UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

OUTER CONTINENTAL SHELF
PERMIT TO CONSTRUCT AND TITLE V AIR QUALITY OPERATING PERMIT

Permit Number:	R10OCS030000	Issuance Date:	October 21, 2011
AFS Plant I.D. Number:	02-010-OCS02	Effective Date:	April 12, 2012
		Expiration Date:	April 12, 2017
Minor Modification		Issuance Date:	September 28, 2012

In accordance with the provisions of Section 328 and Title V of the Clean Air Act and 40 CFR Parts 55 and 71, and the applicable rules and regulations,

Shell Offshore Inc.
3601 C Street, Suite 1000
Anchorage, AK 99503

is authorized to construct and operate the Conical Drilling Unit Kulluk (Kulluk) and associated air emission units and to conduct other air pollutant emitting activities in accordance with the conditions listed in this permit, and only at the following lease blocks from the Beaufort Sea lease sales 186, 195 and 202:

OPD NR05-04 (Harrison Bay)
- Lease Sale 186: 6369, 6370, 6419, 6420, 6421BC
- Lease Sale 195: 6173, 6222, 6223, 6272, 6273, 6320,6321, 6322, 6323, 6371, 6372, 6373, 6374BC, 6424C, 6418, 6422B, 6423B, 6468, 6469B, 6518B, 6519A
- Lease Sale 202: 6221, 6274, 6319, 6324, 6367, 6368, 6470, 6471

OPD NR06-03 (Beechey Point)
- Lease Sale 186: 6352, 6402A, 6403B
- Lease Sale 195: 6152, 6202, 6203, 6204, 6251A, 6301B, 6252, 6253, 6254, 6255, 6256, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6351AB, 6401C, 6353, 6354, 6355, 6356, 6358, 6359, 6360, 6404A, 6405B, 6406B, 6409B, 6410, 6411, 6412
- Lease Sale 202: 6009, 6010, 6011, 6012, 6058, 6059, 6060, 6061, 6062, 6063, 6064, 6065, 6066, 6067, 6068, 6114, 6115, 6116, 6117, 6118, 6324

OPD NR06-04 (Flaxman Island)
- Lease Sale 195: 6657, 6658, 6659, 6707, 6708, 6709, 6712, 6713, 6757, 6758, 6764, 6773, 6774, 6814, 6815, 6822, 6823, 6824, 6873, 6874
- Lease Sale 202: 6251, 6252, 6259, 6301, 6302, 6303, 6304, 6305, 6308, 6309, 6310, 6351, 6352, 6353, 6354, 6355, 6356, 6357, 6358, 6359, 6401, 6402, 6403, 6404, 6405, 6406, 6407, 6408, 6409, 6410, 6453, 6454, 6455, 6456, 6457, 6458, 6459, 6460, 6461, 6504, 6505, 6506, 6508, 6510, 6511, 6512, 6554, 6555, 6558, 6559, 6560, 6561, 6562, 6609, 6610, 6611, 6612, 6660, 6662

OPD NR07-03 (Barter Island)
- Lease Sale 195: 6751, 6752, 6801, 6802, 6851

Terms not otherwise defined in this permit have the meaning assigned to them in the referenced statutes and regulations. All terms and conditions of the permit are enforceable by the United States Environmental Protection Agency (EPA) and citizens under the Clean Air Act (CAA).

_____/s/_____ _____09-28-2012_____
Richard Albright Date
Director, Office of Air, Waste and Toxics

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS 5
AUTHORITY 6
FINDINGS 6
SOURCE DESCRIPTION 6
COA PERMIT DETAILS 8
APPROVAL CONDITIONS 8
A. GENERALLY APPLICABLE REQUIREMENTS 9
1. Construction and Operation 9
2. Overlapping Requirements. 10
3. Compliance Required 10
4. Compliance with Other Requirements; Permit Shield 10
5. Notification to Owners, Operators, and Contractors 11
6. Permit Expiration and Renewal 11
7. Permit Revision, Termination and Reissuance 12
8. Credible Evidence 12
9. Inspection and Entry 12
10. Recordkeeping Requirements 13
11. Agency Notifications 13
12. Certification 13
13. Severability 13
14. Property Rights 14
15. Information Request 14
16. Emergency Provisions 14
17. Outer OCS Deviation Reports 15
18. COA Excess Emission and Permit Deviation Reports 16
19. Semi-Annual and Annual Reporting 17
20. Off Permit Changes 18
21. Emissions Trading and Operational Flexibility 19

22. COA Administration Fees. 19
23. COA Assessable Emissions 19
24. COA Assessable Emissions Estimates 20
25. Outer OCS Part 71 Emission and Fee Reporting 20
26. COA General Source Test Requirements. 22
B. COA SOURCE-WIDE REQUIREMENTS 24
1. COA Industrial Process and Fuel-Burning Equipment Visible Emissions Standard. 24
2. COA Visible Emissions. 24
3. COA Visible Emissions Recordkeeping. 26
4. COA Visible Emissions Reporting. 27
5. COA Industrial Process and Fuel-Burning Equipment Particulate Matter Standard 28
6. COA Particulate Matter Monitoring for Diesel Engines. 29
7. COA Particulate Matter Record Keeping and Reporting for Diesel Engines. 29
8. COA Particulate Matter Monitoring for Liquid-Fired Boilers and Heaters. 30
9. COA Particulate Matter Recordkeeping for Liquid-Fired Boilers and Heaters. 31
10. COA Sulfur Compound Emissions Standard. 31
11. COA Sulfur Compound Monitoring and Record Keeping Liquid Fuel-fired Sources. 31
12. COA Sulfur Compound Emissions – Reporting. 32
13. COA Incinerator Visible Emissions. 32
14. COA Good Air Pollution Control Practice. 33
15. COA Air Pollution Prohibited. 33
16. COA Obligations for Modifications Subject to 18 AAC Article 5 Minor Permits. 34
17. COA Emission Inventory Reporting. 34
C. SOURCE-WIDE NOTIFICATIONS 35
1. Drill Site Notification. 35
2. Drilling Season Notification 35
3. Seasonal Notification of Specific Vessels and Emission Units 35
4. Demonstration of Compliance with NAAQS 35
D. SOURCE-WIDE EMISSION LIMITS & OPERATIONAL RESTRICTIONS 36
1. Emission Calculations 36

2. Emission Factors 37
3. Duration of Exploration Operations 40
4. Synthetic Minor PTE Limits 41
5. Operational Restrictions to Protect the NAAQS 44
6. Emission Limits to Protect the NAAQS 45
7. Prohibited Activities 49
8. Good Operating and Maintenance Requirements 49
9. Closed Crankcase Ventilation 50
10. Selective Catalytic Reduction (SCR) Control Device 50
11. Oxidation Catalyst and Catalyzed Diesel Particulate Filter (CDPF) Control Device 50
E. SOURCE-WIDE TESTING CONDITIONS 51
1. General Testing Requirements 51
2. Test-Derived Emission Factors 54
3. Source Test Requirements 57
F. SOURCE-WIDE MONITORING & RECORDKEEPING CONDITIONS 58
1. Global Positioning System 58
2. Operations and Fuel Monitoring 59
3. Selective Catalytic Reduction (SCR) Control Device Monitoring 61
4. Oxidation Catalyst and Catalyzed Diesel Particulate Filter (CDPF) Control Device Monitoring 62
G. 18 AAC 50.326(a)] NESHAP & NSPS CONDITIONS 63
1. NESHAP ZZZZ & NSPS IIII for K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-6 63
2. NESHAP ZZZZ for K-7A – K-7D5 65
3. NESHAP ZZZZ for K-4A – K-4C 69
4. NESHAP JJJJJJ for K-5A – K-5Z 73
5. NSPS CCCC for K-8 77
ATTACHMENT A: EPA NOTIFICATION FORM 80
ATTACHMENT B: VISIBLE EMISSIONS FIELD DATA SHEET 84
ATTACHMENT C: EMISSION INVENTORY REPORTING 86

ABBREVIATIONS AND ACRONYMS

AAC .....Alaska Administrative Code
ASTM .....American Society of Testing and Materials
Btu.....British thermal units
^{o}C.....degree Celsius
CAA .....Clean Air Act
CFR. .....Code of Federal Regulations
CH_4.....Methane
CO.....Carbon Monoxide
CO_2.....Carbon Dioxide
CMS .....Continuous monitoring system
dscf.....dry standard cubic foot
EPA .....United States Environmental Protection Agency
^{o}F .....degree Fahrenheit
GHG or GHGs .....Greenhouse Gas or Greenhouse Gases
hp.....Horsepower
HPU.....Hydraulic Power Units
hr .....hour
kWe .....KiloWatts electric
kWe-hr .....KiloWatts electric generated in an hour
lbs.....Pounds
MLC.....Mud line cellars
MMBtu/hr .....Million British thermal units per hour
N_2O .....Nitrous Oxide
NA.....Not applicable
NAAQS .....National Ambient Air Quality Standards
NESHAP.....National Emission Standards for Hazardous Air Pollutants
NOx.....Oxides of nitrogen
NSPS.....New Source Performance Standards
NSR.....New Source Review
OCS.....Outer continental shelf
OPD NR.....Official protraction diagram number
OSRV.....Oil spill response vessel
OTM.....Other Test Method
Part 55 .....40 CFR Part 55
$PM_{2.5}$ .....Particulate matter with an aerodynamic diameter less than 2.5 microns
PM_{10} .....Particulate matter with an aerodynamic diameter less than 10 microns
pph.....pounds per hour
ppm .....Parts per million
ppmvd .....Parts per million by volume dry
PTE .....Potential to Emit
SCR .....Selective Catalytic Reduction
SO_2 .....Sulfur dioxide
Shell .....Shell Gulf of Mexico Inc. (the permittee)
tpy .....Tons per year
wt% .....Weight percent

AUTHORITY

The EPA is issuing this outer continental shelf (OCS) permit to construct (PTC) and Title V air quality operating permit pursuant to Section 328 of the CAA, 42 U.S.C. § 7627, and the implementing OCS regulations at 40 CFR Part 55, and pursuant to Title V of the CAA, 42 U.S.C § 7661, and the implementing air quality regulations at 40 C.F.R. Part 71 and Article 5 of the State of Alaska Air Quality Control Regulations 18 Alaska Administrative Code (AAC) 50.326 (Title V permit), and consistent with 18 AAC 50.502 (Minor Permits for Air Quality Protection) and 18 AAC 50.508 (Minor Permits Requested by the Owner or Operator), the applicable provisions of which have been incorporated into 40 C.F.R. Part 55 Appendix A. This action is based upon the application initially submitted by Shell Offshore Inc. (Shell or permittee) on February 28, 2011, supplemental submittals identified in the administrative record for this permit action, and upon the technical analysis performed by EPA.

FINDINGS

On the basis of the information in the administrative record, EPA has determined that:

1. The permittee will meet all of the applicable requirements of the 40 CFR Part 55;
2. The permittee will meet all of the applicable requirements of the 40 CFR Part 71; and
3. The permittee will meet all of the applicable requirements of 18 AAC 50.

SOURCE DESCRIPTION

The information contained within Tables 1 and 2 reflects vessels and emission units used by the permittee in preparing their application materials.

Table 1 – Kulluk Emission Units

Emission Unit ID[a]	Description	Approximate Aggregate Rating[b]
K-1A – 1D	Electricity Generation Engines	10,352 hp
K-2A – 2Z	MLC HPU Engines	1,500 hp
K-3A – 3Z	MLC Air Compressor Engines	1,500 hp
K-4A – 4C	Deck Crane Engines	1,200 hp
K-5A – 5Z	Heaters and Boilers	6 MMBtu/hr

[a] The "K" in the ID stands for the Kulluk. The number following the "K" in the ID distinguishes the different groups of units. For example, "1" is for electricity generation engines and "2" is for MLC HPU engines. The letters refer to the individual units within a group. The four electricity generation engines are identified K-1A, K-1B, K-1C and K-1D or together as K-1A – 1D. When a letter has not been assigned as is the case for the emergency engine and incinerator, the group consists of only one unit. The table references engines "A" to "Z" when the number of units within a group has not yet been determined. For seldom-used sources, there are four categories of engines, "A" to "D", and for the "D" category, there are up to five engines.
[b] This permit does not limit the permittee to the specific rating listed. Permit conditions may limit operations to less than rated capacity.

Emission Unit ID[a]	Description	Approximate Aggregate Rating[b]
K-6	Emergency Generator Engine	1,047 hp
K-7A – 7D: Seldom-Used Sources		1,650 hp
K-7A	Remote-Operated-Vehicle Engine	300 hp
K-7B	Emergency Anchor Lifting Crane Engine	300 hp
K-7C	Emergency Diver Compressor Engine	300 hp
K-7D1 – 7D5	Emergency Lifeboat Propulsion Engines	750 hp
K-8	Incinerator	276 lb/hr
K-9	Fuel Tanks	423,469 gallons
K-10	Drilling Mud System	NA
K-11	Shallow Gas Diverter System[c]	NA

Table 2 – Associated Fleet Emission Units

Emission Unit ID[d]	Description	Approximate Aggregate Rating[e]
Icebreaker No. 1 (IB1)		
IB1-1A – 1Z	Propulsion Engines and Generator Engines	32,200 hp
IB1-2A – 2Z	Heaters and Boilers	10 MMBtu/hr
IB1-3A – 3Z	Seldom-Used Sources	Various
IB1-4	Incinerator	154 lb/hr
Icebreaker No. 2 - Anchor Handler (IB2)		
IB2-1A – 1Z	Propulsion Engines and Generator Engines	32,200 hp
IB2-2A – 2Z	Heaters and Boilers	10 MMBtu/hr
IB2-3A – 3Z	Seldom-Used Sources	Various
IB2-4	Incinerator	154 lb/hr
Resupply Vessel/Barge and Tug (RV/BT)[f,g]		
RV/BT-1A – 1Z	Propulsion Engines and Generator Engines	12,000 hp[h]
RV/BT-2A – 2Z	Seldom-Used Sources	Various
Oil Spill Response Vessel (OSRV)		
OSRV-1A – 1Z	Propulsion Engines and Generator Engines	3,500 hp

[c] Permit conditions prohibit the shallow gas diverter system from emitting any air pollutants.
[d] The acronym to begin the ID stands for the vessel. For instance, "IB1" stands for Icebreaker No. 1. The number following the acronym in the ID distinguishes the different groups of units. For example, "2" is for heaters and boilers on both Icebreaker No. 1 and Icebreaker No. 2. The letters refer to the individual units within a group. When a letter has not been assigned as is the case for incinerators, the group consists of only one unit. In many instances, the table references engines "A" to "Z" given that the number of units within a group has not yet been determined.
[e] This permit does not limit the permittee to the specific rating listed. Permit conditions may limit operations to less than rated capacity.
[f] Resupply vessels include, but are not limited to, resupply ships and barge and tugboat combinations.
[g] Multiple different RV/BT and OSRV WB may be employed over the course of a single drilling season.
[h] The rating for RV/BT and OSRV WB propulsion engines and generator engines listed in the table reflects approximate aggregate rating for an individual vessel, not for all RV/BT and OSRV WB combined.

Emission Unit ID[d]	Description	Approximate Aggregate Rating[e]
OSRV-2A – 2Z	Seldom-Used Sources	Various
OSRV-3	Incinerator	125 lb/hr
OSRV Work Boats (OSRV WB)[g]		
OSRV WB-1A – 1Z	Propulsion Engines and Generator Engines	600 hp[h]

COA PERMIT DETAILS

Date	Document Details
July 5, 2011	OCS Permit Application to Construct and Operate Conical Drilling Unit Kulluk in Beaufort Sea
July 7, 2011	Fuel Monitoring Information
July 13, 2011	Icebreaker No. 1 Additional Modeling Results and Modeling Files on Hard Drive

APPROVAL CONDITIONS

The permittee is authorized to construct and operate the Kulluk and Associated Fleet at any of the lease blocks identified on Page 1 of this permit, and consistent with the representations in the permit application and subject to the conditions in this permit.

OCS Source and Associated Fleet. Permit conditions contained in Sections B through G that apply to the Kulluk, except for those conditions addressing notification, reporting and testing, apply only during the time that the Kulluk is an OCS Source. Permit conditions contained in Sections B through G that apply to any vessel in the Associated Fleet, except for those conditions addressing notification, reporting and testing, apply only during the time that the Kulluk is an OCS Source and subject vessel in the Associated Fleet is within 25 miles of the Kulluk. Permit conditions in Section A as well as permit conditions contained in Sections B through G addressing notification, reporting and testing, apply at all times as specified.

For the purpose of this permit:

a. The Kulluk is an “OCS Source” at any time the Kulluk is attached to the seabed at a drill site by at least one anchor;

b. A drill site is any location at which Shell is authorized to operate under this permit and for which Shell or a leaseholder has received from the Bureau of Ocean, Energy, Management and Regulatory Enforcement (BOEMRE) an authorization to drill; and

c. The “Associated Fleet” refers to the following vessels: Icebreaker No. 1, Icebreaker No. 2 – Anchor Handler, resupply vessel(s)/barge(s) and tug(s), oil spill response vessel, and oil spill response vessel work boats.

Corresponding Onshore Area (COA) and Outer OCS Conditions. Conditions identified with "COA" in this permit only apply to lease blocks wholly or partially (the part that is within) on the "inner OCS" (within 25 miles of the state's seaward boundary) as listed below. Conditions identified as "outer OCS" in this permit only apply to lease blocks wholly or partially (the part that is outside) on the outer OCS (outside 25 miles of the state's seaward boundary) as listed below. All other conditions in this permit apply to lease blocks on both the inner and outer OCS.

