DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit No.: AQ0911MSS02 Revision 1
Rescinds Permit No. AQ0911MSS02

Date: Final – March 23, 2007

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit No. AQ0911MSS02 Revision 1 to the Permittee listed below.

Permittee:	**Pioneer Natural Resources Alaska, Inc.** 700 G Street, Suite 600 Anchorage, AK 99501 (281) 673-6000
Owner:	Same as Permittee
Operator:	Same as Permittee
Stationary Source:	**Oooguruk Development Project**
Location:	UTM Zone 5; Northing 7,823,250m; Easting 602,900m (NAD27)
Physical Address:	East Harrison Bay
Permit Contact:	John Hellén, (907) 343-2102

This permit is issued under 18 AAC 50.508(6).The permittee shall build and operate the stationary source in accordance with the terms and conditions of this permit, and as described in the original permit application and subsequent application supplements listed in Section 8 except as specified in this permit.

John F. Küterbach
Manager, Air Permits Program

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Abbreviations/Acronyms

AAC ..... Alaska Administrative Code
ADEC ..... Alaska Department of Environmental Conservation
AS ..... Alaska Statutes
ASTM ..... American Society of Testing and Materials
CFR. ..... Code of Federal Regulations
EPA ..... Environmental Protection Agency
PEMS ..... Predictive Emission Monitoring System
PS ..... Performance specification
PSD ..... Prevention of Significant Deterioration
RM ..... Reference Method
QA ..... Quality assurance

Units and Measures

bbl ..... barrels
bhp ..... brake horsepower[1]
gr./dscf ..... grains per dry standard cubic feet (1 pound = 7,000 grains)
dscf ..... dry standard cubic foot
hp ..... horse power
hr ..... hour
kW ..... kiloWatts
kW-e ..... kilowatts electric[2]
lb/hr ..... pounds per hour
MMBtu ..... million British Thermal Units[3]
MW ..... megawatts
MW-e ..... megawatts electric
ppm ..... parts per million
ppmv ..... parts per million by volume
tpy ..... tons per year

Pollutants

CO ..... Carbon Monoxide
HAPS ..... Hazardous Air Pollutants
H_2S ..... Hydrogen Sulfide
NO_X ..... Oxides of Nitrogen
NO_2 ..... Nitrogen Dioxide
PM ..... Particulate matter
PM-10 ..... Particulate Matter with an aerodynamic diameter less than 10 microns
SO_2 ..... Sulfur Dioxide
VOC ..... Volatile Organic Compound

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[1] For engines: approximately 7,000 Btu-fuel per brake horsepower-hour is required for an average diesel internal combustion engine.
[2] "electric" refers to the rated generator electrical output rather than the engine/turbine rated output
[3] For purposes of this permit, all boiler and heater ratings are in heat input.

Section 1 Emission Unit Inventory

1. **Authorization.** The permittee is authorized to install and operate the permanent emission units listed in Table 1. For purposes of this permit, the emission units listed in Table 1 are collectively referred as "Permanent Emission Units."

Table 1 – Permanent Emission Units [a]

Unit ID	Unit Description	Make/Model	Fuel Type	Rating/size
Offshore Pad				
I-1	Emergency Generator	Caterpillar DM4682 (Uses 3516B TA engine)	Diesel	2 M-We
I-5	Incinerator	Unknown		150 lb/hr
NR-9a	Escape Vehicle	Unknown	Diesel	260 bhp
NR-9b	Escape Vehicle	Unknown	Diesel	260 bhp
I-9	Generator	Caterpillar DM6341	Diesel	500 kW
I-10	Generator	Caterpillar DM6341	Diesel	500 kW
I-11	Firewater Pump	Clarke JW6H-UF60	Diesel	375 bhp
Onshore Pad				
S-1a	Gas-fired Turbine[b]	Solar Taurus 60-7800S	Gas	6.83 MW
S-1b	Gas-fired Turbine[b]	Solar Taurus 60-7800S	Gas	6.83 MW
S-1c	Gas-fired Turbine[b]	Solar Taurus 60-7800S	Gas	6.83 MW
S-2	Emergency Generator	Caterpillar C32 DITA	Diesel	1050 hp

Table 1 Footnotes:
[a] Except as noted elsewhere in this permit, the information in this table is for identification purposes only.
[b] The permittee may install a single Waste Heat Recovery Unit (WHRU) for use by the three Gas-fired Turbines (Emission Units S-1a, S-1b and S-1c) to provide process and space heat.

