, these shall include:

9.2.1. Manufacturers' operating instructions and design specifications.

9.2.2. Normal operating parameters and design specifications.

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

9.3. NWP shall keep the MVCS O&M manual up to date.

9.4. NWP shall assure that the MVCS O&M manual is readily available at the facility for review by state, federal, and local agencies.

10. Nothing in this determination shall be construed to relieve NWP of its obligations under any state, local, or federal laws or regulations.

11. NWP shall permit the Environmental Protection Agency, state, and local regulatory personnel access to the source upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action.

12. 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, NWP 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.

Reviewed by:

Robert C. Burmark — June 14, 2006

Robert C. Burmark, P. E. — Date
Technical Services Section
Air Quality Program
Washington State Department of Ecology

ROBERT C. BURMARK
STATE OF WASHINGTON
29848
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 1-4-08

Approved by:

6/14/06

Stuart A. Clark, Program Manager — Date
Air Quality Program
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Original Issuance: August 12, 2002

Revision A: March 4, 2003
Revision B: August 9, 2004
Revision C: January 11, 2005
Revision D: August 30, 2006

Northwest Clean Air Agency (NWCAA) hereby issues
Order of Approval to Construct #794d

Project Summary: As part of the larger Evergreen Expansion Project, Northwest Pipeline (NWP) plans the following changes to the Mount Vernon Compressor Station:

- Add one Solar Mars 90-T13002S (Mars 90S) Turbine-Driven Centrifugal Compressor (site rated at 12,787 hp @ 59°F), and
- Uprate an existing Solar Centaur 40 T-4500 Turbine-Driven Centrifugal Compressor to a Solar Centaur 50 T-6100S (Centaur 50S) Turbine-Driven Centrifugal Compressor (site rated at 5,950 hp @ 59°F)
- Replace an existing generator with a larger (450 kW) auxiliary generator, and
- Replace the existing Sellers C60 (2.5 MMBtu/hr) heater/boiler with the larger Sellers C80 unit (3.348 MMBtu/hr).

APPLICANT

Matt Armstrong
Environmental Specialist - West
Northwest Pipeline Corporation
P.O. Box 58900
Salt Lake City, UT 84158-0900

OWNER

Northwest Pipeline Corporation
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Salt Lake City, UT 84158-0900

FACILITY LOCATION:

15498 Lange Road, Mount Vernon, Washington

NWCAA ID: 440-V-S

Revision A: March 4, 2003

- Included a description of the revised scope of the project
- Condition 1: Moved discussion of portable emissions analyzers into narrative description higher on the page. This is more consistent with the recent NWP Sumas Order #793.
- Condition 2: Added a requirement to comply with the upcoming applicable MACT standards.
- Conditions 3, 4, 5, 7: Changed Centaur 40S to Centaur 50 S. Adjusted emission limits as necessary to reflect larger turbine.

- Condition 9: Adjusted test timing to be consistent with the recent NWP Sumas Order #793.
- Conditions 12, 13: Adjusted timing of initial inspections to be consistent with the recent NWP Sumas Order #793.
- Condition 18: Updated to indicate that this Order will supersede NWCAA Order 320, which permitted the operation of the existing Centaur 40 T-4500 turbine. Some conditions of Order 320 appear in this Order as 18(a), 18(b), and 18(c). Note that the total allowable NOx emissions in condition 18(b) have increased from 716.7 tons per year to 753.2 tons per year. This change reflects the increase in allowable NOx emissions from the new equipment (66.77 tpy) minus the allowable NOx from the existing Solar Centaur 40 T-4500 that will be removed (30.3 tpy). Note that the timing of condition 18(c) was changed to coincide with other reports required by this Order (see condition 14).

Revision B: August 9, 2004

- Order was revised to remove references to the Parametric Emissions Monitoring System (PEMS), which was found to be burdensome and unreliable as a compliance indicator. The PEMS monitoring was replaced with portable emissions analyzers [see Conditions (7), (8), and (10)], which provide more reliable emissions information.
- Other minor changes for readability and consistency.

Revision C: January 11, 2005

- Updated OAC Format
- Equipment list modified to reflect that a smaller (C80) boiler was installed rather than the originally requested C100.

Revision D: August 30, 2006

- Removed Reference to 40 CFR 63 Subpart YWY
- Condition 6(d) added to allow option for reduced monitoring frequency
- Eliminates the need for ongoing volatile organic compound, sulfur dioxide and particulate testing. The tests required by the original OAC have been completed and are satisfactory. See Condition 8 and NWP request dated 11/29/05.
- Conditions 11 and 12 modified to reflect turbine manufacturer's schedule.