OPD/Area	Lease Sale	Lease Block Numbers
Lease Blocks Entirely Inside 25 Miles of the State's Seaward Boundary		
NR05-04 Harrison Bay	186	6369, 6370, 6419, 6420, 6421BC
	195	6173, 6222, 6223, 6272, 6273, 6320,6321, 6322, 6323, 6371, 6372, 6373, 6374BC, 6424C, 6418, 6422B, 6423B, 6468, 6469B, 6518B, 6519A
	202	6221, 6274, 6319, 6324, 6367, 6368, 6470, 6471
NR06-03 Beechey Point	186	6352, 6402A, 6403B
	195	6152, 6202, 6203, 6204, 6251A, 6301B, 6252, 6253, 6254, 6255, 6256, 6302, 6303, 6304, 6305, 6306, 6307, 6308, 6309, 6351AB, 6401C, 6353, 6354, 6355, 6356, 6358, 6359, 6360, 6404A, 6405B, 6406B, 6409B, 6410, 6411, 6412
	202	6009, 6058, 6059, 6060, 6061, 6063, 6064, 6065, 6066, 6067, 6068, 6114, 6115, 6116, 6117, 6118, 6324
NR06-04 Flaxman Island	195	6657, 6658, 6659, 6707, 6708, 6709, 6712, 6713, 6757, 6758, 6764, 6773, 6774, 6814, 6815, 6822, 6823, 6824, 6873, 6874
	202	6251, 6252, 6301, 6302, 6303, 6351, 6352, 6353, 6354, 6355, 6356, 6401, 6402, 6403, 6404, 6405, 6406, 6407, 6408, 6409, 6410, 6453, 6454, 6455, 6456, 6457, 6458, 6459, 6460, 6461, 6504, 6505, 6506, 6508, 6510, 6511, 6512, 6554, 6555, 6558, 6559, 6560, 6561, 6562, 6609, 6610, 6611, 6612, 6660, 6662
NR07-03 Barter Island	195	6751, 6752, 6801, 6802, 6851
Lease Blocks Both Inside and Outside 25 Miles of the State's Seaward Boundary		
NR06-03 Beechey Point	202	6010, 6011, 6012, 6062
NR06-04 Flaxman Island	202	6304, 6305, 6357, 6358, 6359
Lease Blocks Entirely Outside 25 Miles of the State's Seaward Boundary		
NR06-04 Flaxman Island	202	6259, 6308, 6309, 6310

A. GENERALLY APPLICABLE REQUIREMENTS

1. Construction and Operation.

1.1. The permittee shall construct and operate the OCS Source and the Associated Fleet in accordance with the application and supporting materials submitted by the permittee as identified in the Statement of Basis for this permit action and in accordance with this permit. [40 CFR §55.6(a)(4)(i)]

1.2. Upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, the permittee shall promptly submit such

supplementary facts or corrected information. [40 CFR §71.5(b), 18 AAC 50.326(a)]

2. Overlapping Requirements. When two or more provisions apply to the same emission unit or activity the permittee must comply with both. [40 CFR § 71.6(a)(1); 18 AAC 50.326(a)]

3. Compliance Required.

3.1. The permittee shall comply with all applicable requirements of 40 CFR Part 55 and this permit. In the inner OCS, the permittee shall also comply with all applicable requirements of 18 AAC 50. [40 CFR §§ 55.9(a) and 71.6(a)(6)(i);18 AAC 50.345(c)]

3.2. For applicable requirements with which the source is in compliance, the permittee will continue to comply with such requirements. For applicable requirements that will become effective during the permit term, the permittee shall meet such requirements on a timely basis. [40 CFR §§ 71.5(c)(8)(iii)(A)-(B) and 71.6(c); 18 AAC 50.326(a)]

3.3. Failure to comply with all requirements of 40 CFR Part 55 and this permit shall be considered a violation of Section 111(e) and Title V of the CAA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. All enforcement provisions of the CAA, including but not limited to, Section 113, 114, 120, 167, 303, and 304 apply to the permittee. [40 CFR §§ 55.9(a)-(b) and 71.6(a)(6)(i); 18 AAC 50.345(c)]

3.4. All terms and conditions of this permit, including any provision designed to limit the permittee's potential to emit, are enforceable by EPA and citizens under the CAA. [40 CFR § 71.6(b); 18 AAC 50.345(c)]

3.5. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR §71.6(a)(6)(ii); 18 AAC 50.345(d)]

4. Compliance with Other Requirements; Permit Shield.

4.1. This permit does not relieve the permittee of the responsibility to comply fully with applicable provisions of any other requirements under federal law, provided, however, that compliance with the terms and conditions of this permit shall be deemed compliance with the CAA applicable requirements as of the date of permit issuance that are included in and specifically identified in this permit. [40 CFR §§ 55.6(a)(4)(iii) and 71.6(f)(1); 18 AAC 50.345(b)]

4.2. Nothing in this permit shall alter or affect the following:

4.2.1. The provisions of section 303 of the CAA (emergency orders), including the authority of the Administrator under that section;

4.2.2. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

4.2.3. The applicable requirements of the acid rain program, consistent with section 408(a) of the CAA; or

4.2.4. The ability of EPA to obtain information from a source pursuant to section 114 of the CAA.

[40 CFR §71.6(f)(3)(i-iv); 18 AAC 50.326(a)]

5. Notification to Owners, Operators, and Contractors. The permittee must notify all other owners or operators, contractors, and the subsequent owners or operators associated with emissions from the source of the conditions of this permit. [40 CFR § 55.6(a)(4)(iv)]

6. Permit Expiration and Renewal.

6.1. This permit shall expire on the expiration date on page one of this permit. Expiration of this permit terminates the permittee's right to operate unless a timely and complete permit renewal application has been submitted at least six months, but not more than 18 months, prior to the date of expiration of this permit. [40 CFR §§71.6(a)(11), 71.7(b), and 71.7(c)(1)(ii); 18 AAC 50.326(a) and 50.326(j)(2)]

6.2. The permittee shall submit a timely and complete application for a permit renewal at least six months, but not more than 18 months, prior to the date of expiration of this permit. The application for renewal shall include the current permit number, a description of permit revisions and off-permit changes that occurred during the permit term and were not incorporated into the permit during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form. [40 CFR §§71.5(a)(1)(iii), 71.5(a)(2), 71.5(c)(5), and 71.7(c)(1)(ii); 18 AAC 50.326(a)]

6.3. If the permittee submits a timely and complete renewal application, consistent with 40 CFR § 71.5 (a)(2), but EPA has failed to issue or deny the renewal permit, then all the terms and conditions of the permit, including any permit shield granted pursuant to 40 CFR § 71.6(f) shall remain in effect until the renewal permit has been issued or denied. This permit shield shall cease to apply if, subsequent to the completeness determination, the permittee fails to submit by the deadline specified in writing by EPA any additional information identified as being needed to process the application. [40 CFR §§ 71.5(a)(1)(iii), 71.7(b), and 71.7(c)(3); 18 AAC 50.326(a)]

6.4. Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation, affected State, and tribal review. [40 CFR § 71.7(c)(1); 18 AAC 50.326(a)]

6.5. This approval to construct shall become invalid in the inner OCS if construction is not commenced within 18 months after the effective date of this permit,

construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. EPA may extend the 18-month period upon a satisfactory showing that an extension is justified. Sources obtaining an extension are subject to all new or interim requirements and an assessment of applicable control technology when the extension is granted [40 CFR § 55.6(b)(4)]

7. Permit Revision, Termination and Reissuance.

7.1. This permit may be modified, revoked, reopened and reissued, or terminated by EPA for cause. Cause exists under any of the circumstances described in 40 CFR §71.7(f). The filing of a request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR §§ 71.6(a)(6)(iii) and 71.7(f); 18 AAC 50.345(f)]

7.2. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. [40 CFR § 71.6(a)(8); 18 AAC 50.326(a)]

8. Credible Evidence. For the purpose of submitting compliance certifications in accordance with Condition A.12 for establishing whether or not the permittee has violated or is in violation of any requirement of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the permittee would have been in compliance with applicable requirements if the appropriate performance or reference test or procedure had been performed. [section 113(a) and 113(e)(1) of the CAA, 40 CFR §§ 51.212, 52.12, 52.33, 60.11(g), and 61.12]

9. Inspection and Entry. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow EPA or an authorized representative to perform the following:

9.1. Enter upon the Kulluk, any support vessel, any location where emissions related activity is conducted, or any location where records must be kept under the conditions of the permit;

9.2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

9.3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

9.4. As authorized by the CAA, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

[40 CFR § 71.6(c)(2); 18 AAC 50.345(h)]

10. Recordkeeping Requirements. In addition to the specific recordkeeping requirements contained in the source-wide and emission unit sections of this permit, the permittee shall keep records of required monitoring information that include the following:

10.1. The date, place, and time of sampling or measurements;

10.2. The date(s) analyses were performed;

10.3. The company or entity that performed the analyses;

10.4. The analytical techniques or methods used;

10.5. The results of such analyses;

10.6. The operating conditions as existing at the time of sampling or measurement;

10.7. Copies of all reports and certifications submitted pursuant to this permit; and

10.8. The locations where samples were taken.

The permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

[40 CFR §§ 71.6(a)(3)(ii)(A-B) and 71.6(a)(3)(i); 18 AAC 50.326(a)]

11. Agency Notifications. Unless otherwise specified in this permit, any documents required to be submitted under this permit, including reports, test data, monitoring data, notifications, compliance certifications, fee calculation worksheets, and applications for renewals and permit modifications shall be submitted to:

OCS Air Quality Permits
U.S. EPA - Region 10, AWT-107
1200 Sixth Avenue, Suite 900
Seattle, WA 98101
Facsimile: 206-553-0110
Email: R10OCSAirPermits_Reports@epa.gov

[40 CFR §§ 71.5(d), 71.6(c)(1) and 71.9(h)(2); 18 AAC 50.326(a)]

12. Certification. Any document required to be submitted under this permit shall be certified by a responsible official, as that term is defined in 40 CFR § 71.2, of the permittee as to truth, accuracy, and completeness. Such certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [40 CFR §§ 71.5(d), 71.6(c)(1) and 71.9(h)(2); 18 AAC 50.205, 50.326(c) and 50.345(j)]

13. Severability. The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining

permit conditions shall remain valid and in force. [40 CFR § 71.6(a)(5);18 AAC 50.345(e)]

14. **Property Rights.** This permit does not convey any property Rights of any sort, or any exclusive privilege. [40 CFR § 71.6(a)(6)(iv);18 AAC 50.345(g)]

15. **Information Request.** The permittee shall furnish the EPA, within a reasonable time, any information the EPA 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 the EPA with copies of records required to be kept by the permit, including information claimed to be confidential. Information claimed to be confidential must be accompanied by a claim of confidentiality according to the provisions of 40 CFR Part 2, Subpart B. [40 CFR §§71.6(a)(6)(v) and 71.5(a)(3);18 AAC 50.345(i)]

16. **Emergency Provisions.** In addition to any emergency or upset provision contained in any applicable requirement, the permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency.

16.1. To do so, the permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:

16.1.1. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

16.1.2. The permitted facility was at the time being properly operated;

16.1.3. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and

16.1.4. The permittee submitted notice of the emergency to EPA within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of Condition A.17 of this permit, concerning prompt notification of deviations.

[40 CFR §§ 71.6(g)(2), (3) and (5)]

16.2. In any enforcement proceeding, the permittee attempting to establish the occurrence of an emergency has the burden of proof. [40 CFR § 71.6(g)(4)]

16.3. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly

designed equipment, lack of preventive maintenance, careless or improper operation, or operator error. [40 CFR § 71.6(g)(1)]

17. Outer OCS Deviation Reports. The permittee shall promptly report to EPA, by telephone or facsimile or email, deviations from permit conditions, including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. The report shall be made using the contact information provided in Condition A.11.

[40 CFR § 71.6(a)(3)(iii)(B)]

17.1. For the purposes of Conditions A.17 and A.18, deviation means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or record keeping required by this permit. For a situation lasting more than 24 hours, each 24 hour period is considered a separate deviation. Included in the meaning of deviation are any of the following:

17.1.1. A situation where emissions exceed an emission limitation or standard;

17.1.2. A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;

17.1.3. A situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit (including indicators of compliance revealed through parameter monitoring);

17.1.4. A situation in which any testing, monitoring, recordkeeping or reporting required by this permit is not performed or not performed as required;

17.1.5. A situation in which an exceedance or an excursion, as defined in 40 CFR Part 64, occurs; and

17.1.6. Failure to comply with a permit term that requires submittal of a report.

[40 CFR § 71.6(a)(3)(iii)(C)]

17.2. For the purpose of Condition A.17 of the permit, prompt is defined as any definition of prompt or a specific time frame for reporting deviations provided in the underlying applicable requirement as identified in this permit. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations shall be submitted based on the following schedule:

17.2.1. For emissions of a hazardous air pollutant that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence;

17.2.2. For emissions of any regulated pollutant excluding those listed in Condition A.17.2.1 above, that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours of the occurrence; or

17.2.3. For all other deviations from permit requirements, the report shall be submitted within 30 days of the occurrence.

[40 CFR §§ 71.6(a)(3)(iii)(B) and 71.6(a)(3)(i)(B)]

17.3. Within 10 working days of the occurrence of a deviation as provided in Condition A.17.2.1 or A.17.2.2 above, the permittee shall also submit a written notice, which shall include a narrative description of the deviation and updated information as listed in Condition A.17, to EPA, certified consistent with Condition A.12 of this permit.

[40 CFR §§ 71.6(a)(3)(i)(B) and (iii)(B)]

18. COA Excess Emission and Permit Deviation Reports. Except as otherwise provided in this permit, the permittee shall report via fax or email, all emissions or operations that exceed or deviate from the requirements of this permit as follows:

18.1. As soon as possible after the event commences or is discovered, report:

18.1.1. Emissions that present a potential threat to human health or safety; and

18.1.2. Excess emissions that the permittee believes to be unavoidable.

18.2. Within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard; or any exceedance of an emission limit; or any exceedance of a throughput limit.

18.3. Report all other excess emissions and permit deviations:

18.3.1. Within 30 days of the occurrence;

18.3.2. If a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery; and

18.3.3. For failure to monitor, as required in other applicable conditions of this permit.

18.4. When reporting excess emissions or permit deviations, the permittee must report using the form contained in Attachment A to this permit. The permittee must provide all information called for by the form.

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

[18 AAC 50.346(b)(2)]

19. Semi-Annual and Annual Reporting. During the life of this permit[i], the permittee shall submit the following:

19.1. An original and two copies of an Operating Report by October 1 for the period January 1 to June 30 of the current year and by April 1 for the period July 1 to December 31 of the previous year. The Operating Report must include all information required to be in Operating Reports by other conditions of this permit. All instances of deviations from permit requirements must be clearly identified in such Operating Reports as required below. All required reports must be certified by a responsible official consistent with 40 CFR § 71.5(d).

19.1.1. If excess emissions or permit deviations that occurred during the reporting period are not reported under Conditions A.17 or A.18, either

19.1.1.1. The permittee shall identify:

19.1.1.1.1. The date of the deviation;

19.1.1.1.2. The equipment involved;

19.1.1.1.3. The permit condition affected;

19.1.1.1.4. A description of the excess emissions or permit deviation; and

19.1.1.1.5. Any corrective action or preventive measures taken and the date or dates of such actions; or

19.1.1.2. When excess emissions or permit deviations have already been reported under Conditions A.17 or A.18, the permittee shall cite the date or dates of those reports.

19.1.2. The Operating Report must include, for the period covered by the report, a listing of emissions monitored which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The permittee shall include in the report:

19.1.2.1. The date of the emissions;

19.1.2.2. The equipment involved;

19.1.2.3. The permit condition affected; and

19.1.2.4. The monitoring result which triggered the additional monitoring.

19.1.3. The Operating Report shall include reports of any required monitoring, including all emission calculations required by the permit.

[40 CFR §§ 71.9(h)(1),71.6(a)(3)(iii)(A), and 71.6(a)(3)(i)(B); 18 AAC 50.346(b)(6)]

[i] "Life of this permit" is defined as the permit effective dates, including any periods of reporting obligations that extend beyond the permit effective date. For example, if a permit expires prior to the end of a calendar year, there is still a reporting obligation to provide operating reports for the periods when the permit was in effect.

19.2. The permittee shall submit to EPA an annual certification of compliance with permit terms and conditions, including emission limitations, standards, or work practices, by April 1 of each year and covering the permit or permits in effect during the previous calendar year. The compliance certification shall be certified as to the truth, accuracy, and completeness by a responsible official consistent with Condition A.12 of this permit. The annual compliance certification shall include the following:

19.2.1. The identification of each permit term or condition that is the basis of the certification;

19.2.2. The identification of the method(s) or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the methods and means required in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the CAA, which prohibits knowingly making a false certification or omitting material information;

19.2.3. The status of compliance with each term and condition of the permit for the period covered by the certification, including whether compliance was continuous or intermittent. The certification shall be based on the method or means designated above. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and

19.2.4. Such other facts as the permitting authority may require to determine the compliance status of the source.

[40 CFR § 71.6(c)(5); 18 AAC 50.326(a)]

20. Off Permit Changes. The permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met;

20.1. Each change is not addressed or prohibited by this permit;

20.2. Each change meets all applicable requirements and does not violate any existing permit term or condition;

20.3. The changes are not changes subject to any requirement of 40 CFR Parts 72 through 78 or modifications under any provision of Title I of the CAA;

20.4. The permittee provides contemporaneous written notice to EPA of each change, except for changes that qualify as insignificant activities under 40 CFR § 71.5(c)(11), that describes each change, the date of the change, any change in

emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change;

20.5. The changes are not covered by a permit shield provided under 40 CFR § 71.6(f) and Condition A.4 of this permit; and

20.6. The permittee keeps a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

[40 CFR §71.6(a)(12); 18 AAC 50.326(a)]

21. Emissions Trading and Operational Flexibility. The permittee is allowed to make a limited class of changes under section 502(b)(10) of the CAA within this permitted facility that contravene the specific terms of this permit without applying for a permit revision, provided:

21.1. The changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emission or in terms of total emissions);

21.2. The changes are not Title I modifications;

21.3. The changes do not violate applicable requirements;

21.4. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements;

21.5. The permittee sends a notice to EPA, at least 7 days in advance of any change made under this provision, that describes the change, when it will occur and any change in emissions and identifies any permit terms of conditions made inapplicable as a result of the change and the permittee attaches each notice to its copy of this permit; and

21.6. The changes are not covered by a permit shield provided under 40 CFR § 71.6(f) and Condition A.4 of this permit.

[40 CFR § 71.6(a)(13)(i); 18 AAC 50.326(a)]

22. COA Administration Fees. The permittee shall pay to the EPA all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400 – 50.403. [18 AAC 50.400 – 50.403]

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

23.1. The OCS source's (including the Associated Fleet) assessable potential to emit of 459 tpy; or

23.2. The OCS source's (including the Associated Fleet) 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 EPA, when demonstrated by:

23.2.1. An enforceable test method described in 18 AAC 50.220;

23.2.2. Material balance calculations;

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

23.2.4. Other methods and calculations approved by the EPA.

[18 AAC 50.410]

24. COA Assessable Emissions Estimates. Emission fees will be assessed as follows:

24.1. No later than March 31 of each year, the permittee may submit an estimate of the OCS source's assessable emissions to the EPA at the address listed in Condition A.11, Agency Notification. The submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so that EPA can verify the estimates; or

24.2. 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 out in Condition A.23.1.

[18 AAC 50.346(b)(1); 18 AAC 50.410]

25. Outer OCS Part 71 Emission and Fee Reporting.

25.1. Part 71 Annual Emission Report. No later than April 1 of each year, the permittee shall submit to EPA an annual report of actual emissions for the preceding calendar year. [40 CFR § 71.9(h)(1)]

25.1.1. "Actual emissions" means the actual rate of emissions in tons per year of any "regulated pollutant (for fee calculation)," as defined in 40 CFR § 72.2, emitted from a Part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions unit's actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year. [40 CFR § 71.9(c)(6)]

25.1.2. Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data. [40 CFR § 71.9(h)(3)]

25.1.3. Actual emissions shall include fugitive emissions. [40 CFR § 71.9(c)(1)]

25.2. Part 71 Fee Calculation Worksheet. Based on the annual emission report required in Condition A.25.1 and no later than April 1of each year, the permittee shall submit to EPA a fee calculation worksheet (blank forms provided by EPA) and a

photocopy of each fee payment check (or other confirmation of actual fee paid). [40 CFR §§ 71.9(c)(1), 71.9(e)(1) and 71.9(h)(1)]

25.2.1. The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of each "regulated pollutant (for fee calculation)," emitted from the source by the presumptive emission fee (in dollars/ton) in effect at the time of calculation. The presumptive emission fee is revised each calendar year and is available from EPA prior to the start of each calendar year. [40 CFR § 71.9(c)(1)]

25.2.2. The permittee shall exclude the following emissions from the calculation of fees:

25.2.2.1. The amount of actual emission of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tons per year;

25.2.2.2. Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation; and

25.2.2.3. The insignificant quantities of actual emissions not required to be listed or calculated in a permit application pursuant to 40 CFR § 71.5(c)(11).