2. The permittee is authorized to operate a Drilling Rig on the offshore pad .

   2.1 For purposes of this permit:

      a. the emission units listed in Table 2 are collectively referred as the "Drilling Rig;"

      b. the Drilling Rig emission units that provide the electrical power for drilling are referred as "Primary Generators;" and

      c. all other internal combustion Drilling Rig emission units are referred as "Ancillary Engines."

   2.2 The actual Drilling Rig operated under this permit may be similar or smaller than the Drilling Rig represented in Table 2. In all situations, the cumulative boiler/heater rating may not exceed 23.3 MMBtu/hr, the primary generator rating may not exceed 3,333 kW, and the ancillary engine rating may not exceed 351 bhp.

Table 2 – Drilling Rig Emission Units

Emission Unit ID	Unit Description	Make/Model	Rating/size
Drilling Rig (Nabors 19E) [b]			
NR-1a	Primary Generator	Cummins DFHD	1,111 kW
NR-1b	Primary Generator	Cummins DFHD	1,111 kW
NR-1c	Primary Generator	Cummins DFHD	1,111 kW
NR-7	Mud Module Standby Generator	Unknown	277 bhp
NR-8	Casing Standby Generator	Unknown	74 bhp
I-2a	Rig Steam Boilers	Unknown	5.75 MMBtu/hr
I-2b	Rig Steam Boiler	Unknown	5.75 MMBtu/hr
I-3	Pipe Barn Heater	Unknown	4.38 MMBtu/hr
I-4	Substructure Heater	Unknown	4.38 MMBtu/hr
I-7	Rig Support Boilers (3 units)	Unknown	1.0 MMBtu/hr (each)
I-12	Cement Storage and Blending Equipment	Unknown	Unknown

Table 2 **Footnotes:**

[a] While the permittee anticipates use of the Nabors 19E rig, the actual Drilling rig may be similar or smaller than the Nabors 19E (i.e., the selected Drilling Rig may have fewer and/or smaller emission units).

3. The permittee is authorized to operate the construction equipment listed in Table 3.

Table 3 – Construction Equipment

Emission Unit ID	Unit Description	Make/Model	Rating/size
Offshore Pad			
NR-2	Front-end Loader 1	CAT 966G II	260 hp
NR-3	Front-end Loader 2	Volvo 180E	300 hp
NR-4	Crane	CAT 966G II	260 hp
NR-5	Forklift	CAT TH330B	120 hp
NR-6	Light Plants (6 units)	Unknown	25 kW (each)
I-8	Portable Heaters (7 units)	Unknown	1.2 MMBtu/hr (each)
Onshore Pad			
S-3	Portable Heaters (3 units)	Unknown	1.2 MMBtu/hr (each)
S-5	Construction Camp Propane Heaters	Unknown	1.72 MMBtu/hr
S-6	Construction Camp Incinerator	Unknown	0.15 tons/day

4. Label each emission unit listed in Table 1 with the Emission Unit ID within 30 days of installing the emission unit. Place the ID in a conspicuous location on or adjacent to the unit.

5. For emission units I-1, S-1a, S-1b, S-1c and S-2, submit to the department's Fairbanks Office the following information within 30 days of installing the emission unit:

   5.1 actual installation date;

   5.2 serial number, model number, rating; and

   5.3 vendor specification sheet.

6. For the emission units S-1a, S-1b and S-1c construct the stacks with:
   - 6.1 sampling ports that comport with 40 CFR 60, Appendix A, Method 1, Section 2.1, and stack or duct *free of cyclonic flow* at the port location during the applicable test methods and procedures,
   - 6.2 safe access to sampling ports, and
   - 6.3 utilities for emission sampling and testing equipment.
7. For emission units I-1 and S-2, submit to the department's Fairbanks Office the emission and fuel control settings (as provided by the vendor) within 30 days of installing each emission unit. If subsequent changes to the emission and fuel control settings are later deemed necessary, provide the revised settings and the reason for the revision in the operating report submitted under Condition 24 for that operating period.
8. Prior to the start of production well drilling, submit to the department's Fairbanks Office:
   - 8.1 the name of the selected Drilling Rig (e.g., Nabors 19E);
   - 8.2 an emission unit inventory listing each combustion unit in the Drilling Rig, along with the make/model and rating of each combustion unit;
   - 8.3 the cumulative capacity of the Drilling Rig primary generators;
   - 8.4 the cumulative capacity of the Drilling Rig ancillary engines;
   - 8.5 the cumulative capacity of the Drilling Rig boilers/heaters; and
   - 8.6 a statement as to whether the the selected Drilling Rig complies with Condition 2.2.