Prevention of Significant Deterioration (PSD)

The facility is subject to the most recent version (including amendments) of PSD permit # PSD-01-08 issued by the Washington Department of Ecology (WDOE).

New Source Performance Standards (NSPS)

- 40 CFR 60 Subpart A – General Provisions
- Subpart GG - Standards of Performance for Stationary Gas Turbines

As authorized by Northwest Clean Air Agency Regulation Section 300, this order is issued subject to the following restrictions and conditions:

1) The facility shall comply with all of the requirements of the most recent version (including amendments) of PSD permit # PSD-01-09 issued by the Washington Department of Ecology (WDOE) for this project.

2) For the Mars 90S and Centaur 50S combustion turbines:

   a) Startup is defined as any operating period that is ramping up from less than 90% of full load, and less than 15 minutes has elapsed since fuel was introduced to the turbine after the immediately preceding shut down.

   b) Shutdown is defined as any operating period below 90% of full load, and fuel feed has continued for not more than 15 minutes after going below 90% of full load operation.

   c) NWP shall keep a log of each startup and shutdown event.

3) Annual CO emissions from the two turbines, including emissions during startup and shutdown, shall not exceed the limits below. The emissions shall be calculated, and compliance status shall be determined, each month for the previous 12-month rolling period.

   a) Solar Mars 90S turbine: 46.4 tons CO per year.

   b) Solar Centaur 50S turbine: 27.5 tons CO per year.

4) When determining compliance status with condition (3), NWP shall count CO emissions during startup and shutdown at the rates specified below:

   a) Solar Mars 90S turbine: 11 lb. CO per startup.

   b) Solar Mars 90S turbine: 4 lb. CO per shutdown.

   c) Solar Centaur 50S turbine: 4 lb. CO per startup.

   d) Solar Centaur 50S turbine: 0.7 lb. CO per shutdown.

5) Except during periods of startup or shutdown as defined above, neither of the turbines shall exceed the short-term emission rates below:

   a) CO: 50 ppmvd @ 15% O_2 (1-hour average)

   b) VOC: 25 ppmvd @ 15% O_2 (1-hour average)

   c) Visual Emissions (opacity): five percent (5%) as measured by 40 CFR 60 Appendix A Method 9

6) NWP shall monitor compliance with Condition (5)(a) by measuring the CO concentration of each turbine exhaust stack not less frequently than every *336* hours of turbine operation.

   a) NWP shall conduct these measurements by use of a portable emissions analyzer capable of adjustment to the 15% oxygen concentration basis, and verified as accurate in accordance with the process outlined in Condition (7).

   b) Testing shall be in accordance with USEPA Designated Conditional Test Method 34. An alternate test method may be used if approved in writing by NWCAA prior to the test.

   c) NWP shall perform 3 consecutive tests using the portable analyzer. Should the average of the 3 results indicate potential noncompliance with Condition 5(a), NWP shall continue testing at least every 15 minutes until 1 hour of testing has been

completed. If at the end of one hour of testing, the average of the test results indicates noncompliance with Condition 5(a), NWP shall shut down the unit as soon as is practical and contact the NWCAA as promptly as possible and in no event more than 12 hours later. If the data indicates compliance with Condition 5(a), no action is required other than reporting as specified in Condition 13(c).

d) After 6 consecutive months during which every test using the portable emissions analyzer indicates compliance with Condition (5)(a) for a given turbine, NWP may submit a request that the testing frequency for that turbine be reduced to at least once every 672 hours of operation. The request must include an analysis of the accuracy of the portable emissions analyzer using recent accuracy verification data and an analysis of the portable emissions data collected during the 6 months and an explanation as to why these data support the request. Upon NWCAA approval of the request, NWP may test at the reduced frequency until such time as the results indicate potential noncompliance with Condition (5)(a). If this occurs, NWP must revert to the 336-hour testing frequency for at least 6 consecutive months at which time NWP may again request the reduced testing frequency using the same process as above.

7) NWP shall verify the accuracy of any portable emissions analyzers used to satisfy the monitoring requirements of this Order no less than once every calendar year in conjunction with a CO test required by Condition 8.

a) NWP shall submit a protocol to NWCAA for approval for verifying the accuracy of any portable emissions analyzer prior to the analyzer's use to satisfy the monitoring requirements of this Order. After receiving approval for the protocol, NWP shall comply with the requirements of the protocol.

b) NWP shall keep records of the portable emissions analyzer accuracy verifications on-site for not less than five years for NWCAA review.