[40 CFR § 71.9(c)(5)]

25.3. Part 71 Annual Fee Payment. No later than April 1 of each year, the permittee shall submit to EPA full payment of the annual permit fee based on the fee calculation worksheet required in Condition A.25.2. [40 CFR §§ 71.9(a), 71.9(c)(1) and 71.9(h)(1)]

25.3.1. The fee payment and a completed fee filing form shall be sent to:

U.S. EPA
FOIA and Miscellaneous Payments
Cincinnati Finance Center
P.O. Box 979078
St Louis, MO 63197-9000

[40 CFR § 71.9(k)(2)]

25.3.2. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency. [40 CFR § 71.9(k)(1)]

25.3.3. The permittee, when notified by EPA of additional amounts due, shall remit full payment within 30 days of receipt of an invoice from EPA. [40 CFR § 71.9(j)(2)]

25.3.4. If the permittee thinks an EPA assessed fee is in error and wishes to challenge such fee, the permittee shall provide a written explanation of the alleged error to EPA along with full payment of the EPA assessed fee. [40 CFR § 71.9(j)(3)]

25.3.5. Failure of the permittee to pay fees in a timely manner shall subject the permittee to assessment of penalties and interest in accordance with 40 CFR § 71.9(l). [40 CFR § 71.9(l)]

25.4. The annual emission report and fee calculation worksheet (and photocopy of each fee payment check), required in Conditions A.25.1 and A.25.2, shall be submitted to EPA at the address listed in Condition A.11 of this permit.[j] [40 CFR § 71.9(k)(1)]

25.5. The annual emission report and fee calculation worksheet (and photocopy of each fee payment check), required in Conditions A.25.1 and A.25.2, shall be certified by a responsible official in accordance with Condition A.12 of this permit. [40 CFR § 71.9(h)(2)]

25.6. The permittee shall retain in accordance with the provisions of Condition A.10 of this permit, all work sheets and other materials used to determine fee payments. Payments shall be retained for five years following the year in which the emissions data is submitted. [40 CFR § 71.9(i)]

26. COA General Source Test Requirements.

26.1. Requested Source Tests. In addition to any source testing explicitly required by this permit, the permittee shall conduct source testing as requested by the EPA to determine compliance with applicable permit requirements. [18 AAC 50.220(a) and 50.345(k)]

26.2. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing:

26.2.1. At a point or points that characterize the actual discharge into the ambient air; and

26.2.2. At the maximum rated burning or operating capacity of the source or another rate determined by the EPA to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b)]

26.3. Reference Test Methods. The permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

[j] The permittee should note that an annual emissions report, required at the same time as the fee calculation worksheet by 40 CFR § 71.9(h), has been incorporated into the fee calculation worksheet.

26.3.1. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 CFR 60.

26.3.2. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 CFR 61.

26.3.3. Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 CFR 63.

26.3.4. Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9. The permittee may use the form in Appendix B to record data.

26.3.5. Source testing for emissions of total particulate matter (PM), sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 CFR 60, Appendix A.

26.3.6. Source testing for emissions of PM_{10} must be conducted in accordance with the procedures specified in 40 CFR 51, Appendix M, Method 201, or 201A and 202.

26.3.7. Source testing for emissions of any contaminant may be determined using an alternative method approved by the EPA in accordance with 40 CFR 63 Appendix A, Method 301.

[18 AAC 50.220(b)]

26.4. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury). [18 AAC 50.220(b)]

26.5. Test Exemption. Except for visible emissions source tests requested pursuant to Condition A.26.1, the permittee is not required to comply with Conditions E.1.1, E.1.2, or E.1.9 when the exhaust is observed for visible emissions. [18 AAC 50.345(a)]

26.6. Test Deadline Extension. The permittee may request an extension to a source test deadline established by the EPA. The permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the EPA. [18 AAC 50.345(l)]

26.7. Particulate Matter Calculation. In source testing for compliance with the PM standards in Condition B.5, the three-hour average is determined using the average of three one-hour test runs. [18 AAC 50.220(f)]

B. COA SOURCE-WIDE REQUIREMENTS

1. COA Industrial Process and Fuel-Burning Equipment Visible Emissions Standard. The permittee shall comply with the following.

1.1. Do not cause or allow visible emissions, excluding condensed water vapor, emitted from Units K-1A through K-7D5 listed in Table 1 to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes. [18 AAC 50.040(j), 50.326(j) and 50.055(a)(1); 40 CFR §71.6(a)(1)]

1.2. For Units K-1A through K-7D5, monitor, record, and report in accordance with Condition B.2.1 – B.2.4.

1.3. For Units K-1A through K-7D5, as long as they do not exceed the limits in Condition B.1, monitoring shall consist of an annual compliance certification (as provided in Condition A.19.2) with the opacity standard.

[18 AAC 50.326(j), 50.040(j), and 50.346(c); 40 CFR §71.6(a)(3)]

2. COA Visible Emissions.

2.1. Visible Emissions Monitoring. When required by any of the requirements for Units K-1A through K-7D5 specified in Sections B through G below, the permittee shall observe the exhaust of Units K-1A through K-7D5 listed in Table 1 for visible emissions using either the Method 9 Plan under Condition B.2.2 or the Smoke/No-Smoke Plan under Condition B.2.3. The permittee may change visible-emissions plans for an emission unit at any time unless prohibited from doing so by Condition B.2.4. The permittee may, for each unit, elect to continue the visible emission monitoring schedule in effect from the previous permit at the time a renewal permit is issued, if applicable.

2.2. Method 9 Plan. For all 18-minute observations in this plan, observe exhaust, following 40 CFR 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

2.2.1. First Method 9 Observation. Within 30 days of the Kulluk becoming an OCS source or within 30 days of startup of the emission unit, whichever is later, observe exhaust for 18 minutes. For any emission unit, observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition B.2.3. For any emission units replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.

2.2.2. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emission unit operates.

2.2.3. Annual Method 9 Observations. After observing emissions for three consecutive operating months under Condition B.2.2.1, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations at least annually.

2.2.4. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emission unit to at least monthly intervals, until the criteria in Condition B.2.2.3 for annual monitoring are met.

2.3. Smoke/No Smoke Plan. Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

2.3.1. Initial Monitoring Frequency. Observe the exhaust during each calendar day that an emission unit operates.

2.3.2. Reduced Monitoring Frequency. After the emission unit has been observed on 30 consecutive operating days, if the emission unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emission unit operates.

2.3.3. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of Condition B.2.2 or perform the corrective action required under Condition B.2.4.

2.4. Corrective Actions Based on Smoke/No Smoke Observations. If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of Condition B.2.3, then the permittee shall either follow the Method 9 plan of Condition B.2.2 or:

2.4.1. Initiate actions to eliminate smoke from the emission unit within 24 hours of the observation;

2.4.2. Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and

2.4.3. After completing the actions required under Condition B.2.4.1,

2.4.3.1. Take Smoke/No Smoke observations in accordance with Condition B.2.3.

2.4.3.1.1. At least once per day for the next seven operating days and until the initial 30 day observation period is completed; and

2.4.3.1.2. Continue as described in Condition B.2.3.2; or

2.4.3.2. If the actions taken under Condition B.2.4.1 do not eliminate the smoke, or if subsequent smoke is observed under the schedule of Condition B.2.4.3.1.1, then observe the exhaust using the Method 9 Plan unless the EPA gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under Condition B.2.3.1.

[18 AAC 50.326(a), 50.326(j), 50.040(j), and 50.346(c); 40 CFR §71.6(a)(3)(i)]

3. COA Visible Emissions Recordkeeping. The permittee shall keep records as follows.

3.1. If using the Method 9 Plan of Condition B.2.2,

3.1.1. The observer shall record:

3.1.1.1. The name of the OCS Source, emission unit and location, emission unit type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Appendix B;

3.1.1.2. The time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;

3.1.1.3. The presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

3.1.1.4. Opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Field Data Sheet in Appendix B;

3.1.1.5. The minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

3.1.2. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets

need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

3.1.3. Calculate and record the highest 18-consecutive-minute averages observed.

3.2. If using the Smoke/No Smoke Plan of Condition B.2.3, record the following information in a written log for each observation and submit copies of the recorded information upon request of the EPA:

3.2.1. The date and time of the observation;

3.2.2. From Table 1, the emission unit identification number of the emission unit observed;

3.2.3. Whether visible emissions are present or absent in the exhaust;

3.2.4. A description of the background to the exhaust during the observation;

3.2.5. If the emission unit starts operation on the day of the observation, the startup time of the emission unit;

3.2.6. Name and title of the person making the observation; and

3.2.7. Operating rate (load or fuel consumption rate).

[18 AAC 50.326(a), 50.326(a), 50.040(j), and 50.346(c); 40 CFR 71.6(a)(3)(ii)]

4. COA Visible Emissions Reporting. The permittee shall report visible emissions as follows.

4.1. Include in each Operating Report under Condition A.19:

4.1.1. Which visible-emissions plan of Condition B.2.1 was used for each emission unit; if more than one plan was used, give the time periods covered by each plan;

4.1.2. For each emission unit under the Method 9 Plan,

4.1.2.1. Copies of the observation results (i.e. opacity observations) for each emission unit that used the Method 9 Plan, except for the observations the permittee has already supplied to the EPA; and

4.1.2.2. A summary to include:

4.1.2.2.1. Number of days observations were made;

4.1.2.2.2. Highest six-minute average observed; and

4.1.2.2.3. Dates when one or more observed six-minute averages were greater than 20 percent.

4.1.3. For each emission unit under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and

4.1.4. A summary of any monitoring or record keeping required under Conditions B.2.1 and B.2.4.3.2 that was not done.

4.2. Report under Condition A.18:

4.2.1. The results of Method 9 observations that exceed an average 20 percent for any six-minute period; and

4.2.2. If any monitoring under Condition B.2.1 was not performed when required, report within three days of the date the monitoring was required.

[18 AAC 50.326(a), 50.326(j), 50.040(j), and 50.346(c); 40 CFR 71.6(a)(3)(iii)]

5. COA Industrial Process and Fuel-Burning Equipment Particulate Matter Standard. The permittee shall not cause or allow PM emitted from Units K-1A through K-7D5 listed in Table 1 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours. [18 AAC 50.040(j), 50.326(a), 50.326(j), and 50.055(b)(1); 40 CFR 71.6(a)(1)]

5.1. For Units K-1A through K-7D5 listed in Table 1, monitor, record and report in accordance with Conditions B.6 – B.7.

5.2. For emission Units K-1A through K-7D5, as long as they do not exceed the limits in Condition B.5, monitoring shall consist of an annual compliance certification (as provided in Condition A.19.1) with the PM standard. [18 AAC 50.326(j), 18 AAC 50.040(j)(4) and 40 CFR 71.6(a)(3)(i)(B)]

5.3. In source testing for compliance with the PM standards in 18 AAC 50.050 or 18 AAC 50.055, the three-hour average is determined using the average of three one-hour test runs. The source test must account for those emissions caused by soot blowing, grate cleaning, or other routine maintenance activities by ensuring that at least one test run includes the emissions caused by the routine maintenance activity and is conducted under conditions that lead to representative emissions from that activity. The emissions must be quantified using the following equation:

$$E = E_M \left[(A+B)\, x \frac{S}{R\, x\, A} \right] + E_{NM} \left[\frac{(R-S)}{R} - \frac{BS}{R\, x\, A} \right]$$

Where:

E = the total particulate emissions of the source in grains per dry standard cubic foot (gr/dscf).

E_M = the particulate emissions in gr/dscf measured during the test that included the routine maintenance activity.

E_{NM} = the arithmetic average of particulate emissions in gr/dscf measured by the test runs that did not include routine maintenance activity.
A = the period of routine maintenance activity occurring during the test run that included routine maintenance activity, expressed to the nearest hundredth of an hour.
B = the total period of the test run, less A.
R = the maximum period of source operation per 24 hours, expressed to the nearest hundredth of an hour.
S = the maximum period of routine maintenance activity per 24 hours, expressed to the nearest hundredth of an hour.

[18 AAC 50.326(j), 18 AAC 50.040(j), 18 AAC 50.346(c) and 40 CFR 71.6(a)(3)]

6. COA Particulate Matter Monitoring for Diesel Engines. The permittee shall conduct source tests on Units K-1A through K-4C and K-6 through K-7D5 to determine the concentration of PM in the exhaust of a source in accordance with Condition B.6.

6.1. Within six months of exceeding the criteria of Conditions B.6.2.1 or B.6.2.2, either:

6.1.1. Conduct a PM source test according to requirements set out in Condition E.1, or

6.1.2. Make repairs so that emissions no longer exceed the criteria of Condition B.6.2 to show that emissions are below those criteria, observe emissions as described in Condition B.2.2 under load conditions comparable to those when the criteria were exceeded.

6.2. Conduct the test according to Condition B.6.1 if:

6.2.1. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

6.2.2. For a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the EPA has waived this requirement in writing.

6.3. During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

6.4. The automatic PM source test requirements in Conditions B.6.1 and B.6.2 is waived for an emissions unit if a PM source test on that emission unit has shown compliance with the PM standard during this permit term.

[18 AAC 50.326(j), 18 AAC 50.040(j), 18 AAC 50.346(c) and 40 CFR §71.6(a)(3)(i)(B)]

7. COA Particulate Matter Record Keeping and Reporting for Diesel Engines. Within 180 calendar days after the effective date of this permit, the permittee shall record the exhaust stack diameter(s) of Units K-1A through K-4C and Units K-6 through K-7D5 from

Table 1 in the permit. Report the stack diameter(s) in the next Operating Report under Condition A.19.

7.1. PM Reporting for Diesel Engines. The permittee shall report as follows:

7.1.1. Report under Condition A.18:

7.1.1.1. The results of any PM source test that exceeds the PM emissions limit; or

7.1.1.2. If one of the criteria of Condition B.6.2 was exceeded and the permittee did not comply with either Condition B.6.1.1 or B.6.1.2, this must be reported by the day following the day compliance with Condition B.6.1 was required;

7.2. Report observations in excess of the threshold of Condition B.6.2.2 within 30 days of the end of the month in which the observations occur.

7.3. In each OCS source Operating Report under Condition A.19, include:

7.3.1. The dates, emission unit EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition B.6.2;

7.3.2. A summary of the results of any PM testing under Condition B.6; and

7.3.3. Copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition B.6.2, if they were not already submitted.

[18 AAC 50.326(j), 18 AAC 50.040(j), 18 AAC 50.346(c) and 40 CFR §71.6(a)(3)(ii)]

8. COA Particulate Matter Monitoring for Liquid-Fired Boilers and Heaters. The permittee shall conduct source tests on Units K-5A through K-5Z to determine the concentration of PM in the exhaust of the units as follows.

8.1. Conduct a PM source test according to the requirements set out in Condition E.2.1 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.

8.2. During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity measured during each one-hour test run.

8.3. The PM source test requirement in Condition B.8 is waived for an emission unit if:

8.3.1. A PM source test during the most recent annual reporting period on that emission unit shows compliance with the PM standard since permit issuance, or

8.3.2. If a follow-up visible emission observation conducted using Method 9 during the 90 days shows that the excess visible emissions described in Condition B.2.2.4 no longer occur.

[18 AAC 50.326(j)(4), 18 AAC 50.040(j), 40 CFR §§71.6(a)(3)(i) and 71.6(c)(6)]

9. COA Particulate Matter Recordkeeping for Liquid-Fired Boilers and Heaters. The permittee shall keep records of the results of any PM testing and visible emissions observations conducted under Condition B.8. The permittee shall report as follows.

9.1. In each OCS source Operating Report required by Condition A.19, include:

9.1.1. The dates, emission units, and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition B.2.2.4; and

9.1.2. A summary of the results of any PM testing and visible emissions observations conducted under Condition B.8.

9.2. Report as excess emissions, in accordance with Condition A.18, any time the results of a source test for PM exceeds the PM emission limit stated in Condition B.5.

[18 AAC 50.326(j)(4), 18 AAC 50.040(j), 40 CFR §§71.6(a)(3)(ii), (iii) and 71.6(c)(6)]

10. COA Sulfur Compound Emissions Standard. Sulfur Compound Emissions. In accordance with 18 AAC 50.055(c), the permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Units K-1A through K-7D5 listed in Table 1 to exceed 500 parts per million (ppm) averaged over three hours. [18 AAC 50.055(c)]

10.1. For Units K-1A through K-7D5, monitor, record and report in accordance with Conditions B.11 through B.12. [18 AAC 50.326(j), 18 AAC 50.040(j), 40 CFR §71.6(a)(3)(i)(B)]

11. COA Sulfur Compound Monitoring and Record Keeping Liquid Fuel-fired Sources. Sulfur Compound Emissions – Monitoring and Recordkeeping.

11.1. If a load of fuel contains greater than 0.01 percent sulfur by weight, the permittee shall calculate SO_2, emissions in ppm using the SO_2, Material Balance Calculation as described below or Method 19 of 40 CFR 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

SO_2 Material Balance Calculation

If a fuel shipment contains more than 0.01 percent sulfur by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

$$A = 31{,}200 \times [wt\%S_{fuel}] = 31{,}200 \times _____ = _____$$

$$B = 0.148 \times [wt\%S_{fuel}] = 0.148 \times _____ = _____$$

$$C = 0.396 \times [wt\%C_{fuel}] = 0.396 \times _____ = _____$$

$D = 0.933 \times [wt\%H_{fuel}] = 0.933 \times$ _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

$F = 21 - [vol\%dryO_{2,\ exhaust}] = 21 -$ _____ = _____

$G = [vol\%dryO_{2,\ exhaust}] \div F =$ _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ PPM

The $wt\%S_{fuel}$, $wt\%C_{fuel}$, and $wt\%H_{fuel}$ are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition F.2.4. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust ($vol\%dryO_{2,\ exhaust}$) is obtained from oxygen meters, manufacturer's data, or from the most recent analysis under 40 C.F.R. 60, Appendix A-2, Method 3, adopted by reference in 18 AAC 50.040(a), at the same engine load used in the calculation.