Section 2 State Emission Standards

9. **Visible Emissions.** The permittee shall not cause or allow visible emissions, excluding water vapor, emitted from all fuel burning units to reduce visibility through the exhaust effluent by any of the following:

   a. more than 20 percent for greater than three minutes in any one hour;[4]

   b. more than 20 percent averaged over any six consecutive minutes.[5]

   9.1 Verify the initial compliance of Emission Units I-1, I-5, I-9, I-10, I-11, I-12 and S-2 listed in Table 1, and S-6 listed in Table 3 by either

   a. obtaining a certified manufacturer guarantee that the emission unit will comply with the visible emission standard; or

   b. conducting a Method 9 visible emission source test within 90 days of unit startup.

   9.2 For each emission unit listed in Condition 9.1, attach a copy of the guarantee obtained under Condition 9.1a, or a copy of the survellance records developed under Conditions 9.1b, as applicable, to the operating report submitted under Condition 24 for the period that covers the 90th day after unit startup.

10. **Particulate Matter (PM).** The permittee shall not cause or allow PM emissions from fuel burning units or industrial processes, except the incinerator listed in Table 1, to exceed 0.05 grains per dry standard cubic foot (gr./dscf) of exhaust gas corrected to standard conditions and averaged over three hours.

11. **Sulfur Compound Emissions.** The permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from fuel burning units, except the incinerator listed in Table 1, to exceed 500 ppmv averaged over three hours. Ensure compliance with this requirement by complying with Condition 20.1.

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[4] For purposes of this permit, the more than "three minutes in any one hour" criterion in this condition will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA.

[5] The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated 5/3/02, is approved by EPA and adopted into the SIP. At that time, this standard becomes federally enforceable.

Section 3 Requirements to Avoid PSD Major Classification

12. **NO_X and CO Limits.** For the Solar Taurus 60-7800S turbine Units S-1a, S-1b and S-1c:

    12.1 Limit combined NO_X emissions to less than 190 tons per consecutive 12-month period;

    12.2 Limit combined CO emissions to less than 230 tons per consecutive 12-month period;

13. **Monitoring Out of Low Emissions Mode of Units S-1a, S-1b and S-1c.**

    13.1 Monitor in and out of low emissions mode using continuous tracking through the turbine control panel.

    13.2 Submit to the department's Fairbanks Office within 30 days of startup, the minimum gas producer speed that correspond to low emissions mode.

    13.3 Record the date, and duration for which each of Units S-1a, S-1b and S-1c is in and out of low emissions mode[6].

    13.4 Report in the operating report required in Condition 24 the total time each unit is operating out of low emissions mode. State in the report the amount of time the operations out of low emissions mode was due to startup, shutdown, subzero turbine intake temperature source testing or load change.

14. **Turbine NO_X and CO emissions.**

    14.1 Monitor the sixty second average load (in percent of full-load) for each unit during all periods of operation and the sixty second average ambient air temperature (in degrees Farenheit).

    14.2 Record for each calendar day, the minimum sixty second average load (in percent of full load) and the minimum sixty second average ambient air temperature (in degrees Farenheit). Data capture and recording may be electronic.

    Round the sixty second average load up to the next highest load and round the sixty second ambient temperature down to the next lowest ambient temperature presented in Tables A1 and A2 in Appendix A. Data rounding may be electronic.

    14.3 Except as noted in Condition 14.4, calculate the pounds of NO_X and CO emitted for each block sixty second period from the average load and ambient temperature monitored in Condition 14 and emission rates in Tables A1 and A2 in Appendix A or the department approved source test results.

[6]In and out of low emissions mode is determined through the gas producer speed.

When the load and temperature are missing or suspect in Condition 14.3, use one of the following alternative approaches and state the approach.

a. If the sixty second average load is unknown or suspect, use the largest NO_X emission rate in Table A1 and largest CO emission rate in Tables A2 (or the substitute worst case value) for the given ambient air temperature

b. If the sixty second average ambient air temperature is unknown or suspect, use the ambient temperatures measured at the National Weather Service Station (NWS) at the Deadhorse Airport for each hour of missing ambient air temperature.

c. If the sixty second average load and the sixty second average ambient air temperature are both unknown or suspect, use CO emission rate of 232 lb/hr and NO_X emission rate of 37.1 lb/hr.