8) Initial source tests to quantify emissions of SO_2, CO, PM_{10}, and VOCs from the turbines shall be conducted no later than 90 days after initial startup. Testing will continue as scheduled below. Unless otherwise allowed by the NWCAA, subsequent annual source tests shall occur no sooner than 10 months after the previous tests and no later than 13 months after the previous tests. Subsequent tests with a frequency of every two years (biennial) shall occur no sooner than 22 months after the previous tests and no later than 25 months after the previous tests. Testing for CO shall be conducted at four points in the normal operating range of the turbines, including the minimum point in the normal operating range and peak load. Testing for other pollutants shall be at peak load.

Constituent	Test Method or Equivalent	Schedule
Opacity of emissions	40 CFR 60 Appendix A Method 9	Annual
Carbon monoxide	40 CFR 60 Appendix A Method 10	Annual

9) Within twenty days of the end of each month, NWP shall determine the tons of CO emissions from each of the turbines for the most recent consecutive twelve months. For this calculation, NWP shall utilize a time-weighted average of the relevant stack test results wherein the results of each source test shall be the presumed emission rate until the next source test.

10) The operator shall submit a test plan at least twenty days in advance of any test date and notify the NWCAA at least two weeks in advance of the exact test date. The operator shall submit a complete test report to the NWCAA no later than sixty days after completion of the tests.

11) NWP shall perform a scheduled boroscope analysis on the turbines. The first scheduled analysis will occur no later than 12 months after beginning initial operation. Further analyses shall occur according to the manufacturer's specified schedule as detailed in the O&M manual for the units.

12) NWP shall visually inspect the turbine fuel injectors. The first scheduled inspection will occur no later than 12 months after beginning initial operation. Further inspections shall occur according to the manufacturer's specified schedule as detailed in the O&M manual for the units. The results shall be maintained on site and available for review by NWCAA personnel.

13) In addition to the contents of the quarterly report required to be submitted by the most recent version (including amendments) of PSD permit # PSD-01-09, the report, which shall be submitted no later than 45 days after the end of each calendar quarter, shall also include the following:

a) All calculations of CO emitted (tpy) from each turbine required under condition (9) of this permit.

b) The results of the fuel injector inspection and/or boroscope analysis if performed during the quarter.

c) For each occurrence of extended (1-hour) CO monitoring as per Condition 6(c) that ultimately shows compliance with the Condition 5(a), include:

i) Detailed test results

ii) Detailed emission unit (e.g., turbine) operating data during the test

14) Odors shall not be detected off site that may result in a nuisance as determined by NWCAA personnel.

15) Northwest Pipeline shall comply with the annual emissions reporting requirements specified in NWCAA Regulations (NWCAA 150).

16) This Order supercedes NWCAA Order of Approval #402.

17) Upon completion of the decommissioning of the existing Solar Centaur 40 T-4500 turbine, this Order also supercedes NWCAA Order of Approval #320. However, Conditions 17(a), 17(b), and 17(c) of this Order have been copied from Order #320 and therefore will continue to be required.

a) One of the two identical Clark TCV-12 reciprocating engines shall be tested for NOx (EPA Method 7A-7E) emissions once every five years, with the first test performed in 1997.

b) The nitrogen oxide emissions from the significant (as per WAC 173-401 definition) emission units, both existing and new equipment, shall not exceed 753.2 tons for any twelve consecutive months.

c) Within 45 days following each quarter, a report shall be submitted to the NWCAA summarizing the number of pounds of NOx emitted from each significant unit (as defined in WAC 173-401), both existing and new equipment, per month in the quarter and as a twelve consecutive month rolling sum.

18) Northwest Pipeline shall notify the NWCAA in writing when the installation is complete and provide the expected date to begin operating the facility. An on-site inspection may

be required before start-up and again after the process has operated for a period of time. A "Certificate of Approval to Operate" will be issued after the NWCAA determines that the process was installed in accordance with the plans and specifications submitted with the application and can operate in compliance with the Regulation of this Authority and the conditions of approval. Prior to issuance of this Certificate, it is permissible to operate the equipment in compliance with all applicable requirements.

Mark Buford, PE
Permitting Engineer

for Lynn Billington, PE
Reviewing Engineer

James Randles
Director