[18 AAC 50.326(j), 18 AAC 50.040(j), 40 CFR §71.6(a)(3)(i)(B)]

12. COA Sulfur Compound Emissions – Reporting. The permittee shall report as follows.

12.1. If SO_2 emissions are calculated under Condition B.11.1 to exceed 500 ppm, the permittee shall report under Condition A.18. When reporting under this Condition B.12.1 include the calculation under Condition B.11.1.

12.2. The permittee shall include in the report required by Condition A.19 a list of the fuel grades received at the OCS Source during the reporting period:

12.2.1. For any grade with a maximum fuel sulfur greater than 0.0015 percent sulfur, the fuel sulfur of each shipment; and

12.2.2. For fuel with a sulfur content greater than 0.0015 percent, the calculated SO_2 emissions in ppm.

[18 AAC 50.326(j), 18 AAC 50.040(j), 40 CFR §71.6(a)(3)(i)(B)]

13. COA Incinerator Visible Emissions. The permittee shall comply with the following.

13.1. Do not cause or allow visible emissions, excluding condensed water vapor, through the exhaust of Unit K-8, to reduce visibility by more than 20 percent averaged over any six consecutive minutes. [18 AAC 50.040(j), 18 AAC 50.326(j),18 AAC 50.050(a), and 40 CFR 71.6(a)(1)]

13.2. Observe, record, and report the exhaust of Unit K-8 using the visible emission monitoring, recordkeeping, and reporting Conditions B.2 through B.4.

[18 AAC 50.326(j), 18 AAC 50.040(j), 18 AAC 50.346(c) and 40 CFR §71.6(a)(3)(i)]

14. COA Good Air Pollution Control Practice. The permittee shall do the following for Units K-1A through K-8:

14.1. Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

14.2. Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and

14.3. Keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.346(b)(5)]

15. COA 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.

15.1. If emissions present a potential threat to human health or safety, the permittee shall report any such emissions according to Condition A.18.

15.2. As soon as practicable after becoming aware of a complaint that is attributable to emissions from the emission units regulated under this permit, the permittee shall investigate the complaint to identify emissions that the permittee believes have caused or are causing a violation of Condition B.15.

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

15.3.1. After an investigation because of a complaint or other reason, the permittee believes that emissions from the OCS source have caused or are causing a violation of Condition B.15; or

15.3.2. The EPA notifies the permittee that it has found a violation of Condition B.15.

15.4. The permittee shall keep records of:

15.4.1. The date, time, and nature of all emissions complaints received;

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

15.4.3. A summary of any investigation, including reasons the permittee does or does not believe the emissions have caused a violation of Condition B.15; and

15.4.4. Any corrective actions taken or planned for complaints attributable to emissions from the OCS source.

15.5. With each OCS Operating Report under Condition A.19, the permittee shall include a brief summary report which must include:

15.5.1. The number of complaints received;

15.5.2. The number of times the permittee or the EPA found corrective action necessary;

15.5.3. The number of times action was taken on a complaint within 24 hours; and

15.5.4. The status of corrective actions the permittee or EPA found necessary that were not taken within 24 hours.

15.6. The permittee shall notify the EPA of a complaint that is attributable to emissions from the emission units regulated under this permit within 24 hours after receiving the complaint, unless the permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.110, 18 AAC 50.326(j), 18 AAC 50.040(j) and 40 CFR §71.6(a)(3)(i)(B)]

16. COA Obligations for Modifications Subject to 18 AAC Article 5 Minor Permits. Nothing in this permit relieves the permittee from the requirements to obtain a minor permit for modifications that are subject to 18 AAC Article 5 Minor Permits. [18 AAC 50.502, 40 CFR 71.6(a)(1)]

17. COA Emission Inventory Reporting. The permittee shall submit to EPA reports of actual emissions, by emission unit, of CO, NH_3, NO_X, PM_{10}, $PM_{2.5}$, SO_2, VOCs and lead (Pb) (and lead compounds) using the form in Attachment C of this permit, as follows:

17.1. Each year by March 31, if the Kulluk and Associated Fleet's potential to emit (PTE) emissions for the previous calendar year:

17.1.1. Equal or exceed 250 tpy of NH_3, PM_{10}, $PM_{2.5}$ or VOCs; or

17.1.2. Equal or exceed 2500 tpy of CO, NO_X or SO_2.

17.2. Every third year by March 31 if the Kulluk and Associated Fleet's PTE emissions for the previous calendar year exceed:

17.2.1. 5 tpy of lead, 1000 tpy of CO; or

17.2.2. 100 tpy of SO_2, NH_3, PM_{10}, $PM_{2.5}$, NO_X or VOCs.

17.3. The permittee shall commence reporting in 2013 for the calendar year of 2012, 2015 for calendar year 2014, etc.

17.4. Include in the report required by this condition, the required data elements contained within the stack description section of the form or those contained in Table 2A of Appendix A to Subpart A of 40 CFR 51 (final rule published in 73 FR 76556 (December 17, 2008)) for each stack associated with an emission unit.

[40 CFR §§ 51.15, 51.30(a)(1) and (b)(1) and 40 CFR 51, Appendix A to Subpart A, 73 FR 76556 (12/17/08), and 18 AAC 50.346(b)(8), 18 AAC 50.200]

C. SOURCE-WIDE NOTIFICATIONS

1. Drill Site Notification. By April 1 each year, the permittee shall notify EPA via facsimile or email of the following information:

1.1. The location of the proposed drill site, using coordinates in the following formats:

1.1.1. Latitude and longitude, and

1.1.2. Universal Transverse Mercator grid system.

1.2. The lease block where the drill site is located; and

1.3. The proposed date that the Kulluk will become an OCS Source at that drill site.

[40 CFR §§ 55.8(a), 71.6(a)(3)(iii) and 71.6(e), 18 AAC 50.326(a)]

2. Drilling Season Notification. Each drilling season, the permittee shall report to EPA via facsimile or email the information below, within 3 days of occurrence:

2.1. The date and hour that the Kulluk became an OCS Source at the first drill site of that drilling season; and

2.2. The date and hour that the Kulluk ceased to be an OCS Source at the last drill site of that drilling season.

[40 CFR §§ 55.8(a), 71.6(a)(3)(iii) and 71.6(e), 18 AAC 50.326(a)]

3. Seasonal Notification of Specific Vessels and Emission Units. By April 1 of each year, the permittee shall submit to EPA information identifying the specific vessels in the Associated Fleet and all equipment that will be operated as emission units under this permit. The information submitted shall include at a minimum:

3.1. A complete listing of all air pollution emitting equipment onboard the Kulluk along with identification numbers and photos and/or schematic diagrams.

3.2. Information clearly identifying each vessel in the Associated Fleet, including name, identification numbers, photos and/or schematic diagrams, role in the Associated Fleet under this permit, and a complete listing of all air pollution emitting equipment onboard.

3.3. Information clearly identifying each piece of equipment whose operation will emit air pollution, both as listed under the categories and units covered by this permit and any unlisted emission units. For each emission unit, include the type of unit, make, model, manufacturer's rated capacity (kW-hr and gal/hr for engines, MMBtu/hr and gal/hr for boilers and heaters, lb/hr for incinerators) and fuel used.

[40 CFR §§ 55.8(a) and 71.6(a)(3)(iii), 18 AAC 50.326(a)]

4. Demonstration of Compliance with NAAQS. By April 1 of each drilling season, the permittee shall submit to EPA a modeling analysis for the specific vessels in the Associated Fleet, all equipment, and all emission units on the Kulluk and Associated Fleet proposed for operation under this permit for the upcoming drilling season. If the proposed

combination of Associated Fleet, equipment, and emission units has previously been modeled, the permittee may submit a certification referencing the previous modeling analysis in lieu of a new modeling analysis.

4.1. Modeling analyses conducted under this permit condition shall be identical in all respects to the modeling analysis conducted in support of the initial permitting action, except that the subsequent modeling analyses shall reflect any actual changes to the Kulluk, Associated Fleet, equipment, and emission units from those assumed in the initial modeling analysis. Modeling analyses shall be conducted using the same model, meteorological data, and other assumptions used in the initial modeling analysis. For equipment that is not changing, the modeling analyses shall use the same stack characteristics and other source parameters as those used in the initial modeling analysis. In addition, the subsequent modeling analyses shall use the same non-project sources that were included in any cumulative impact analysis and the same background ambient air quality values as set forth in the Statement of Basis.

4.2. The information supporting the initial permit is contained in the application materials prepared and submitted by the permittee or their contractors as part of, or supporting, the permit application.

4.3. The modeling analyses shall demonstrate that, for the Kulluk, Associated Fleet, equipment, and emission units actually proposed for operation in the upcoming drilling season, the total modeled air quality impacts (including background) are predicted to be less than the NAAQS.

[40 CFR §§ 55.8(a), 71.6(a)(1), 71.6(a)(3)(iii) and 71.6(e)]

D. SOURCE-WIDE EMISSION LIMITS & OPERATIONAL RESTRICTIONS

1. Emission Calculations.

1.1. By Friday of each week, the permittee shall calculate and record the hourly emissions of NO_X and the daily emissions of NO_X, CO, $PM_{2.5}$ and PM_{10} from each emission unit or group of emission units for the previous week.

1.2. By Friday of each week, the permittee shall calculate and record the daily rolling 365-day emissions of NO_X and CO for each day of the previous week by using the daily emissions calculated for the previous 365 days pursuant to Condition D.1.1.

1.3. By the tenth of each month, the permittee shall calculate and record the monthly emissions of GHGs from each emission unit or group of emission units for the preceding month.

1.4. By the tenth of each month, the permittee shall calculate and record the rolling 12-month emissions of GHG by using the monthly emissions calculated for the previous 12 months pursuant to Condition D.1.3.

1.5. For groups of emission units required to perform source testing to determine test-derived emission factors pursuant to Condition E.3.1 and that only measure fuel used by the group, rather than by individual emission units, use the worst case group emission factor as specified in Condition E.2.2.1.4 and the fuel combusted by the group of emission units in calculations required in Condition D.1.

[40 CFR §§ 71.6(a)(3)(i)(B) and 71.6(a)(3)(ii), 18 AAC 50.326(a)]

2. Emission Factors. The emission factors included in the Tables D.2.1 – D.2.2 shall be used for purposes of this permit until an alternative test-derived emission factor has been determined according to Condition E.2 of this permit.

[40 CFR §§ 71.2, 71.6(a)(1) and 71.6(c)(1), 18 AAC 50.326(a)]

Table D.2.1 – Kulluk Emission Factors[k]

EMISSION UNIT ID	Description	Emission Unit Rating	Emission Factor Units[l]	NO_X[m]	CO[n]	PM_{10}[o]	$PM_{2.5}$[p]	CO_2	N_2O	CH_4
K-1A – 1D	Electricity Generation Engines	Various	lb/gal	C:0.049 U:0.49	C:0.022 U:0.112	C:0.009 U:0.018	C:0.009 U:0.018	22.5	0.0002	0.0009
K-2A – 2Z K-3A – 3Z K-4A – 4C	MLC HPU MLC Air Compressor Deck Crane Engines	> 600 hp	lb/gal	0.370	C:0.022 U:0.112	C:0.009 U:0.018	C:0.009 U:0.018	22.5	0.0002	0.0009
		< 600 hp	lb/gal	0.462	C:0.025 U:0.125	C:0.018 U:0.037	C:0.018 U:0.037	22.5	0.0002	0.0009
K-5A – 5Z	Heaters and Boilers	Various	lb/gal	0.02	0.007	0.0033	0.0033	22.5	0.0002	0.0009
K-6	Emergency Generator	> 600 hp	lb/gal	0.399	0.112	0.038	0.038	22.5	0.0002	0.0009
K-7A – 7D	Seldom-Used Sources	< 600 hp	lb/gal	0.462	0.125	0.037	0.037	22.5	0.0002	0.0009
K-8	Incinerator	276 lbs//hr	lb/ton	3	300	16.4	14	1990	0.092	0.702
K-10	Drilling Mud System	NA	lb/month	NA	NA	NA	NA	NA	NA	1596

[k] Footnotes in Table D.2.1 also apply to Table D.2.2.
[l] Emission factors are in terms of pounds of emissions per unit of operation except for the drilling mud system which are worst case emission per month; lb/gal means pounds of pollutant emitted per gallon of diesel burned; lb/ton means pounds of pollutant emitted per ton of waste incinerated; lb/month means pounds of pollutant emitted per month.

[m] C = controlled. U = uncontrolled. Controlled NO_X emission factors for emission units K-1A – 1D, IB1-1A – 1Z and IB2-1A – 1Z reflect an SCR control efficiency of 90%.
[n] C = controlled. U = uncontrolled. Controlled CO emission factors for emission units K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-4A – 4C, IB1-1A – 1Z and IB2-1A – 1Z reflect an oxidation catalyst control efficiency of 80%.
[o] C = controlled. U = uncontrolled. Controlled PM_{10} emission factors for emission units K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-4A – 4C, IB1-1A – 1Z and IB2-1A – 1Z reflect an oxidation catalyst control efficiency of 50%.
[p] C = controlled. U = uncontrolled. Controlled $PM_{2.5}$ emission factors for emission units K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-4A – 4C, IB1-1A – 1Z and IB2-1A – 1Z reflect an oxidation catalyst control efficiency of 50%.

Table D.2.2 – Associated Fleet Emission Factors

EMISSION UNIT ID	Description	Emission Unit Rating	Emission Factor Units	NO_X	CO	PM_{10}	$PM_{2.5}$	CO_2	N_2O	CH_4
IB1-1A – 1Z IB2-1A – 1Z	Propulsion Engines and Generator Engines on Icebreakers	Various	lb/gal	C:0.049 U:0.49	C:0.022 U:0.112	C:0.009 U:0.018	C:0.009 U:0.018	22.5	0.0002	0.0009
IB1-2A – 2Z IB2-2A – 2Z	Heaters and Boilers on Icebreakers	Various	lb/gal	0.02	0.007	0.0033	0.0033	22.5	0.0002	0.0009
RV/BT-1A – 1Z OSRV-1A – 1Z	Propulsion Engines and Generator Engines on Resupply Vessel/Barge and Tug	> 600 hp	lb/gal	0.370	0.112	0.018	0.018	22.5	0.0002	0.0009
		< 600 hp	lb/gal	0.462	0.125	0.037	0.037	22.5	0.0002	0.0009
OSRV WB-1A - 1Z	Oil Spill Response Vessel and Oil Spill Response Vessel Work Boats	> 600 hp	lb/gal	0.399	0.112	0.038	0.038	22.5	0.0002	0.0009
		< 600 hp	lb/gal	0.462	0.125	0.037	0.037	22.5	0.0002	0.0009
IB1-3A – 3Z IB2-3A – 3Z RV/BT-2A – 2Z OSRV-2A – 2Z	Seldom-Used Sources on Associated Fleet	< 600 hp	lb/gal	0.462	0.125	0.037	0.037	22.5	0.0002	0.0009
IB1-4 IB2-4 OSRV-3	Incinerators on Icebreakers and Oil Spill Response Vessel	Various lb	lb/ton	3	300	16.4	14	1990	0.092	0.702

3. Duration of Exploration Operations.

3.1. The permittee shall only conduct exploration drilling operations in the Beaufort Sea between July 1 and November 30 each year (referred to hereafter as the "drilling season").

3.2. During the drilling season, the permittee shall not operate the Kulluk as an OCS Source in excess of 120 calendar days. Each partial day shall be counted as a calendar day.

3.3. The permittee shall not conduct any Drilling Activity in excess of 1,632 hours within a drilling season. Drilling Activity includes MLC Drilling Activity and Well Drilling Activity.

3.4. The permittee shall not conduct any MLC Drilling Activity in excess of 480 hours within a drilling season.

3.5. For the purpose of this permit, the following definitions apply:

3.5.1. MLC Drilling Activity is defined as any time when any MLC HPU engine or MLC air compressor engine is operating.

3.5.2. Well Drilling Activity is defined as any time when the top drive is engaged and turning the conventional rotary bit.

3.6. For each drill site at which the Kulluk operates, the permittee shall record the following:

3.6.1. The lease block within the Beaufort Sea lease sales 186, 195 or 202 where the drill site is located;

3.6.2. The date and hour that the Kulluk became an OCS Source at that drill site;

3.6.3. The date and hour that the Kulluk ceased to be an OCS Source at that drill site.

3.7. For each period of Well Drilling Activity, the permittee shall record the following:

3.7.1. The date and hour at which the top drive is first engaged and turning the conventional rotary bit; and

3.7.2. The date and hour at which the top drive is disengaged and no longer turning the conventional rotary bit.

3.8. For each period of MLC Drilling Activity the permittee shall record the following:

3.8.1. The date and hour in which the first MLC HPU engine or MLC air compressor engine begins operation; and

3.8.2. The date and hour in which the last MLC HPU engine or MLC air compressor engine ceases operation.

3.9. Any time spent drilling a relief well shall be included in the time recorded in Conditions D.3.2 and D.3.3.

3.10. By the 10th of each month, the permittee shall calculate and record the following operating parameters for the previous month and a running total for the current drilling season based upon recordkeeping performed pursuant to Conditions D.3.6, D.3.7and D.3.8:

3.10.1. The number of days the Kulluk operated as an OCS source;

3.10.2. The number of hours of Drilling Activity; and

3.10.3. The number of hours of MLC Drilling Activity.

[40 CFR §§71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii), 71.6(e), 55.8(a), 18 AAC 50.326(a)]

4. Synthetic Minor PTE Limits.

4.1. Nitrogen oxides (NO_X) emissions from the Kulluk and Associated Fleet shall not exceed 240 tpy as determined on a rolling 365-day basis by calculating the emissions (tons) for each day and adding the emissions (tons) calculated for the previous 364 days.

4.1.1. Daily NO_X emissions (tons) from each emission unit or group of emission units shall be determined by multiplying the appropriate emission factor (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded daily operation rate (units/day) and dividing by 2000 lb/ton.

4.1.1.1. For the Kulluk electricity generation engines (Units K-1A – 1D), Icebreaker No. 1 propulsion engines and generator engines (IB1-1A – 1Z), and Icebreaker No. 2 propulsion and generator engines (IB2-1A – 1Z), the permittee shall use the appropriate uncontrolled emission factor from Tables D.2.1 and D.2.2 for all periods when any of the deviations described in Condition F.3.7 exist.

4.1.2. For the Kulluk incinerator (Unit K-8), the permittee shall use one of the following for determining the daily operating rate when calculating emissions pursuant to Condition D.4.1.1.

4.1.2.1. the maximum incineration capacity (lb/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.1.2.2. the actual waste combusted per day as measured pursuant to Conditions G.5.2.2 and G.5.2.3.

4.1.3. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 24 in place of the recorded daily operation rate when calculating emission pursuant to Condition D.4.1.1.

4.2. Carbon monoxide (CO) emissions from the Kulluk and Associated Fleet shall not exceed 200 tpy as determined on a rolling 365-day basis by calculating the emissions (tons) for each day and adding the emissions (tons) calculated for the previous 364 days.

4.2.1. Daily CO emissions (tons) from each emission unit or group of emission units shall be determined by multiplying the appropriate emission factor (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded daily operation rate (units/day) and dividing by 2000 lb/ton.