14.4 When the turbines are operating out of low emissions mode, except during startup, shutdown, source testing and subzero Fahrenheit ambient temperature, calculate the pounds of NO_X and CO emitted, using emission rates of 37.1 lb/hr for NO_X and 28.2 lb/hr and the duration recorded in Condition 13. Alternatively, use concentraions of 120 ppmv for NO_X and 150 ppmv for CO and convert to lb/hr using 40 CFR 60 Appendix A, Method 19. Describe all assumptions (including the assumed standard conditions) and provide example calculations.

14.5 Sum the sixty second emissions from Conditions 14.3 and 14.4 to determine the hourly NO_X and CO emissions (in pound). Record the hourly NO_X and CO emissions. Data selection and recording may be electronic.

14.6 By the end of each calendar month, calculate and record the monthly NO_X and CO emissions (in pounds), for each unit by summing the CO and NO_X emissions calculated in Conditions 14.5 during the previous month. Calculation and recording may be electronic.

14.7 By the end of each calendar month, calculate and record the 12-month rolling NO_X emissions and the 12-month rolling CO emissions (in tons), for the units combined, by summing the CO and NO_X emissions in Condition 14.6. Calculation and recording may be electronic.

14.8 Report using the operating report under Condition 24, the 12-month rolling NO_X emissions and the 12-month rolling CO emissions calculated in Condition 14.7 for each 12-month period covered by the operating report.

15. **Verification of Turbine Emission Factors.** Conduct a winter performance test on any one of Units S-1a, S-1b or S-1c to verify the CO and NOx emission factors in Table A1 and Table A2 of Appendix A. Use the performance test procedures described in Condition 26. For purposes of this condition, winter is defined as the period between December 1st and April 1st.

15.1 Conduct the winter performance test within the first 12 months of starting either Units S-1a, S-1b or S-1c (whichever unit starts first).

15.2 Except as noted in Condition 15.3, conduct the tests at the following turbine load[7] and inlet temperature conditions:

a. Inlet temperature greater than 0°F, and 80% to 90% load;

b. Inlet temperature greater than 0°F, and load less than 50%;

c. Inlet temperature less than 0°F, and 80% to 90% load; and

d. Inlet temperature less than 0°F, and load less than 50%.

15.3 If the weather conditions do not allow for an inlet temperature of less than 0°F, substitute the following for Conditions 15.2c and 15.2d: Inlet temperature greater than 0°F, and 60 to 70% load.

15.4 In the source test report submitted under Condition 26.4, compare the average NO_X concentrations (in ppmv) to the ppmv values listed Table A1 and the average CO concentrations (in ppmv) to the ppmv values listed in Table A2, for each load and inlet temperature condition tested under Condition 15.2. Propose for department approval under Condition 16, revised lb/min emission factors for the entire table if the ppmv source test results exceed the ppmv values listed in Table A1 and/or Table A2. All testing and reporting must be consistent with the following requirements.

a. Use Method 19 of 40 CFR 60, or an alternative approach approved by the Department, for converting all ppmv values into lb/min values. Describe all assumptions (including the assumed standard conditions) and provide example calculations.

b. Express all NO_X concentrations as NO_2.

c. For each individual test and test condition average, report the

(i) turbine inlet temperature,

(ii) the concurrent NWS temperature recorded at Deadhorse,

(iii) the produced eletrical power and percent load,

(iv) the NO_X and CO concentrations in ppmv,

(v) the percent excess oxygen in the exhaust,

[7] Percent load is defined as the actual output divided by the maximum output that could be produced by the turbine under the given operation conditions (e.g., inlet air temperature), times 100 (to convert from a fractional to percent format).

(vi) the exhaust volume flow rate and exhaust temperature,

(vii) the gas producer speed,

(viii) the equivalent NO_X and CO mass emission rate (in lb/min),

(ix) whether inlet preheating was used, and

(x) whether the turbine was operating in or out of SoLoNOx mode.

d. Measure and report the heat content from a representative fuel sample.

16. **Procedure for Revised Emission Factors**. All requests for revised emission factors must be submitted by the Permittee in writing, and will be considered as a permit modification under AS 46.14.285(a)(3).

16.1 All requests to *increase* emission factors, will be treated as a permit amendment. If approved, the Department will issue a written amendment, but will not reopen the permit for public comment.

16.2 All requests to *decrease* emission factors will be treated as an application to revise or rescind the terms and conditions of a Title I permit under 18 AAC 50.508(6).

Section 4 Ambient Air Quality Protection Requirements

17. **General Ambient Air Quality Provisions.** Comply with the following provisions to protect the NO_2, SO_2 and PM-10 air quality standards:

    17.1 **Air Quality Boundary:** Establish and maintain the ambient boundaries using the procedures described in Condition 18.

    17.2 **Stack Configuration:**

    a. For all permanent emission units and drilling rig emission units, construct and maintain each exhaust stack with uncapped, vertical outlets – flapper valves, or similar, are allowed for these units as long as they do not hinder the vertical momentum of the exhaust plume.

    b. For each emission unit listed in Table 4, and the WHRU associated with S-1a, S-1b and S-1c, construct and maintain the exhaust stack to have a release point that equals or exceeds the minimum height listed in Table 4.

Table 4 – Minimum Stack Height Requirements

Unit Description	Unit ID	Minimum Stack Height Above Grade (m)
Solar Taurus Turbines – Bypass Stack	S-1a, S-1b, S-1c	15.37
Solar Taurus Turbine – WHRU Stack		12.19
Onshore Emergency Generator	S2	10.67
Offshore Emergency Generator	I1	8.23
Incinerator	I5	6.10

    c. Provide as-built drawings and/or photographs of each exhaust stack subject to Condition 17.2b in the first operating report submitted under Condition 24 after initial startup.

18. **Public Access Control Plan.** Establish and maintain the ambient air boundaries as follows:

    18.1 Comply with the provisions contained in the March 2006 (Revision 1) "Oooguruk Development Project – Access Control Plan", or a subsequent written version approved by the department that contains at least the following elements:

    a. scaled/dimensioned maps of the onshore pad and the offshore pad that show the location of the pad edge and the location of the ambient air boundary (if different than the pad edge),

b. ambient air boundaries that do not extend beyond the land owner's authorization for precluding public access;

c. defined methods of establishing and maintaining the ambient air boundary, such as surveillance and posting of strategically located warning signs (provide size, wording, and inspection/repair schedule);

d. the date of the Access Control Plan; and

e. the procedure for approaching unauthorized people who have crossed the ambient air boundary.

18.2 Post and maintain all warning signs described in the Access Control Plan as follows:

a. post all signs as stated in the Access Control Plan;

b. use a font, font size and contrast coloring that makes all lettering easy to read;

c. inspect and repair the signs according to the schedule described in the Access Control Plan; and

d. keep all signs visible and free of nearby obstructions (including wind-blown snow).

19. **NO_2 Ambient Air Quality Protection.** Protect the NO_2 ambient air quality standard as follows.

19.1 Limit the diesel fuel consumption of the Primary Generators, NR-1a, NR-1b, NR-1c and Generators I-9 and I-10 to a combined total of 1,365,903 gallons per consecutive 12-month period. Monitor, record and report as follows.

a. Monitor and record the monthly fuel consumption of the Primary Generators, NR-1a, NR-1b, NR-1c and Generators I-9 and I-10- using a dedicated continuous fuel monitoring systems that are accurate to within two percent.

b. For each consecutive 12-month period, calculate and record the cumulative fuel consumed by all Primary Generators, NR-1a, NR-1b, NR-1c and Generators I-9 and I-10 by the end of the month following that 12-month period. During the initial twelve months of operation, use the operating period to date as a substitute for the 12-month period.

c. Report using the operating report under Condition 24, the 12-month rolling combined total fuel consumption of Primary Generators, NR-1a, NR-1b, NR-1c and Generators I-9 and I-10for each 12 month period covered by the operating report.

19.2 Limit the operation of each Ancillary Engine defined in Condition 2.1c to no more than 500 hours per consecutive 12 month period

a. For each calendar month, monitor and record the *total monthly hours of operation* for each emission unit subject to Condition 19.2.

b. For each consecutive 12-month period, calculate and record the hours of operation for each emission unit subject to Condition 19.2 by the end of the month following that 12-month period. During the initial twelve months of operation, use the operating period to date as a substitute for the 12-month period.

c. For each unit subject to Condition 19.2, report using the operating report under Condition 24, the *total monthly hours of operation* recorded under Condition 19.2a, and the *12 month cumulative hours of operation* calculated under Condition 19.2b for each 12-month period covered by the operating report. The permittee is not required to provide this information if no Drilling Rig was operational during the entire reporting period.