4.2.1.1. For Kulluk electricity generation engines (Units K-1A – 1D), Kulluk MLC HPU engines (Units K-2A – 2Z), Kulluk MLC air compressor engines (Units K-3A – 3Z), Kulluk deck crane engines (Units K-4A – 4C), Icebreaker No. 1 propulsion engines and generator engines (IB1-1A – 1Z), and Icebreaker No. 2 propulsion and generator engines (IB2-1A – 1Z), the permittee shall use the appropriate uncontrolled emission factor from Tables D.2.1 and D.2.2 for all periods when any of the deviations described in Condition F.4.7 exist.

4.2.2. For the Kulluk incinerator (Unit K-8), the permittee shall use one of the following for determining the daily operating rate when calculating emissions pursuant to Condition D.4.2.1.

4.2.2.1. the maximum incineration capacity (lb/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.2.2.2. the actual waste combusted per day as measured pursuant to Conditions G.5.2.2 and G.5.2.3.

4.2.3. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 24 in place of the recorded daily operation rate when calculating emission pursuant to Condition D.4.2.1.

4.3. Sulfur dioxide (SO_2) emissions from the Kulluk and Associated Fleet shall not exceed 10 tpy as determined on a rolling 12-month basis by confirming compliance with Conditions D.4.5 and D.4.6 as specified in this permit.

4.4. Greenhouse gas (GHG) emissions as defined in 40 CFR § 52.21(b)(49) from the Kulluk and Associated Fleet shall not exceed 80,000 tons carbon dioxide equivalent (CO_2e) as determined on a rolling 12-month basis by calculating the emissions (tons) for each month and adding the emissions (tons) calculated for the previous 11 months.

4.4.1. For each emission unit or group of emission units, monthly carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) emissions (tons) shall be determined by multiplying the appropriate emission factors (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded monthly operation rate (units/month) and dividing by 2000 lb/ton.

4.4.2. To account for mud off-gassing from the drilling mud system (Unit K-10), monthly CH_4 emissions from the drilling mud shall be assumed to be the emission rate specified in Table D.2.1.

4.4.3. For the Kulluk incinerator (Unit K-8), the permittee shall use one of the following for determining the daily operating rate when calculating emissions pursuant to Condition D.4.4.1.

4.4.3.1. the maximum incineration capacity (lb/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

4.4.3.2. the actual waste combusted per day as measured pursuant to Conditions G.5.2.2 and G.5.2.3.

4.4.4. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 multiplied by 24 in place of the recorded daily operation rate when calculating emission pursuant to Condition D.4.4.1.

4.4.5. Monthly CO_2e emissions (tons) shall be determined by multiplying the calculated monthly emissions for CO_2, CH_4, and N_2O from all emission units or group of emission units and activities by the applicable global warming potential factors from 40 CFR Part 98, Subpart A, Table A-1, and summing the products.

4.5. The permittee shall not combust any liquid fuel with sulfur content greater than 0.01 percent by weight, as determined by Condition F.2.4, in any emission unit on the Kulluk or the Associated Fleet.

4.6. The total amount of fuel combusted in engines and boilers on the Kulluk and Associated Fleet shall not exceed 7,004,428 gallons during any rolling 12-month period.

4.7. The total capacity of incinerators on the Kulluk and Associated Fleet, considering enforceable conditions on hours of operation, to incinerate waste shall not exceed 13,704 pounds per day.

4.8. The permittee shall not operate the Kulluk in the Beaufort Sea within the same drilling season as the Noble Discoverer drillship.

4.9. All fuel purchased for use in the Kulluk and Associated Fleet shall have a maximum sulfur content of 0.0015 percent by weight for all emission units on the Kulluk and Associated Fleet.

4.9.1. Compliance with Condition D.4.9 shall be determined for each diesel fuel purchase based upon recordkeeping required by Condition D.4.9.2.

4.9.2. Keep diesel fuel purchase records for each batch of fuel that documents sulfur content.

[40 CFR §§ 52.21, 71.6(a)(1) and 71.6(b), 18 AAC 50.326(a), 18 AAC 50.225, 18 AAC 50.508]

5. Operational Restrictions to Protect the NAAQS. The permittee shall comply with the following:

5.1. The permit does not authorize operation unless:

5.1.1. The Kulluk is subject to a currently effective safety zone established by the United Sates Coast Guard (USCG) which encompasses an area within at least 500 meters from the hull of the Kulluk and which prohibits members of the public from entering this area except for attending vessels or vessels authorized by the USGC (such area shall be referred to as the "Safety Zone"); and

5.1.2. The permittee has developed in writing and is implementing a public access control program to:

5.1.2.1. Locate, identify, and intercept the general public by radio, physical contact, or other reasonable measures to inform the public that they are prohibited by Coast Guard regulations from entering the Safety Zone; and

5.1.2.2. Communicate to the North Slope communities on the Beaufort Sea on a periodic basis when exploration activities are expected to begin and end at a drill site, the location of the drill site, and any restrictions on activities in the vicinity of the Kulluk's exploration operations.

5.2. The permittee shall equip each emission unit on the Kulluk and on any RV/BT that operates in dynamic positioning mode with a vertical uncapped stack. A stack equipped with a "flapper valve" rain cover or similar design that does not hinder the vertical momentum of the exhaust plume is considered an uncapped stack.

5.3. The permittee shall not operate the Kulluk Emergency Generator Engine (Unit K-6) more than one day for every 30 calendar days. On that one day of operation, the permittee shall not operate emission unit K-6 more than a combined 2 hours.

5.4. The permittee shall not operate the Kulluk Incinerator (Unit K-8) more than 12 hours each day.

5.5. The total number of events during which RV/BT transit to and from the Kulluk and operate in dynamic positioning mode shall not exceed 24 in any drilling season. Each full or partial day of operation in dynamic positioning mode is considered a separate event.

[40 CFR §§ 71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii), 71.6(e) and 55.8(a), 18 AAC 50.326(a), 18 AAC 50.502]

6. Emission Limits to Protect the NAAQS. The permittee shall comply with the following emission limits to protect the 1-hour NO_2 NAAQS and the 24-Hour PM_{10} and $PM_{2.5}$ NAAQS:

6.1. Kulluk Generator Engines (Units K-1A – 1D)

6.1.1. During Drilling Activity, combined emissions from Units K-1A – 1D shall not exceed the limits specified below:

6.1.1.1. NO_X: 19.0 lb/hr

6.1.1.2. $PM_{2.5}$: 71.3 lb/day

6.1.1.3. PM_{10}: 71.3 lb/day

6.1.2. During all times other than Drilling Activity, combined emissions from Units K-1A – 1D shall not exceed the emission limits specified for each of the pollutants below.

6.1.2.1. NO_X: 13.4 lb/hr

6.1.2.2. $PM_{2.5}$: 50.4 lb/day

6.1.2.3. PM_{10}: 50.4 lb/day

6.2. Kulluk MLC HPU Engines (Units K-2A – 2Z)

6.2.1. Combined emissions from Units K-2A – 2Z shall not exceed the emission limits specified for each of the pollutants below.

6.2.1.1. NO_X: 37.0 lb/hr

6.2.1.2. $PM_{2.5}$: 35.5 lb/day

6.2.1.3. PM_{10}: 35.5 lb/day

6.3. Kulluk MLC Air Compressor Engines (Units K-3A – 3Z)

6.3.1. Combined emissions from Port MLC air compressor engines shall not exceed the emission limits specified for each of the pollutants below.

6.3.1.1. NO_X: 14.8 lb/hr

6.3.1.2. $PM_{2.5}$: 7.4 lb/day

6.3.1.3. PM_{10}: 7.4 lb/day

6.3.2. Combined emissions from Starboard MLC air compressor engines shall not exceed the emission limits specified for each of the pollutants below.

6.3.2.1. NO_X: 14.8 lb/hr

6.3.2.2. $PM_{2.5}$: 7.4 lb/day

6.3.2.3. PM_{10}: 7.4 lb/day

6.4. Deck Crane Engines (Units K-4A – 4C)

6.4.1. During Drilling Activity, combined emissions from Units K-4A – 4C shall not exceed the emission limits specified for each of the pollutants below.

6.4.1.1. NO_X: 12.0 lb/hr

6.4.1.2. $PM_{2.5}$: 3.4 lb/day

6.4.1.3. PM_{10}: 3.4 lb/day

6.4.2. During all times other than Drilling Activity, combined emissions from Units K-4A – 4C shall not exceed the emission limits specified for each of the pollutants below.

6.4.2.1. NO_X: 12.0 lb/hr

6.4.2.2. $PM_{2.5}$: 5.7 lb/day

6.4.2.3. PM_{10}: 5.7 lb/day

6.5. Heaters and Boilers (Units K-5A – 5Z)

6.5.1. Combined emissions from Units K-5A – 5Z shall not exceed the emission limits specified for each of the pollutants below.

6.5.1.1. NO_X: 0.9 lb/hr

6.5.1.2. $PM_{2.5}$: 3.6 lb/day

6.5.1.3. PM_{10}: 3.6 lb/day

6.6. Emergency Generator (Unit K-6)

6.6.1. Emissions from Unit K-6 shall not exceed the emission limits specified for each of the pollutants below.

6.6.1.1. NO_X: 17.8 lb/hr

6.6.1.2. $PM_{2.5}$: 2.8 lb/day

6.6.1.3. PM_{10}: 2.8 lb/day

6.7. Seldom Used Sources (Units K-7A – 7D5)

6.7.1. Combined emissions from Units K-7A – 7D5 shall not exceed the emission limits specified for each of the pollutants below.

6.7.1.1. NO_X: 0.4 lb/hr

6.7.1.2. $PM_{2.5}$: 0.7 lb/day

6.7.1.3. PM_{10}: 0.7 lb/day

6.8. Waste Incinerator (Unit K-8)

6.8.1. Emissions from Unit K-8 shall not exceed the emission limits specified for each of the pollutants below.

6.8.1.1. NO_X: 0.4 lb/hr

6.8.1.2. $PM_{2.5}$: 23.2 lb/day

6.8.1.3. PM_{10}: 27.1 lb/day

6.9. Icebreaker No. 1 (IB1) and No. 2 (IB2)

6.9.1. Combined emissions from emission units on IB1 and IB2 shall not exceed the emission limits specified for each of the pollutants below.

6.9.1.1. NO_X: 174 lb/hr

6.9.1.2. $PM_{2.5}$: 700.8 lb/day

6.9.1.3. PM_{10}: 710.4 lb/day

6.10. Resupply Vessel/Barge and Tug (RV/BT)

6.10.1. During dynamic positioning mode, combined emissions from emission units on RV/BT shall not exceed the emission limits specified for each of the pollutants below.

6.10.1.1. NO_X: 74.0 lb/hr

6.10.1.2. $PM_{2.5}$: 74.4 lb/day

6.10.1.3. PM_{10}: 74.4 lb/day

6.11. Oil Spill Response Vessel (OSRV)

6.11.1. Combined emissions from emission units on OSRV shall not exceed the emission limits specified for each of the pollutants below.

6.11.1.1. NO_X: 43.5 lb/hr

6.11.1.2. $PM_{2.5}$: 64.6 lb/day

6.11.1.3. PM_{10}: 68.2 lb/day

6.12. OSRV Work Boats (OSRV WB)

6.12.1. Combined emissions from emission units on OSRV WB shall not exceed the emission limits specified for each of the pollutants below.

6.12.1.1. NO_X: 10.4 lb/hr

6.12.1.2. $PM_{2.5}$: 19.9 lb/day

6.12.1.3. PM_{10}: 19.9 lb/day

6.13. For emission unit groups K-2A – 2Z and K-3A – 3Z, compliance with the hourly NO_X emission limit contained in Condition D.6.2 and D.6.3 shall be determined by summing the pounds per hour (pph) emission test results from each engine in the group using the test results at the highest engine load as required in Condition E.3.1.1.

6.14. For all emission units and emission unit groups, except K-2A – 2Z and K-3A – 3Z, compliance with the hourly NO_X emission limits contained in Conditions D.6.1 through D.6.12 shall be determined by multiplying the appropriate emission factors (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded hourly operation rate (units/hour).

6.14.1. For the Kulluk electricity generation engines (Units K-1A – 1D), Icebreaker No. 1 propulsion engines and generator engines (Units IB1-1A – 1Z) and Icebreaker No. 2 propulsion and generator engines (Units IB2-1A – 1Z) the permittee shall use the appropriate uncontrolled emission factor from Tables D.2.1 and D.2.2 for all periods when any of the deviations described in Condition F.3.7 exist.

6.14.2. For the icebreaker and OSRV incinerators (UnitsIB1-4, IB2-4 and OSRV-3), the permittee shall use the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 in place of the recorded daily operation rate when calculating emissions pursuant to Condition D.6.14.

6.14.3. For the Kulluk incinerator (Unit K-8), the permittee shall use one of the following for determining the hourly operating rate when calculating emissions pursuant to Condition D.6.14.

6.14.3.1. the maximum incineration capacity (lbs/hr) documented pursuant to Condition C.3.3; or

6.14.3.2. the actual waste combusted per batch as measured pursuant to Conditions G.5.2.2 and the hours of operation for each batch as recorded pursuant to Condition F.2.6.

6.15. For all emission units and emission unit groups, compliance with the daily $PM_{2.5}$ and PM_{10} emission limits contained in Conditions D.6.1 through D.6.12 shall be determined by multiplying the appropriate emission factors (lb/unit) specified in Tables D.2.1 – D.2.2 (until a test-derived emission factor has been determined according to Condition E.2) by the recorded daily operation rate (units/day).

6.15.1. For the Kulluk electricity generation engines (Units K-1A – 1D), Kulluk MLC HPU engines (Units K-2A – 2Z), Kulluk MLC air compressor engines (Units K-3A – 3Z), Kulluk deck crane engines (Units K-4A – 4C), Icebreaker No. 1 propulsion engines and generator engines (Units IB1-1A – 1Z) and Icebreaker No. 2 propulsion and generator engines (Units IB2-

1A – 1Z), the permittee shall use the appropriate uncontrolled emission factor from Tables D.2.1 and D.2.2 for all periods when any of the deviations described in Condition F.4.7 exist.

6.15.2. For the Kulluk incinerator (Unit K-8), the permittee shall use one of the following for determining the daily operating rate when calculating emissions pursuant to Condition D.6.15.

6.15.2.1. the maximum incineration capacity (lb/hr) documented pursuant to Condition C.3.3 multiplied by 12; or

6.15.2.2. the actual waste combusted per day as measured pursuant to Conditions G.5.2.2 and G.5.2.3.

6.15.3. For the icebreaker and OSRV incinerators (Units IB1-4, IB2-4 and OSRV-3), the permittee shall use 24 times the maximum incineration capacity (ton/hr) documented pursuant to Condition C.3.3 in place of the recorded daily operation rate when calculating emissions pursuant to Condition D.6.15.

[40 CFR §§ 71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii), 71.6(e) and 55.8(a), 18 AAC 50.502, 18 AAC 50.326(a)]

7. Prohibited Activities. The permittee shall not:

7.1. Flow test wells;

7.2. Flare gas;

7.3. Store liquid hydrocarbons recovered during well testing;

7.4. Allow any vessel associated with this project, and that is not listed in Tables 1 and 2 of this permit, to approach within 25 miles of the Kulluk, while the Kulluk is an OCS Source; and

7.5. Emit any regulated NSR pollutants or GHGs from the shallow gas diverter system.

7.5.1. The permittee shall record the date, time and duration of each shallow gas diversion.

[40 CFR §§ 52.21, 71.2, 71.6(a)(1), 71.6(e) and 71.6(b), 18 AAC 50.502, 18 AAC 50.326(a)]

8. Good Operating and Maintenance Requirements. At all times, including periods of startup, shutdown, maintenance, and malfunction, the permittee shall, to the extent practicable, maintain and operate each emission unit, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions and considering the manufacturer's recommended operating procedures. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. The Permittee shall:

8.1. Ensure that a full-time equipment maintenance specialist is on board the Kulluk at all times during operation as an OCS Source;

8.2. Ensure that a crew member on each vessel in the Associated Fleet is responsible for fulfilling the requirements of this Condition;

8.3. Train operating personnel to identify signs of improper operation and maintenance, including visible plumes, and to report these events to the maintenance specialist as soon as possible, but no later than within three hours of identification;

8.4. Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

8.5. Routinely inspect each emission unit for proper operation and maintenance consistent with the manufacturer's recommendations;

8.6. Ensure that the operation and maintenance manual provided by the manufacturer for each emission unit is kept on board the subject vessel at all times; and

8.7. Maintain on board each vessel a log documenting when reporting, inspections and maintenance are conducted. Logs for the OSRV WB may be maintained on the OSRV.

[40 CFR §§ 52.21, 55.8(a), 60.11(d), 63.6(e), 71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(b) and 71.6(c)(1), 18 AAC 50.326(a)]

9. Closed Crankcase Ventilation. Each internal combustion engine on the Kulluk and the Associated Fleet shall be equipped with a closed crankcase ventilation (CCV) system. [40 CFR §§ 52.21, 55.8(a), 71.2, 71.6(a)(1), 71.6(a)(3)(i)(C), 71.6(b) and 71.6(c)(1), 18 AAC 50.502, 18 AAC 50.326(a)]

10. Selective Catalytic Reduction (SCR) Control Device. Exhaust from each of the following emission units shall be directed to an operating SCR control device unit at all times:

10.1. Kulluk electricity generation engines (Units K-1A – 1D).

10.2. Icebreaker No. 1 propulsion and generator engines (Units IB1-1A – 1Z).

10.3. Icebreaker No. 2 propulsion and generator engines (Units IB2-1A – 1Z).

[40 CFR §§ 52.21, 55.8(a), 60.11(d), 63.6(e), 71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(b) and 71.6(c)(1), 18 AAC 50.502, 18 AAC 50.326(a)]

11. Oxidation Catalyst and Catalyzed Diesel Particulate Filter (CDPF) Control Device. Exhaust from each of the following emission units shall be directed to an operating oxidation catalyst or CDPF control device at all times:

11.1. Kulluk electricity generation engines (Units K-1A – 1D).

11.2. Kulluk MLC HPU engines (Units K-2A – 2Z).

11.3. Kulluk MLC air compressor engines (Units K-3A – 3Z).

11.4. Kulluk deck crane engines (Units K-4A – 4C).

11.5. Icebreaker No. 1 propulsion engines and generator engines (Units IB1-1A – 1Z).

11.6. Icebreaker No. 2 propulsion and generator engines (Units IB2-1A – 1Z).

[40 CFR §§ 52.21, 55.8(a), 60.11(d), 63.6(e), 71.2, 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(b) and 71.6(c)(1), 18 AAC 50.502, 18 AAC 50.326(a)]

E. SOURCE-WIDE TESTING CONDITIONS

1. General Testing Requirements. Whenever conducting a stack test required by this permit, and unless specifically stated otherwise in this permit, the permittee shall comply with the following testing requirements in addition to the specific testing requirements contained in the emission unit sections of this permit:

1.1. The permittee shall provide EPA at least 30 days prior notice of any stack test. If after 30 days notice for an initially scheduled stack test, there is a delay in conducting the scheduled stack test, the permittee shall notify EPA as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the stack test, or by arranging a rescheduled date with EPA by mutual agreement.

1.2. The permittee shall submit to EPA a complete stack test plan within 60 days after receiving a request under Condition E.1.14 and at least 30 days prior to any required testing unless EPA agrees in writing to some other time period. Retesting may be done without resubmitting the plan provided it is conducted in accordance with the previously submitted plan. The permittee shall follow the submitted test plan except as otherwise agreed to in writing by EPA prior to the testing. The source test plan shall include and address the following elements:

1.2.1. Purpose and scope of testing;

1.2.2. Source description (including groups of emission units), nameplate and actual capacity of the equipment, including a description of the operating scenarios and mode of operation during testing and including fuel sampling and analysis procedures;

1.2.3. Schedule/dates of testing;

1.2.4. Process data to be collected during the test and reported with the results, including source-specific data identified in the emission unit sections of this permit;

1.2.5. Information from the manufacturer of the fuel flow meter so as to determine its accuracy;

1.2.6. Sampling and analysis procedures, specifically requesting approval for any proposed alternatives to the reference test methods, and addressing

minimum test length (e.g., one hour, 8 hours, 24 hours, etc.) and minimum sample volume;

1.2.7. Sampling location description and compliance with the reference test methods;

1.2.8. Analysis procedures and laboratory identification;

1.2.9. Quality assurance plan;

1.2.10. Calibration procedures and frequency;

1.2.11. Sample recovery and field documentation;

1.2.12. Chain of custody procedures;

1.2.13. Quality Assurance (QA)/Quality Control (QC) project flow chart;

1.2.14. Data processing and reporting;

1.2.15. Description of data handling and QC procedures; and

1.2.16. Report content and timing.

1.3. Unless otherwise specified in this permit, or EPA determines in writing, that other operating conditions are representative of normal operations or unless specified in the emission unit sections of this permit, the source shall be operated at a capacity of at least 90% but no more than 100% of maximum capacity during all tests.

1.4. Unless otherwise specified by an applicable requirement or test method, the permittee shall conduct source testing at a point or points that characterize the actual discharge into the ambient air.

1.5. Only regular operating staff may adjust the processes or emission control devices during or within 2 hours prior to the start of a source test. Any operating adjustments made during a source test, that are a result of consultation during the tests with source testing personnel, equipment vendors, or consultants, may render the source test invalid.

1.6. For the duration of each test run (unless otherwise specified), the permittee shall record the following information:

1.6.1. All data which is required to be monitored during the test in the emission unit sections of this permit; and

1.6.2. All continuous monitoring system data which is required to be routinely monitored in the emission unit sections of this permit for the emission unit being tested.

1.7. Each source test shall follow the reference test methods specified by this permit and consist of at least three (3) valid test runs. For purposes of this permit:

1.7.1. EPA Test Methods 1, 2, 3A, 4, 5, 6C, 7E, 9, 10, 19, and 25A are set forth in 40 CFR Part 60, Appendix A;

1.7.2. EPA Test Methods 201, 201A and 202 are set forth in 40 CFR Part 51, Subpart M;

1.7.3. ASTM D 5453-09 is set forth at http://www.astm.org/Standards/D5453.htm

1.8. Facilities for performing and observing the emission testing shall be provided that meet the requirements of 40 CFR § 60.8(e) and EPA Method 1.

1.9. Emission test reports shall be submitted to EPA within 45 days of completing any emission test required by this permit along with items required to be recorded in Condition E.1.6 above.

1.10. EPA Methods 1, 2, 3A, 3B, 4 and 19 shall be used as necessary to convert the measured NO_X, PM, PM_{10}, $PM_{2.5}$ and CO emissions into units of the emission limits in the permit.

1.11. Source test emission data shall be reported as the arithmetic average of all valid test runs and in the unit terms of any applicable emission limit, unless otherwise specified in the emission unit sections of this permit.

1.12. An alternative test method or a deviation from a test method identified in this permit may be approved as follows:

1.12.1. The permittee must submit a written request to EPA at least 60 days before the stack test is scheduled to begin which includes the reasons why the alternative or deviation is needed and the rationale and data to demonstrate that the alternative test method or deviation from the reference test method:

1.12.1.1. Provides equal or improved accuracy and precision as compared to the specified reference test method; and

1.12.1.2. Does not decrease the stringency of the standard as compared to the specified reference test method.

1.12.2. If requested by EPA, the demonstration referred to in Condition E.1.12.1 must use Method 301 in 40 CFR Part 63, Appendix A, to validate the alternative test method or deviation.

1.12.3. EPA must approve the request in writing.

1.12.4. Until EPA has given written approval to use an alternative test method or to deviate from the test method specified in this permit, the permittee is required to use the test method specified in this permit when conducting a source test under this permit.

1.13. The permittee may request an extension to a source test deadline established by the EPA. The permittee may delay a source test beyond the original deadline only if the extension is approved in writing by EPA.

1.14. In addition to any source testing explicitly required by this permit, the permittee shall conduct source testing as requested by the EPA to determine compliance with applicable permit requirements.

1.15. For any source test requiring the use of Method 201A, the permittee may substitute the use of Method 5. In either case, Method 202 shall also be employed for condensable particulate matter.

[40 CFR § 71.6(a)(3)(i)(B) and 71.6(c)(1) 18 AAC 50.326(a)]

2. Test-Derived Emission Factors. The following conditions apply to the procedure for determining the equipment-specific emission factors as well as to the supporting testing for all emission units where this testing condition is cited in other conditions of this permit:

2.1. Testing Conditions for Engines.

2.1.1. Except as otherwise provided for specific emission units, testing shall be conducted by May 1 of the first two drilling seasons in which a specific emission unit is to be used. In addition, beginning with the second performance test, the following shall be used to determine the frequency of any future testing for each emission unit and pollutant: If the worst case emission factor results from the most recent two tests vary by less than 20% from their average, the testing frequency may be reduced thereafter to every 5 years; if the worst case emission factor results vary by 20% or more from their average, testing frequency shall be every 2 years. EPA may require that specific test results be excluded from use for purposes of this procedure if EPA determines in writing that the results are invalid.

2.1.2. During testing, the permittee shall equip each emission unit with a device to measure fuel injection timing.

2.1.3. During testing, the permittee shall equip each emission unit with a electrical output monitoring device with an accuracy equal to or better than 2 percent of the engine's maximum output (in kWe). The permittee shall maintain the accuracy of each electrical output monitoring device in accordance with manufacturer's recommendations. The permittee may propose in writing to EPA an alternative method for determining operating load during performance testing. Any alternative method of determining operating load must be approved by EPA in writing. If the permittee requests and obtains EPA approval of an alternative method of measuring load, the accuracy and maintenance requirements of this condition apply to any related equipment or monitoring device relied upon by the alternative method.

2.1.4. If the emission unit is not equipped with a fuel flow meter as required by Condition F.2.2, during testing equip the emission unit with a fuel flow meter that meets the requirements of Condition F.2.2.1.

2.1.5. Each stack test shall consist of 3 one-hour runs conducted while operating within 5% of the following three loads: 95%, 65%, and 40%. Alternative loads for testing each emission unit may be proposed by the permittee in the test plan by providing justification for the proposed operating loads. Operating load shall be determined by expressing the electrical power produced (kWe-hr) in terms of percentage compared to the engine rated capacity. An alternative method for determining operating load may be proposed per Condition E.1.12.

2.1.6. During each test run, the permittee shall monitor and record the following information:

2.1.6.1. Quantity of fuel used (in gallons) by the emission unit being tested;

2.1.6.2. Percent load based on electrical power produced (in kWe-hr) or alternative method per Condition E.1.12.

2.1.6.3. Fuel injection timing.

2.1.7. Testing shall comply with all general testing requirements under Condition E.1 of this permit.

2.2. Emission Factor Derivation Procedure for Engines.

2.2.1. A worst-case emission factor for each pollutant shall be determined in units of pounds of pollutant per gallon of fuel combusted for each emission unit, as follows:

2.2.1.1. The pounds of pollutant per gallon of fuel combusted emission factor shall be determined by dividing the pounds of pollutant emitted during each test run by the gallons of fuel combusted during each test run;

2.2.1.2. The emission factor for all three test runs conducted at each operating load shall be averaged arithmetically to determine the final emission unit specific test derived emission factor (pounds of pollutant per gallon of fuel combusted) for each operating load and pollutant from each emission unit;

2.2.1.3. The permittee shall use the highest emission unit specific test derived emission factor of any load tested as the worst-case emission factor for that pollutant;

2.2.1.4. For groups of emission units, the permittee shall use the highest emission unit specific derived emission factor of any emission unit in the group for that pollutant.

2.2.2. Within 45 days of completing the testing required under Condition E.3, the permittee shall submit to EPA complete documentation of each emission unit specific test-derived emission factor.

2.2.3. The permittee shall begin using each test-derived emission factor to calculate emissions as required by this permit beginning with the drilling season that follows the testing for a specific emission unit.

2.3. Testing Conditions for Incinerators.

2.3.1. Except as otherwise provided for specific emission units, testing shall be conducted by May 1 of the first two drilling seasons in which a specific emission unit is to be used. In addition, beginning with the second performance test, the following shall be used to determine the frequency of any future testing for each emission unit and pollutant: If the worst case emission factor results from the most recent two tests vary by less than 20% from their average, the testing frequency may be reduced thereafter to every 5 years; if the worst case emission factor results vary by 20% or more from their average, testing frequency shall be every 2 years. EPA may require that specific test results be excluded from use for purposes of this procedure if EPA determines in writing that the results are invalid.

2.3.2. During testing, the permittee shall determine the mass of waste being fed to the incinerator by using a weigh scale that shall be accurate to within 1 lb.

2.3.3. Each stack test shall consist of 3 one-hour runs conducted while operating within 10% of the maximum rated capacity. Operating load shall be determined by expressing the feed rate (lb/hr) in terms of percentage compared to the incinerator rated capacity.

2.3.4. During each test run, the permittee shall monitor and record the following information:

2.3.4.1. Quantity of waste consumed (in pounds) by the emission unit being tested;

2.3.4.2. Percent load based on waste feed rate (in lb/hr).

2.3.5. Testing shall comply with all general testing requirements under Condition E.1 of this permit.

2.4. Emission Factor Derivation Procedure for Incinerator.

2.4.1. An emission factor for each pollutant shall be determined in units of pounds of pollutant per ton of waste consumed for each emission unit, as follows:

2.4.1.1. The pounds of pollutant per ton of waste consumed emission factor shall be determined by dividing the pounds of pollutant emitted during each test run by the pounds of waste consumed during each test run;

2.4.1.2. The emission factor for all three test runs conducted shall be averaged arithmetically to determine the final emission unit specific test derived emission factor (pounds of pollutant per ton of waste consumed) for each pollutant from each emission unit;

2.4.2. Within 45 days of completing the testing required under Condition E.3, the permittee shall submit to EPA complete documentation of each emission unit specific test-derived emission factor.

2.4.3. The permittee shall begin using each valid test-derived emission factor to calculate emissions as required by this permit beginning with the drilling season that follows the testing for a specific emission unit.

[40 CFR §§ 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii), 71.6(a)(3)(iii), and 71.6(c)(1), 18 AAC 50.326(a)]

3. Source Test Requirements.

3.1. The permittee shall perform source testing to determine test-derived emission factors for NO_X, $PM_{2.5}$, PM_{10}, CO using the procedures in Conditions E.1, E.2.1, and E.2.2 of this permit for the following emission units: K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-4A – 4C, IB1-1A – 1Z, IB2-1A – 1Z, RV-1A – 1Z, and OSRV-1A – 1Z. Testing for the following units shall be conducted in accordance with Conditions E.1, E.2.1, and E.2.2 except that testing shall be conducted every 5 years after the first test: K-4A - 4C.

3.1.1. The permittee shall also report the NO_X test results for the highest operating load in terms of pph NO_X emissions for the following emission units: K-2A – 2Z, K-3A – 3Z.

3.1.2. The permittee shall measure, record and report NO_2 emissions in the same units as NO_X for each NO_X test performed.

3.1.3. For each emission unit tested that is controlled by an SCR unit, the permittee shall report the average inlet temperature to the SCR unit recorded during the emission test that represents the worst case emission factor for that emission unit.

3.1.4. For each emission unit tested that is controlled by an oxidation catalyst or CDPF, the permittee shall report the average inlet temperature to the catalyst recorded during the emission test that represents the worst case emission factor for that emission unit.

3.1.5. The permittee shall measure, record and report visible emissions for the duration of all particulate emission tests.

3.1.6. All tests shall be performed using the test methods specified in this permit.

3.2. The permittee shall perform source testing to determine test-derived emission factors for CO, NO_X, $PM_{2.5}$ and PM_{10} using the procedures in Conditions E.1,

E.2.3, and E.2.4 of this permit for the following emission units: K-8, IB1-4, IB2-4, and OSRV-3.

3.2.1. The permittee shall report the average incinerator exit temperature recorded during the emission test.

3.2.2. The permittee shall measure, record and report visible emissions for the duration of all particulate emission tests.

3.2.3. All tests shall be performed using the test methods specified in this permit.

[40 CFR §§ 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii), 71.6(a)(3)(iii), and 71.6(c)(1), 18 AAC 50.326(a)]

F. SOURCE-WIDE MONITORING & RECORDKEEPING CONDITIONS

1. Global Positioning System. The permittee shall use a modern global positioning system on the Kulluk and Associated Fleet (except OSRV WB) as follows:

1.1. Monitor and record the date, time and location of the Kulluk and Associated Fleet at the following frequency and on the following occasions:

1.1.1. Once each hour;

1.1.2. When the Kulluk becomes and ceases to be an OCS source, and

1.1.3. When each vessel in the Associated Fleet enters or leaves the 25 mile radius around the Kulluk.

1.2. Location shall be recorded by providing coordinates in the following formats:

1.2.1. Latitude and longitude; and

1.2.2. Universal Transverse Mercator grid system.

1.2.3. Graphical location representation, including a line or points showing the locations of each vessel, the location of the Kulluk, and circles depicting distances of 5 and 10 miles around the Kulluk.

1.3. For any vessel performing a resupply trip to the Kulluk, monitor and record the following time points for each resupply trip and vessel:

1.3.1. The date and time the vessel approaches within 25 miles of the Kulluk;

1.3.2. The date and time the vessel arrives at the Kulluk;

1.3.3. The date and time the vessel departs the Kulluk; and

1.3.4. The date and time the vessel reaches a distance of 25 miles from the Kulluk upon departure.

[40 CFR §§ 55.8(a), 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1), 18 AAC 50.326(a)]

2. Operations and Fuel Monitoring.

2.1. The permittee shall install, calibrate, maintain and operate equipment or systems to measure and record the operation information required by this permit.

2.2. Except as provided in Condition F.2.3, the permittee shall measure continuously and record the hourly, daily and monthly total fuel combusted by each emission unit or group of emission units on the Kulluk and Associated Fleet that combusts fuel, except for the Kulluk emergency generator, seldom used sources and OSRV work boats, using a fuel flow meter such that emissions can be calculated on the required time frames required by this permit.

2.2.1. Each fuel flow meter required under this permit shall meet the following requirements:

2.2.1.1. Each fuel flow meter shall be located so that there are no fuel inflows or outflows between it and the emission unit or emission unit group being served by the meter.

2.2.1.2. Each fuel flow meter shall be totalizing and non-resettable in units of gallons.

2.2.1.3. Each fuel flow meter shall continuously measure the fuel flow rate with accuracy equal to or better than 2 percent of the meter's upper range value.

2.2.1.4. By April 1 of the first drill season, the permittee shall collect and submit to EPA information from the manufacturer of the fuel flow meter so as to determine its accuracy.

2.2.1.5. The permittee shall maintain the accuracy of each fuel flow meter in accordance with manufacturer's recommendations.

2.2.2. The permittee shall measure and record the fuel combusted by the Kulluk emergency generator, each seldom used source and OSRV work boat before and after each use using one of the following methods:

2.2.2.1. Measure the fuel combusted using the fuel tank sight glass;

2.2.2.2. Measure the fuel combusted by manually measuring the amount of fuel in the tank using a graduated dip stick;

2.2.2.3. Measure the fuel combusted using a fuel tank gauge; or

2.2.2.4. Measure the fuel combusted using a fuel flow meter.

2.2.3. For the Kulluk emergency generator, each seldom used source or OSRV work boat, the permittee shall record the start and end times before and after each use.

2.2.4. For the Kulluk emergency generator, each seldom used source or OSRV work boat, the permittee shall determine the average fuel combusted per

hour by dividing the total fuel recorded per use in Condition F.2.2.2 by the total hours operated recorded per use in Condition F.2.2.3. The permittee shall use this value for each hour of operation where needed in this permit for compliance purposes.

2.2.5. The permittee shall calculate and record the total gallons of fuel burned each month and each rolling 12-month period by emission units on the Kulluk and Associated Fleet.

2.3. As an alternative to measuring and recording the total fuel combusted by an emission unit that combusts fuel, the permittee may continuously measure and record, on an hourly, daily and monthly basis, the time the emission unit operates using a non-resettable hour meter.

2.3.1. For those emission units that the permittee elects to monitor operating time instead of fuel flow, the permittee shall determine the volume (gallons) of fuel combusted each hour by multiplying the recorded operating time (whole hour or fraction of an hour) by the rated capacity of the unit to consume fuel (gallons per hour). The permittee shall use this value where needed in this permit for compliance purposes.

2.4. The permittee shall obtain representative fuel samples and fuel sulfur content (ppm) as follows:

2.4.1. Prior to mobilizing the Kulluk and combusting any fuel in the Kulluk for the first time at the beginning of a drilling season, determine (by sampling and analysis using one of the sampling methods in 40 CFR § 80.330(b) and the analytical method in ASTM D 5453 09) and record the sulfur content in each fuel oil storage tank on the Kulluk and the Associated Fleet.

2.4.2. After mobilizing the Kulluk, determine the sulfur content of each delivery of fuel to the Kulluk and Associated Fleet as follows:

2.4.2.1. Determine (by sampling and analysis using one of the sampling methods in 40 CFR § 80.330(b) and the analytical method in ASTM D 5453 09) and record the sulfur content of each delivery; or

2.4.2.2. Obtain from the fuel supplier certification of the sulfur content of the fuel as purchased, and obtain documentation that each storage tank transporting the fuel between purchase and delivery has not caused the fuel delivered to become higher than 100 ppm sulfur content.

2.4.3. Maintain all records of all sampling and analysis including:

2.4.3.1. Sample and analysis locations, dates and times; and

2.4.3.2. Sampling and analytical method used; and

2.4.3.3. Copies of any certifications and documentation relied upon.

2.5. Upon introducing waste to the incinerator, continuously monitor and record every 15 minutes the incinerator exit temperature of each incinerator while operating.