20. **SO_2 Ambient Air Quality Protection.** Protect the SO_2 ambient air quality standard as follows:

20.1 For the Solar Taurus Turbines (units S-1a, S-1b and S-1c), burn only natural gas with a hydrogen sulfide content that does not exceed 500 ppmv (on an instantaneous basis at standard conditions).

20.2 For the liquid-fired units listed in Table 1, Table 2 and Table 3, burn only diesel fuel with a sulfur content that does not exceed 0.10 percent by weight.

20.3 Monitoring:

a. Monitor compliance with Condition 20.2, by analysing a representative sample of the fuel for each shipment to determine the sulfur content, measured in accordance with an appropriate methodology incorporated by reference within fuel specification standards ASTM D 396-92 or D 975-94, or an alternate method approved by the department. Alternatively, the Permittee may supply a statement or receipt from the fuel supplier for each fuel shipment received that documents the fuel sulfur content.

b. Monitor compliance with Condition 20.1, monthly using ASTM D 4810-88, D 4913-89, or Gas Producers Association 2377-86, or an alternative analytical method approved by the department. Alternatively, supply a vendor statement that documents total sulfur content of the gas received on a quarterly basis.

20.4 Reporting:

a. Report the results of the monitoring conducted under Conditions 20.1 and 20.2 for each 12 month period during the applicable reporting period, in the operating report submitted under Condition 24.

b. Report as a permit deviaion under Condition 23, whenever fuel combusted does not meet the requirements of 20.1 and 20.2 .

Section 5 Emission Fees

21. **Assessable Emissions**. The permittee shall pay to the department annual emission fees based on the stationary source's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:

    21.1 the stationary source's assessable potential to emit of 1034[8] tpy; or

    21.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the department, when demonstrated by:

        a. an enforceable test method described in 18 AAC 50.220;

        b. material balance calculations;

        c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

        d. other methods and calculations approved by the department.

22. **Assessable Emission Estimates.** Emission fees will be assessed as follows:

    22.1 no later than March 31 of each year, the permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., P.O. Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the department can verify the estimates; or

    22.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 21.1.

[8] From Tables 2-1 and 2-2 of the Technical Analysis Report

Section 6 General Recordkeeping, Reporting, and Certification Requirements

23. **Excess Emissions and Permit Deviation Reports.**

23.1 Except as provided in Condition 32, the permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report:

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the permittee believes to be unavoidable.

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations:

(i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in Condition 23.1c(ii); and

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 23.1c(i).

23.2 The permittee must report using either the form contained in Appendix B of this permit, or a department-approved substitute (electronic or hardcopy). The permittee must provide all information called for by the form that is used.

23.3 If requested by the department, the permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

24. **Operating Reports.** Submit to the Department operating reports for the period January 1 through June 30, and July 1 through December 31, of each year.

24.1 The January 1 to June 30 operating report is due by August 15 of the reporting period year.

24.2 The July 1 to December 31 operating report is due by February 15 of the subsequent year.

24.3 The operating report must include all information required to be in operating reports by other conditions of this permit.

24.4 Submit one original and one copy for each reporting period to the Department's Fairbanks Office.

25. **Certification.** The permittee shall certify all reports, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

26. **Verification (Source) Test Requirements.** The Permittee shall conduct the verification (source) testing required or allowed by this permit as follows:

26.1 use the applicable test methods set out in 40 CFR Part 60, Appendix A. The Permittee may propose alternative test methods if it can be shown to be of equivalent accuracy, and will ensure compliance with the applicable standards or limits. Alternative test procedures must be approved by the Department prior to the test date:

a. nitrogen Oxides, NOx, expresses as NO_2 (ppm and lb/hr): Reference Method 7E or Method 20;

b. carbon Monoxide, CO (ppm and lb/hr): Reference Method 10;

c. oxygen, O_2 (percent): Reference Method 3 or 3A;

d. Stack Velocity and Volumetric Flow Rate: Reference Methods 1-4;

e. Visible Emissions: Reference Method 9.

26.2 Submit to the Department at least 30 days before the scheduled date of the tests, a complete plan for conducting the source tests. The Permittee need not submit this plan for a visible emissions source test conducted under Condition 26.1e.

26.3 Give the Department written notice of the test dates 10 days before each series.

26.4 Within 60 days after completion of the set of tests, submit the results, to the extent practical, in the format set out in *Source Test Report Outline* in Volume III, Section IV.3, of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). Include all information required under Condition 15.4, if applicable.

27. **Recordkeeping Requirements**. The permittee shall keep all records required by this permit for at least five years after the date of collection, including.

    27.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

    27.2 Records of all monitoring required by this permit, and information about the monitoring including:

        a. calibration and maintenance records, original strip chart or computer based recording for continuous monitoring isntrumentation;

        b. sampling dates and times for sampling or measurements;

        c. the operating conditions that existed at the time of sampling or measurement;

        d. the date analyses were performed;

        e. the location where samples were taken;

        f. the company or entity that performed the sampling and analysis;

        g. the analytical techniques or method used in the analyses; and

        h. the results of the analyses.

28. **Submittals**. Unless otherwise directed by the department or this permit, the permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Condition 25.

29. **Information Requests**. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by the permit. The department may require the permittee to furnish copies of those directly to the federal administrator.

Section 7 Generally Applicable Requirements

30. **Good Air Pollution Control Practice.** Maintain and operate Emission Units S-1a, S-1b, S-1c, S-2, I-1, and I-5 listed in Table 1 according to the manufacturer recommendations or the operator's operation and maintenance procedures. If Condition 9.1 is satisfied using manufacturer certification, then use manufacturer recommentations[9]. Keep a copy of either the manufacturer's or the operator's procedures on-site.

31. **Dilution.** The permittee shall not dilute emissions with air to comply with this permit.

32. **Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

    32.1 If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to Condition 23.

    32.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of Condition 32.

    32.3 The permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

    a. after an investigation because of a complaint or other reason, the permittee believes that emissions from the facility have caused or are causing a violation of Condition 32; or

    b. the department notifies the permittee that it has found a violation of Condition 32.

    32.4 The permittee shall keep records of:

    a. the date, time, and nature of all emissions complaints received;

    b. the name of the person or persons that complained, if known;

    c. a summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of Condition 32; and

    d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

[9] Manufacturer's guarantee for compliance with visible emissions standards contingent upon manufacturer's recommendations for operations and maintenance.

32.5 With each operating report under Condition 24, the permittee shall include a brief summary report which must include:

a. the number of complaints received;

b. the number of times the permittee or the department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the permittee or department found necessary that were not taken within 24 hours.

32.6 The permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

Section 8 Permit Documentation

November 22, 2006	Comments to Preliminary Permit from Pioneer.
September 11, 2006	Permit application addendum to Incompleteness Items submitted electronically.
July 25, 2006	Permit application from Pioneer to ADEC: Request changes to Permit No. AQ0911MSS01.
March 10, 2006	Permit application addendum from Pioneer to ADEC: Oooguruk Development Project Impact Analysis with AERMOD.
March 3, 2006	Response from Pioneer for ADEC information request on February 13, 2006.
February 13, 2006	Incompleteness Finding transmitted from Bill Walker (ADEC) to Patrick Foley (Pioneer).
January 27, 2006	Response from Pioneer to ADEC to questions from ADEC transmitted electronically on January 8, 2006, regarding permit application.
January 27, 2006	Gen Set Package Performance Data (C32DE08) from Air Sciences Inc. to ADEC.
December 13, 2005	Application sent from Patrick Foley (Pioneer) to Bill Walker (ADEC).
February 02, 2007	Request for administrative amendment to add a small cement storage and blending Emission Unit.
March 19, 2007	Request for administrative amendment to clarify condition 20.3 sulfur monitoring

Appendix A – Solar Taurus Emission Factors

Table A1 – Solar Taurus NO_X Emission Factors

Ambient Air Temperature (F)	Load (%)[9]														
	<50		50		60		70		80		90		100		MAX
	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	lb/hr
60	70	8.5	25	3.9	25	4.3	25	4.6	25	5.0	25	5.5	25	5.9	8.5
40	70	8.9	25	4.1	25	4.5	25	4.9	25	5.2	25	5.7	25	6.3	8.9
20	70	9.3	25	4.3	25	4.7	25	5.1	25	5.5	25	6.0	25	6.6	9.3
0	70	9.6	25	4.5	25	4.9	25	5.3	25	5.7	25	6.3	25	6.9	9.6
-20	70	10.0	42	7.8	42	8.6	42	9.3	42	10.1	42	11.0	42	12.0	12.0
-40	70	10.4	120	23.1	120	25.5	120	27.7	120	29.9	120	32.7	120	35.7	35.7
-60	70	10.8	120	24.0	120	26.6	120	28.9	120	31.1	120	34.0	120	37.1	37.1
MAX	70	10.8	120	24.0	120	26.6	120	28.9	120	31.1	120	34.0	120	37.1	37.1