2.5.1. Report as a permit deviation under Conditions A.17 or A.18 any periods during which the exit temperature is 90% or less than the most recent average exit temperature reported in Condition E.3.2.1.

2.6. The permittee shall record the duration of the burn for each batch of waste charged to the Kulluk incinerator and number of hours the Kulluk incinerator operates each day.

2.7. The permittee shall record both the number of hours the Kulluk emergency generator operates each day and the number of days it operates each month.

[40 CFR §§ 55.8(a), 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(i)(C), 71.6(a)(3)(ii) and 71.6(c)(1), 18 AAC 50.326(a)].

3. Selective Catalytic Reduction (SCR) Control Device Monitoring. For any emission unit that is required by this permit to be controlled by an SCR control device, the permittee shall install, calibrate, operate, and maintain (in accordance with manufacturer specifications) continuous monitoring system (CMS) to measure and record inlet temperature in degrees Fahrenheit (ºF), urea feed rate (gallons/min), and catalyst activity (NO_X ppm concentration) as follows:

3.1. Prepare and submit with the source test protocol required by Condition E.1.2 a site-specific monitoring plan that addresses the monitoring system design, data collection, quality assurance, and quality control elements outlined in this condition. The plan shall address the performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, sensor tolerance and sensitivity, and data acquisition and calculations; sampling interface (e.g., thermocouple, flow meter) location such that the monitoring system will provide representative measurements; equipment performance checks, system accuracy audits, or other audit procedures; ongoing operation and maintenance procedures; and ongoing reporting and recordkeeping procedures.

3.2. Upon introducing diesel fuel to the engine and continuing until the flow of diesel fuel to the engine is stopped, the temperature and urea CMS shall collect data at least once every 15 minutes.

3.3. Conduct the CMS equipment performance checks, system accuracy audits, or other audit procedures within 60 days prior to each drilling season and at least once every 3 months for the duration of the drilling season.

3.4. Conduct a performance evaluation of each CMS.

3.5. Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance

or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), operate the CMS at all times the affected source is operating. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Complete monitoring system repairs in response to monitoring system malfunctions and return the monitoring system to operation as expeditiously as practicable.

3.6. Monitor and record NO_X emissions (ppm) from the exhaust of each SCR unit once per week while engine exhaust gases are routed to the SCR unit using a portable NO_X monitor that meets the requirements of EPA OTM 13 found at http://www.epa.gov/ttn/emc/prelim/otm13.pdf.

3.7. Report as a deviation under Conditions A.17 or A.18 any periods during which the urea pump is not operating, the inlet temperature is 90% or less than the most recent average inlet temperature reported in Condition E.3.1.3, or the NO_X concentration is 150% or more than the most recent NO_X concentration measured in Condition E.3.

[40 CFR §§ 55.8(a), 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(i)(C), 71.6(a)(3)(ii) and 71.6(c)(1), 18 AAC 50.326(a)]

4. Oxidation Catalyst and Catalyzed Diesel Particulate Filter (CDPF) Control Device Monitoring. For any emission unit that is required by this permit to be controlled by an oxidation catalyst or CDPF control device, the permittee shall install, calibrate, operate, and maintain (in accordance with manufacturer specifications) a CMS to measure and record inlet temperature (ºF), and catalyst activity (CO ppm concentration) as follows:

4.1. Prepare and submit with the source test protocol required by Condition E.1.2 a site-specific monitoring plan that addresses the monitoring system design, data collection, quality assurance, and quality control elements outlined in this condition. Install, calibrate, operate, and maintain each CMS. The plan shall address the performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, sensor tolerance and sensitivity, and data acquisition and calculations; sampling interface (e.g., thermocouple) location such that the monitoring system will provide representative measurements; equipment performance checks, system accuracy audits, or other audit procedures; ongoing operation and maintenance procedures; and ongoing reporting and recordkeeping procedures.

4.2. Upon introducing diesel fuel to the engine and continuing until the flow of diesel fuel to the engine is stopped, the temperature CMS shall collect data at least once every 15 minutes.

4.3. Conduct the CMS equipment performance checks, system accuracy audits, or other audit procedures within 60 days prior to each drilling season and at least once every 3 months for the duration of the drilling season.

4.4. Conduct a performance evaluation of each CMS.

4.5. Except for periods of monitoring system malfunctions, repairs associated with monitoring system malfunctions, and required monitoring system quality assurance or quality control activities (including, as applicable, system accuracy audits and required zero and span adjustments), operate the CMS at all times the affected source is operating. A monitoring system malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring system to provide valid data. Monitoring system failures that are caused in part by poor maintenance or careless operation are not malfunctions. Complete monitoring system repairs in response to monitoring system malfunctions and return the monitoring system to operation as expeditiously as practicable.

4.6. Monitor and record CO emissions (ppm) from the exhaust of each oxidation catalyst or CDPF unit once per week using a portable CO monitor that meets the requirements of EPA OTM 13 found at http://www.epa.gov/ttn/emc/prelim/otm13.pdf.

4.7. Report as a permit deviation under Conditions A.17 or A.18 any periods during which the inlet temperature is 90% or less than the most recent average inlet temperature reported in Condition E.3.1.4, or the CO concentration is 120% or more than the CO concentration measured during the most recent previous source test that produced compliance data or emission factors for this permit.

[40 CFR §§ 55.8(a), 71.6(a)(1), 71.6(a)(3)(i)(B), 71.6(a)(3)(i)(C), 71.6(a)(3)(ii) and 71.6(c)(1)]

G. 18 AAC 50.326(a)] NESHAP & NSPS CONDITIONS[q]

1. NESHAP ZZZZ & NSPS IIII for K-1A – 1D, K-2A – 2Z, K-3A – 3Z, K-6. The permittee shall comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ and 40 CFR 60, Subpart IIII for Units K-1A – 1D, K-2A – 2Z, K-3A – 3Z and K-6 as follows:

1.1. All engines installed as Units K-1A – 1D, K-2A – 2Z, K-3A – 3Z and K-6 shall be units that are subject to 40 CFR Part 60, Subpart IIII based on their per-cylinder displacement and model year. [40 CFR §§ 71.6(a) and 71.6(b)]

1.2. For Units K-1A – 1D, the permittee shall purchase or lease an engine certified to the emission standards in 40 CFR 60.4201(a), for the same model year and maximum engine power. [40 CFR 60.4201(a), 60.4204(b) and 60.4211(c)]

1.3. For Unit K-6, the permittee shall purchase or lease an engine certified to the emission standards in 40 CFR 60.4202(a)(2), for the same model year and maximum engine power. [40 CFR 60.4202(a)(2), 60.4205(b) and 60.4211(c)]

1.4. For Units K-2A – 2Z and K-3A – 3Z, if the permittee purchase or lease an engine that is a 2007 or later model year engine, it must be certified to the emission

[q] 18 AAC 50.326(a)(2), 50.040(a) and 50.040(c)

standards in 40 CFR 60.4201(a), for the same model year and maximum engine power. If the permittee purchase a pre-2007 model year engine, it must be certified to the emission standards in Table 1 to 40 CFR 60, Subpart IIII. [40 CFR 60.4201(a), 60.4204(b) and 60.4211(c)]

1.5. Compliance with Conditions G.1.2 through G.1.4 shall be determined based upon recordkeeping required by Condition G.1.5.1.

1.5.1. Keep records documenting that the engine is certified to meet the applicable emission standards.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.6. Install and configure the engine according to the manufacturer's specifications. [40 CFR §§ 60.4211(c), 63.6590(c)]

1.6.1. Compliance with Condition G.1.6 shall be determined based upon recordkeeping required by Condition G.1.6.2.

1.6.2. Keep records documenting that that the engine was installed and configured according to the manufacturer's specifications. Such records shall include, but not be limited to, the manufacturer's specifications.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.7. Operate and maintain the engine and control device according to the manufacturer's written instructions or the procedures developed by the permittee that are approved in writing by the engine manufacturer. The permittee shall only change those settings that are approved by the manufacturer. [40 CFR §§ 60.4211(a) and 63.6590(c)]

1.7.1. Compliance with Condition G.1.7 shall be determined based upon recordkeeping required by Conditions G.1.7.2, G.1.7.3, and G.1.7.4.

1.7.2. Keep records of the manufacturer's written instructions for operation and maintenance of the engine and control device or the procedures the permittee developed that are approved in writing by the manufacturer. Such records shall include, but not be limited to engine and control device settings established or approved in writing by the manufacturer.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.7.3. If the permittee is implementing procedures or settings developed to operate and maintain the engine and control device, keep records of the manufacturer's written approval of those procedures and settings.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.7.4. At least once each day, observe and record the actual instrument settings that reflect the performance of the engine and control device. The settings that the permittee is to observe are identified by either the manufacturer or the permittee in the records required by Condition G.1.7.2.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.8. For storage tanks serving Units K-1A – 1D, K-2A – 2Z, K-3A – 3Z and K-6 and for diesel fuel intended to be combusted in these units while the Kulluk is an OCS source, deliver into these tanks diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel as follows: (1) maximum sulfur content of 15 ppm by weight, and either (2a) minimum cetane index of 40 or (2b) maximum aromatic content of 35 percent by volume. [40 CFR §§ 60.4207(b), 63.6590(c)]

1.8.1. Compliance with Condition G.1.8 shall be determined as follows:

1.8.1.1. Determine and record the sulfur content, cetane index and aromatic content of each delivery in accordance with one of the sampling methods in 40 CFR § 80.330(b), and by analyzing the fuel in accordance with the following analytical methods: ASTM D 5453 09 for sulfur content, ASTM D 976-80 for cetane index and ASTM D 1319-03 for aromatic content; or

1.8.1.2. Obtain from the fuel supplier certification of the sulfur content and either the cetane index or aromatic content of the fuel as purchased, and obtain documentation that each storage tank transporting the fuel between purchase and delivery has not caused the fuel delivered to become higher than 15 ppm sulfur content.

1.8.2. Maintain all records of all sampling and analysis including:

1.8.2.1. Sample and analysis locations, dates and times;

1.8.2.2. Sampling and analytical method used; and

1.8.2.3. Copies of any certifications relied upon.

[40 CFR §§ 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

1.9. Comply with the requirements of 40 CFR 89 and 1068 as they apply to the permittee.

[40 CFR §§ 60.4211(a), 63.6590(c)]

1.10. Comply with the applicable provisions of Subpart A as specified in Table 8 to 40 CFR 60, Subpart IIII

[40 CFR § 60.4218 and Table 8 to 40 CFR Part 60, Subpart IIII]

2. NESHAP ZZZZ for K-7A – K-7D5. Beginning May 3, 2013, the permittee shall comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ for Units K-7A, K-7B, K-7C and K-7D1 – 7D5 as follows:

2.1. Change the oil and filter annually, or (a) for Units K-7B, K-7C and K-7D1 – K-7D5, every 500 hours of operation or (b) for Unit K-7A, every 1,000 hours of

operation, whichever comes first, or at a frequency determined by an oil sample and analysis program as follows:

2.1.1. Sample and analyze the oil annually, or (a) for Units K-7B, K-7C and K-7D1 – K-7D5, every 500 hours of operation or (b) for Unit K-7A, every 1,000 hours of operation, whichever comes first, to determine total base number, viscosity, and water content by volume.

2.1.2. Change oil and oil filter within the applicable time period specified in Condition G.2.1.3 if the oil analysis confirms any of the following conditions:

2.1.2.1. The total base number of the oil sample is less than 30 percent of the total base number of the oil when new;

2.1.2.2. The viscosity of the oil sample has changed by more than 20 percent from the viscosity of the oil when new; or

2.1.2.3. The water content of the oil sample is greater than 0.5 percent by volume.

2.1.3. Change oil and oil filter within 2 days of receiving the results of the oil analysis unless the engine is not in operation when the results of the analysis are received. If the engine is not in operation when the results of the analysis are received, the permittee must change the oil and oil filter within either 2 days of receiving the results or before commencing operation, whichever is later.

2.1.4. Keep records of the oil analysis results and the engine oil and filter changes.

[40 CFR 63.6595(a), 63.6603(a), 63.6625(i), and Table 2d to 40 CFR 63, Subpart ZZZZ.]

2.2. The permittee shall inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. [40 CFR 63.6603(a) and Table 2d to 40 CFR 63, Subpart ZZZZ.]

2.2.1. Keep records of the air cleaner inspections. [40 CFR 71.6(a)(3)(i)(B)]

2.3. The permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. [40 CFR 63.6603(a) and Table 2d to 40 CFR 63, Subpart ZZZZ.]

2.3.1. Keep records of the hose and belt inspections and the hose and belt replacements. [40 CFR 71.6(a)(3)(i)(B)]

2.4. For Units K-7B, K-7C and K-7D1 – 7D5, the management practices required by Conditions G.2.1, G.2.2, and G.2.3 can be delayed as follows:

2.4.1. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management

practice on schedule, the management practice can be delayed until the emergency is over.

2.4.1.1. Report any failure to perform management practice on the schedule required.

2.4.2. If performing the management practice on schedule would otherwise pose an unacceptable risk under Federal law, the management practice can be delayed until unacceptable risk is over or the unacceptable risk under Federal law has abated.

2.4.2.1. Report any failure to perform management practice on the schedule required and report the Federal law under which the risk was deemed unacceptable.

[40 CFR 63.6603(a) and Table 2d to 40 CFR 63, Subpart ZZZZ]

2.5. During periods of startup, the permittee shall minimize the engine's time spent at idle and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. [40 CFR 63.6603(a), 40 CFR 63.6625(h) and Table 2d to 40 CFR 63, Subpart ZZZZ]

2.6. The permittee shall be in compliance with the emission limitations and operating limitations in this subpart that apply to the permittee at all times. [40 CFR 63.6605(a)]

2.7. At all times the permittee shall operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

2.8. For Units K-7B, K-7C and K-7D1 – 7D5, the permittee shall install a non-resettable hour meter if one is not already installed. [40 CFR 63.6625(f)]

2.8.1. The permittee shall keep records of the hours of operation of the engine. The permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency. [40 CFR 63.6655(f)]

2.8.2. The permittee shall document how many hours are spent for non-emergency operation, including the reason for non-emergency operation. [40 CFR 63.6655(f) and 71.6(a)(3)(i)(B)]

2.9. The permittee shall operate and maintain the engine and after-treatment control device (if any) according to the manufacturer's emission-related operation and maintenance instruction; or develop and follow the permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6625(e), 63.6640(a) and Table 6 to 40 CFR 63, Subpart ZZZZ]

2.9.1. The permittee shall keep records of either the manufacturer's emission-related operation and maintenance instruction, or the permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. [40 CFR 63.6655(d)]

2.9.2. The permittee shall keep records of the maintenance the permittee conducted on the engine in order to demonstrate that the permittee operated and maintained the engine according to the permittee's own maintenance plan. [40 CFR 63.6655(e)]

2.10. The permittee shall report each instance in which the permittee did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to the permittee. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in 40 CFR 63.6650. [40 CFR 63.6640(b)]

2.11. The permittee shall report each instance in which the permittee did not meet the requirements in Table 8 to this subpart that applies to the permittee. [40 CFR 63.6640(e) and Table 8 to 40 CFR 63, Subpart ZZZZ]

2.12. For Units K-7B, K-7C and K-7D1 – D5, the permittee shall operate the engine as follows in order to be considered an emergency engine under 40 CFR 63, Subpart ZZZZ:

2.12.1. There is no time limit on the use of engine in emergency situations.

2.12.2. Except as provided for in Condition G.2.12.2.3, the permittee may operate the engine for up to a combined 100 hours per year in non-emergency situations to perform the following activities:

2.12.2.1. Maintenance checks and readiness testing that is recommended by the Federal government, the manufacturer, the vendor, or the insurance company associated with the engine; and

2.12.2.2. Any other activity not associated with maintenance checks and readiness testing, except that the duration of activities not associated with maintenance checks and readiness testing shall not exceed the lesser of the following time periods:

2.12.2.2.1. 50 hours per year; or

2.12.2.2.2. 100 hours per year less any hours utilized to conduct maintenance checks and readiness testing pursuant to Condition G.2.12.2.1.

2.12.2.3. The permittee may operate the engine to conduct maintenance checks and readiness testing that is recommended by Federal government, the manufacturer, the vendor, or the insurance company associated with the engine beyond 100 hours per year if either:

2.12.2.3.1. The permittee maintain records indicating that Federal standards require maintenance and testing beyond 100 hours per year; or

2.12.2.3.2. EPA approves a written request from the permittee to do so.

[40 CFR 63.6640(f)]

3. NESHAP ZZZZ for K-4A – K-4C. Beginning May 3, 2013, the permittee must comply with the applicable requirements of 40 CFR 63, Subpart ZZZZ for Units K-4A – 4C as follows:

3.1. Emission Limitation. At all times except during periods of startup, limit the concentration of CO in the engine's exhaust to 49 ppmvd at 15 percent O_2; or reduce CO emissions by 70 percent or more. Compliance is based on the results of testing, the average of three 1-hour runs using the testing requirements and procedures in 40 CFR 63.6620 and Table 4 to 40 CFR 63, Subpart ZZZZ.

[40 CFR 63.6595(a), 63.6603(a), 63.6605(a) and Tables 2d and 5 to 40 CFR 63, Subpart ZZZZ]

3.2. Initial Compliance Demonstration.

3.2.1. Except as specified in Conditions G.3.2.1.1 and G.3.2.1.2, conduct an initial performance test between May 3, 2013 and October 30, 2013 in accordance with the applicable requirements in 40 CFR 63.6620 and Table 4 to 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6612(a) and 63.6620]

3.2.1.1. The permittee is not required to conduct a performance test on an emission unit for which a performance test has been previously conducted if all of the following conditions are met:

3.2.1.1.1. The previous test was conducted using the same methods specified in 40 CFR 63, Subpart ZZZZ, and these methods were followed correctly,

3.2.1.1.2. The previous test was conducted after May 3, 2011 but before May 3, 2013,

3.2.1.1.3. EPA Region 10 accepts the previous test results, and

3.2.1.1.4. Either no process or equipment changes have been made since the previous test was performed, or the permittee demonstrates that the results of the previous test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[40 CFR 63.6612(b)]

3.2.1.2. The permittee does not need to start up the engine solely to conduct the performance test if the engine is non-operational. Conduct the performance test for the non-operational engine when the engine is started up again.