Table A2 – Solar Taurus CO Emission Factors

Ambient Air Temperature (F)	Load (%)[10]														
	<50		50		60		70		80		90		100		MAX
	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	ppmv	lb/hr	lb/hr
60	3240	183.0	50	4.7	50	5.2	50	5.6	50	6.0	50	6.6	50	7.2	183.0
40	3240	190.0	50	5.0	50	5.5	50	5.9	50	6.4	50	7.0	50	7.6	190.0
20	3240	199.0	50	5.2	50	5.7	50	6.2	50	6.7	50	7.3	50	8.0	199.0
0	3240	206.0	50	5.4	50	6.0	50	6.5	50	7.0	50	7.6	50	8.3	206.0
-20	3240	214.0	100	11.3	100	12.5	100	13.5	100	14.6	100	15.9	100	17.4	214.0
-40	3240	222.0	150	17.6	150	19.4	150	21.2	150	22.7	150	24.9	150	27.1	222.0
-60	3240	232.0	150	18.3	150	20.2	150	22.0	150	23.7	150	25.9	150	28.2	232.0
MAX	3240	232.0	150	18.3	150	20.2	150	22.0	150	23.7	150	25.7	150	28.2	232.0

[10] The percent load is based on actual load divided by the maximum load corresponding to that temperature.

Appendix B – ADEC Notification Form

ADEC NOTIFICATION FORM

Stationary Source Name _____ **Air Quality Permit Number** _____

Company Name _____

When did you discover the Excess Emissions/Permit Deviation?

Date: / / Time: :

When did the event/deviation?

Begin: Date: / / Time: : (please use 24hr clock)
End: Date: / / Time: : (please use 24hr clock)

What was the duration of the event/deviation: : (hrs:min) or days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for notification: (please check only 1 box and go to the corresponding section)
☐ Excess Emissions - Complete Section 1 and Certify
☐ Deviation from Permit Conditions - Complete Section 2 and Certify
☐ Deviation from COBC, CO, or Settlement Agreement - Complete Section 2 and Certify

Section 1: Excess Emissions

(a) Was the exceedance ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):
☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)
☐ Control Equipment Failure ☐ Scheduled Maintenance/Equipment Adjustments
☐ Bad fuel/coal/gas ☐ Upset Condition ☐ Other

(c) Description
Describe briefly what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emission Units Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

Unit ID	Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

(e) Type of Incident (please check only one):
☐ Opacity % ☐ Venting (gas/scf) ☐ Control Equipment Down
☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Record Keeping Failure

☐Marine Vessel Opacity ☐Failure to monitor/report ☐Flaring
☐Other:

(f) Unavoidable Emissions:
Do you intend to assert that these excess emissions were unavoidable? ☐YES ☐NO
Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐YES ☐NO

Certify Report (go to end of form)

Section 2. Permit Deviations

(a) Permit Deviation Type (check one only box, corresponding with the section in the permit)
☐Emission Unit Specific
☐General Source Test/Monitoring Requirements
☐Recordkeeping/Reporting/Compliance Certification
☐Standard Conditions Not Included in Permit
☐Generally Applicable Requirements
☐Reporting/Monitoring for Diesel Engines
☐Insignificant Emission Units
☐Stationary Source Wide
☐Other Section: (title of section and section number of your permit)

(b) Emission Unit Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit condition and the deviation.

Unit ID	Unit Name	Permit Condition /Potential Deviation

(c) Description of Potential Deviation:
Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:
Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:
Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____
Signature: _____ Phone Number: _____

To Submit this Report:

Fax to: 907-451-2187;

Email to: airreports@dec.state.ak.us - *if emailed, the report must be certified within the Operating Report required for the same reporting period per condition 25;*

Mail to: ADEC, Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643;

Phone Notification: 907-451-5173 - p*hone notifications require a written follow-up report within the deadline listed in condition 24; OR*

Online Submission: *(Website is not yet available) - if submitted online, the report must be certified within the Operating Report required for the same reporting period per condition 25.*