[40 CFR 63.6620(b)]

3.2.2. Demonstrate initial compliance with the emission limitation according to Table 5 to 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6630(a)]

3.2.3. Submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements of 40 CFR 63.6645 and 40 CFR 63.9(h)(2)(ii). [40 CFR 63.6630(b) and 63.6645(h)]

3.3. Emission Limitation. During periods of startup, minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitation in Condition G.3.1 applies. [40 CFR 63.6603(a) and Table 2d to 40 CFR 63, Subpart ZZZZ]

3.4. Crankcase Ventilation System.

3.4.1. Install one of the following crankcase ventilation systems:

3.4.1.1. A closed crankcase ventilation system that prevents crankcase emission from being emitted to the atmosphere.

3.4.1.2. An open crankcase filtration emission control system that reduces emission from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

3.4.2. Follow one of the following maintenance requirements:

3.4.2.1. The manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation system and replacing the crankcase filters.

3.4.2.2. The maintenance requirements approved by EPA that are as protective as manufacturer requirements.

[40 CFR 63.6625(g)]

3.5. Fuel Requirement. Combust diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel as follows: (1) maximum sulfur content of 0.0015 percent by weight, and either (2a) minimum cetane index of 40 or (2b) maximum aromatic content of 35 percent by volume. [40 CFR 63.6604]

3.5.1. Diesel Fuel Sampling and Analysis Procedures.

3.5.1.1. A representative fuel sample is obtained by following any of the sampling methods listed in 40 CFR 80.330(b);

3.5.1.2. The sulfur content of a fuel sample is determined by following ASTM D 5453-09;

3.5.1.3. The cetane index of a fuel sample is determined by following ASTM D 976-80; and

3.5.1.4. The aromatic content of a fuel sample is determined by following ASTM D 1319-03.

3.5.2. Prior to mobilizing the Kulluk for the first time at the beginning of a drilling season, determine the sulfur content, cetane index and aromatic content in each fuel oil storage tank on the Kulluk serving Units K-4A – 4C. The permittee must obtain a representative sample of the fuel and analyze the sample for sulfur content, cetane index and aromatic content using the procedures in Condition G.3.5.1.

3.5.3. Thereafter, determine and record the sulfur content, cetane index and aromatic content upon receiving each fuel shipment, as follows:

3.5.3.1. Obtain a representative sample of the fuel delivered and analyze the sample for sulfur content, cetane index and aromatic content using the procedures in Condition G.3.5.1; or

3.5.3.2. Obtain a single certification of sulfur content, cetane index and aromatic content for each shipment of fuel from the fuel supplier based on an analysis of the fuel, provided that the certification indicates that the sulfur content, cetane index and aromatic content have been determined by the methods listed in Condition G.3.5.1.

3.5.4. Within 3 business days of identification, report to EPA any instance of a liquid fuel with sulfur content greater than 0.0015 percent by weight being combusted in Units K-4A – 4C.

[40 CFR 71.6(a)(3)(i)(B)]

3.6. General Compliance Requirements. At all times the permittee must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to EPA which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. [40 CFR 63.6605(b)]

3.7. Comply with the requirements of 40 CFR 63.1 through 63.15 that apply as specified in Table 8 to 40 CFR 63, Subpart ZZZZ. [40 CFR 63.6665]

3.7.1. Report each instance in which the requirements in Table 8 to 40 CFR 63, Subpart ZZZZ were not met. [40 CFR 63.6640(e)]

3.8. Submit all of the notification in 40 CFR 63.7(b) and (c), (f)(4), and (f)(6), 63.9(b) through (e), and (g) and (h) that apply by the dates specified. [40 CFR 63.6645(a)]

3.9. Submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in 40 CFR 63.7(b)(1). [40 CFR 63.6645(g)]

3.10. Submit the information specified in 40 CFR 63.6650(c) and Table 7 to 40 CFR 63, Subpart ZZZZ as part of the annual compliance report required in Condition A.19 of this permit. [40 CFR 63.6650]

3.11. Keep records of the following documents:

3.11.1. A copy of each notification and report submitted to comply with 40 CFR 63, Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).

3.11.2. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.

3.11.3. Records of performance tests and performance evaluations as required in 40 CFR 63.10(b)(2)(viii).

3.11.4. Records of all required maintenance performed on the air pollution control and monitoring equipment.

3.11.5. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

[40 CFR 63.6655(a)]

3.12. Keep records as follows:

3.12.1. Records must be in a form suitable and readily available for expeditious review according to 40 CFR 63.10(b)(1).

3.12.2. Keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record as specified in 40 CFR 63.10(b)(1).

3.12.3. Keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or recording according to 40 CFR 63.10(b)(1).

[40 CFR 63.6660]

4. NESHAP JJJJJJ for K-5A – K-5Z. Area Source Boiler MACT. The permittee shall comply with the applicable requirements of 40 CFR Part 63, Subpart JJJJJJ for emission units in Source Group K-5 as follows:

4.1. Conduct an initial performance tune-up that meets the requirements of Condition G.4.2 and in accordance with the following: [40 CFR 63.11214(b)]

4.1.1. If the boiler is an existing boiler, the permittee must achieve compliance with the work practice standard of a tune-up no later than March 21, 2012. [40 CFR 63.11196(a)(1)]

4.1.1.1. The boiler is subject as an existing source if construction or reconstruction commenced on or before June 4, 2010. [40 CFR 63.11194(b)]

4.1.1.2. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. [40 CFR 63.11223(b)(7)]

4.1.1.3. The permittee must submit a signed statement in the Notification of Compliance Status Report that indicates the permittee conducted a tune-up of the boiler. [40 CFR 63.11214(b)]

4.1.2. If the boiler is a new boiler, the permittee must achieve compliance with the provisions of this subpart upon startup. [40 CFR 63.11196(c)]

4.1.2.1. The boiler is subject as a new source if construction or reconstruction commenced after June 4, 2010. [40 CFR 63.11194(c)]

4.1.2.2. If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. [40 CFR 63.11223(b)(7)]

4.1.2.3. The permittee must submit a signed statement in the Notification of Compliance Status Report that indicates the permittee conducted a tune-up of the boiler. [40 CFR 63.11214(b)]

4.2. Conduct an initial and biennial performance tune-ups, subject to the following: [40 CFR 63.11223(a), (b)]

4.2.1. Each biennial performance tune-up shall be no later than 25 months following the previous tune-up. [40 CFR 63.11223(a)] If the boiler is not operating on the required date for a tune-up, the tune-up must be conducted within one week of startup. [40 CFR 63.11223(b)(7)]

4.2.2. As applicable, inspect the burner and clean or replace any components of the burner as necessary (the permittee may delay the burner inspection until the next scheduled unit shutdown, but the permittee must inspect each burner at least once every 36 months). [40 CFR 63.11223(b)(1)]

4.2.3. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. [40 CFR 63.11223(b)(2)]

4.2.4. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly. [40 CFR 63.11223(b)(3)]

4.2.5. Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available. [40 CFR 63.11223(b)(4)]

4.2.6. Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). [40 CFR 63.11223(b)(5)]

4.3. Maintain the following records onsite and submit, if requested by EPA:

4.3.1. A copy of each notification and report that the permittee submitted to comply with this subpart and all documentation supporting any Initial Notification or Notification of Compliance Status that the permittee submitted. [40 CFR §§ 63.10(b)(2)(xiv), 63.11223(a) and 63.11225(c)(1)]

4.3.2. Records to document conformance with the tune-up requirements. Records must identify each boiler, the date of tune-up, the manufacturer's specification to which the boiler was tuned, records documenting the fuel type used monthly by each boiler (including, but not limited to, a description of the fuel, including whether the fuel has received a non-

waste determination by the permittee or EPA), and the total fuel usage amount in gallons. [40 CFR 63.11225(c)(2)]

4.3.3. Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control or monitoring equipment. Records of actions taken during periods of malfunction to minimize emissions in accordance with Condition G.4.5, including corrective actions to restore the malfunctioning boiler, air pollution control or monitoring equipment to its normal or useful manner of operation. [40 CFR 63.11225(c)(4), (5)]

4.3.4. A biennial report containing the following information:

4.3.4.1. The concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after each tune-up of the boiler. [40 CFR 63.11223(b)(6)(i)]

4.3.4.2. A description of any corrective actions taken as part of the tune-up of the boiler. [40 CFR 63.11223(b)(6)(ii)]

4.3.4.3. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler. [40 CFR 63.11223(b)(6)(iii)]

4.3.5. The permittee's records must be in a form suitable and readily available for expeditious review. The permittee must keep each record for 5 years following the date of each recorded action. The permittee must keep each record onsite for at least 2 years after the date of each recorded action. [40 CFR §§ 63.10(b)(1) and 63.11225(d)]

4.4. Submit the following to EPA:

4.4.1. An Initial Notification to EPA no later than 120 days after the Kulluk becomes an OCS source in its first drilling season. The Initial Notification shall include: [40 CFR 63.9(b)(2)]

4.4.1.1. The name and address of the owner or operator.

4.4.1.2. The physical location of the affected source.

4.4.1.3. An identification of the requirement which is the basis of the notification and the source's compliance date.

4.4.1.4. A brief description of the nature, size, design and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted.

4.4.1.5. A statement of whether the affected source is a major source or an area source.

4.4.2. Notification of Compliance Status to EPA no later than 120 days after the applicable compliance date established under Condition G.4.1 and no later than 60 days after each biennial tune-up. Each Notification shall include the following: [40 CFR §§ 63.9(h), 63.9(h)(3), 63.11225(a)(1) and 63.11225(a)(4), (b)]

4.4.2.1. Company name and address. [40 CFR 63.11225(b)(1)]

4.4.2.2. Each notice shall be signed by the Responsible Official and shall certify its accuracy, attesting to whether the source has complied with the relevant standard (tune-up). [40 CFR §§ 63.9(h)(2)(i), 63.225(b)(2)]

4.4.2.3. The methods that were used to determine compliance. [40 CFR 63.9(h)(2)(i)(A)]

4.4.2.4. The results of any performance tests, opacity or visible emission observations, CMS performance evaluations, and/or other monitoring procedures or methods that were conducted. [40 CFR 63.9(h)(2)(i)(B)]

4.4.2.5. If the source experiences any deviation from the applicable requirements since the previous Notification of Compliance Status, include a description of the deviations, the time periods during which the deviations occurred and the corrective actions taken. [40 CFR 63.11225(b)(3)]

4.4.2.6. The methods that will be used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods. [40 CFR 63.9(h)(2)(i)(C)]

4.4.2.7. The type and quantity of hazardous air pollutants emitted by the source (or surrogate pollutants if specified in the relevant standard), reported in units and averaging times and in accordance with the test methods specified in the relevant standard. [40 CFR 63.9(h)(2)(i)(D)]

4.4.2.8. A description of the air pollution control equipment (or method) for each emission point, including each control device (or method) for each hazardous air pollutant and the control efficiency (percent) for each control device (or method). [40 CFR 63.9(h)(2)(i)(F)]

4.4.2.9. A statement by the owner or operator of the affected existing, new, or reconstructed source as to whether the

source has complied with the relevant standard or other requirement. [40 CFR 63.9(h)(2)(i)(G)]

4.4.2.10. The following statement shall be included in the initial Notification of Compliance Status: "This facility complies with the requirements in §63.11214 to conduct an initial tune-up of the boiler". [40 CFR 63.11225(a)(4)(i)]

4.4.3. If the permittee intend to switch fuels, and this fuel switch may result in the applicability of a different subcategory or a switch out of subpart JJJJJJ due to a switch to 100% natural gas, the permittee must provide 30 days prior notice of the date upon which the permittee will switch fuels. This notification must include: [40 CFR 63.11225(g)]

4.4.3.1. The name of the owner or operator of the affected source, the location of the source, the boilers that will switch fuels and the date of the notice. [40 CFR 63.11225(g)(1)]

4.4.3.2. The currently applicable subcategory under this subpart. [40 CFR 63.11225(g)(2)]

4.4.3.3. The date on which the permittee became subject to the currently applicable standards. [40 CFR 63.11225(g)(3)]

4.4.3.4. The date upon which the permittee will commence the fuel switch. [40 CFR 63.11225(g)(4)]

4.5. At all times the permittee must operate and maintain the boiler in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to EPA that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records and inspection of the source. [40 CFR 63.11205(a)]

5. NSPS CCCC for K-8. NSPS Subpart CCCC Exemption. The permittee shall comply with the applicable requirements of 40 CFR Part 60, Subpart CCCC for Unit K-8 as follows:

5.1. Exemption**.** The permittee shall comply with the applicable requirements of 40 CFR 60, Subpart CCCC for Unit K-8 as follows in order to be exempt from the substantive requirements of 40 CFR 60, Subpart CCCC:

5.1.1. Install and operate an incineration unit that has the capacity to burn less than 35 tons per day of municipal solid waste or refuse-derived fuel (MSW/RDF), as defined in 40 CFR 60 subparts Ea, Eb, AAAA, and BBBB of 40 CFR 60.

5.1.1.1. Compliance with Condition G.5.1.1 shall be determined based upon recordkeeping as required by Condition G.5.2.

5.1.2. Burn commercial/industrial solid waste, as defined in 40 CFR 60 subpart CCCC, with a MSW/RDF concentration greater than 30 percent by weight.

5.1.2.1. Compliance with Condition G.5.1.2 shall be determined each day and is based upon monitoring and recordkeeping as required by Condition G.5.2.

[40 CFR 60.2020(c)(2)]

5.2. Monitoring, Recordkeeping and Reporting: The permittee shall:

5.2.1. Keep records of documentation from the manufacturer showing that the incinerator is incapable of burning 35 tons per day or greater of MSW/RDF.

[40 CFR 60.2020(c)(2)(i)]

5.2.2. For each batch of waste charged to the incinerator:

5.2.2.1. Record the date and time that each batch of waste was charged to the incinerator;

5.2.2.2. Weigh the mass of each batch of waste as follows:

5.2.2.2.1. Segregate and separately weigh MSW/RDF by using a weigh scale used that shall be accurate to within 1 lb;

5.2.2.2.2. Weigh the entire waste stream including MSW/RDF.

5.2.2.3. Record the mass of each batch and record the mass of MSW/RDF based upon observations conducted pursuant to Condition G.5.2.2.2.

[40 CFR §§ 55.8(a), 71.6(a)(3)(i)(B), 71.6(a)(3)(ii) and 71.6(c)(1)]

5.2.3. Each day after the last batch of waste has been charged to the incinerator, calculate the percent of MSW/RDF incinerated for that day by summing the recorded mass of MSW/RDF charged to the incinerator for that day, summing the recorded mass of all material charged to the incinerator for that day, dividing the summed mass MSW/RDF by the summed mass of the entire waste stream, and multiplying the quotient by 100. [40 CFR §71.6(a)(3)(i)(B)]

5.2.4. Keep records on a calendar quarter basis of the weight of municipal solid waste burned, and the weight of all other fuels and wastes burned in the unit. [40 CFR 60.2020(c)(2)(i)]

5.2.5. Report to EPA pursuant to Condition A.18 those occasions in which the value calculated pursuant to Condition G.5.2.3 does not exceed 30 percent. [40 CFR 71.6(a)(3)(iii)]

ATTACHMENT A: EPA NOTIFICATION FORM

Excess Emissions and Permit Deviation Reporting

OCS Source (Facility) 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 units 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	Emission 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 ☐ 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) (check boxes correspond with sections in permit):
☐ Source Specific
☐ Failure to monitor/report
☐ General Source Test/Monitoring Requirements
☐ Recordkeeping/Reporting/Compliance Certification
☐ Standard Conditions Not Included in Permit
☐ Generally Applicable Requirements
☐ Reporting/Monitoring for Diesel Engines
☐ Insignificant Source
☐ Facility Wide
☐ Other Section: (title of section and section # of your permit)

(b) Emission Units Involved:
Identify the emission units 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	Emission 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**

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j)*

To Submit this Report:

1. Fax this form to: Facsimile no. 206-553-0110

   Or

2. E-mail to: R10OCSAirPermits_Reports@epa.gov

   Or

3. Mail to: OCS/PSD Air Quality Permits
   U.S. EPA - Region 10, AWT-107
   1200 Sixth Avenue, Suite 900
   Seattle, WA 98101

ATTACHMENT B: VISIBLE EMISSIONS FIELD DATA SHEET

Permit No. R10OCS030000

Certified Observer: _____

Company & Stationary Source: _____

Location: _____

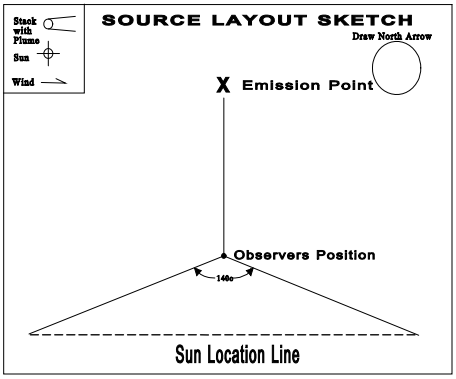
Test No.: _____ Date: _____

Emission Unit: _____

Operating Rate: _____

_____

_____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Page ___ of ___

Company & Stationary Source_____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility Reduction Every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____ _____

Observer Signature and Date Certified By and Date

Data Reduction:

Duration of Observation Period (minutes) _____ Duration Required by Permit (minutes)_____

Number of Observations _____ Highest Six –Minute Average Opacity (%)_____

Number of Observations exceeding 20 % _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

ATTACHMENT C: EMISSION INVENTORY REPORTING

EPA Reporting Form

Emission Inventory Reporting

Emission Inventory Year – [ ]

Mandatory Information is Highlighted

Inventory Start Date:

Inventory End Date:

Inventory Type:

Facility Information:

(Stationary Source) Facility Name:

AFS ID:

Census Area/Community:

Line of Business (NAICS):

Contact/Owner Name:

Contact Owner Address:

Contact/Owner Phone Number:

Facility Physical Address:

Lat: Long:

Mailing Address:

Emission Unit:

ID:

Description:

Manufacturer:

Model Number:

Serial Number	
Year of Manufacture:	
Maximum Nameplate Capacity:	
Design Capacity (BTU/hr):	
Control Equipment (List All)	
	Control Equipment Type (Primary or Secondary):
	ID:
	Type:
	Manufacturer:
	Model:
	Control Efficiency (%):
	Capture Efficiency (%)
	Total Capture Efficiency (%)
	Pollutants Controlled
	-
	-
	-
	-
Process (List All):	
	PROCESS
	SCC Code:
	Materials Processed:
	Operational Periods:
	FUEL INFORMATION
	Ash Content (weight %):
	Elem. Sulfur Content (weight %):
	H_2S Sulfur Content (ppmv):

Heat Content (MMBtu/1000 gal or MMBtu/MMscf):

Heat Input (MMBtu/hr):

Heat Output (MMBtu/hr):

THROUGHPUT

Total Amount:

Summer %:

Fall %:

Winter %:

Spring %:

Days/Week of Operation:

Weeks/Year of Operation:

Hours/Day of Operation:

Hours / Year of Operation:

EMISSIONS					
Pollutant	**Emission Factor**	**Emission Factor Numerator**	**Emission Factor Denominator**	**Emission Factor Source**	**Tons Emitted**
CO					
NH_3					
NO_X					
PM_{10}- PRI					
$PM_{2.5}$- PRI					
SO_2					
VOC					
Lead and Lead Compounds					

Stack Description:

Stack Details:
ID:
Type:
Measurement Units:
Base Elevation:
Stack Height:
Stack Diameter:
Exit Gas Temp:
Exit Gas Velocity:
Actual Exit Gas Flow Rate:
Data Source:
Description:
Latitude:
Longitude:
Location Description:
Accuracy (m):
Datum:

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:_____