EPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit No.: AQ0923MSS10 Preliminary – December 10, 2015
Rescinds AQ0923MSS09

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ0923MSS10 to the Permittee listed below.

Permittee:	**eni US Operating Co. Incorporated** 3800 Centerpoint Drive, Suite 300 Anchorage, AK 99503 (907) 865-3300
Owner:	Same as Permittee
Operator:	Same as Permittee
Stationary Source:	Nikaitchuq Development
Location:	UTM Zone 6; Northing 6,035,548 m; Easting 1,656,839 m (NAD83)
Physical Address:	200 feet southeast of Kuparuk River Unit Seawater Treatment Plant
Permit Contact:	Whitney Grande (907) 865-3300; whitney.grande@enipetroleum.com
Project	Revision of Emission Unit Inventory and Associated Emission Limits

This project is classified under 18 AAC 50.508(6) to revise or rescind terms and conditions of a Title I permit.

This permit satisfies the obligation of the Permittee to obtain a minor permit under these provisions. As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this minor permit. This permit authorizes the Permittee to operate under its terms and conditions, and as described in the original permit application, and subsequent application supplements listed in Section 10 except as otherwise specified in this permit.

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John F. Kuterbach, Manager
Air Permits Program

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Section 1. Emission Unit Inventory

1. Emission Units (EU) Authorization. The Permittee is authorized to install and operate the EUs listed in Table 1 per the terms and conditions of this permit. Except as noted elsewhere in the permit, the information in Table 1 is for identification purposes only. The specific EU descriptions do not restrict the Permittee from replacing an EU identified in Table 1 with one of the same nominal rating and fuel type. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement EU, including any applicable minor or construction permit requirements.

Table 1 –Minor Permit Emission Unit Inventory

Station	ID	Emission Unit Description	Make / Model	Fuel	Rating / Size
Oliktok Production Pad (OPP)	1	Gas Turbine #1	Solar Taurus 70	Fuel Gas	8,250 kW
	2	Gas Turbine #2	Solar Taurus 70	Fuel Gas	8,250 kW
	32	Dual Fuel Turbine #3	Solar Taurus 70	Fuel Gas	8,250 kW
			Solar Taurus 70	Diesel	7,700 kW
	33	Gas Turbine #4	Solar Taurus 70	Fuel Gas	8,250 kW
	3	Standby Generator Reciprocating Engine	16V 4000 G82 D	Diesel	2,500 kW
	4	Daily Purge & Pilot Operation	Process Safety Flares	Fuel Gas	0.36 MMscf/day
		Low Pressure Emergency Operation			7 MMscf/day
	5	Various Tank #1	Process Tank	N/A	750 barrels
	6	Various Tank #2	Process Tank	N/A	750 barrels
	34	Various Tank #3	Process Tank	N/A	750 barrels
	35	Various Tank #4	Process Tank	N/A	750 barrels
	36	Various Tank #5	Process Tank	N/A	750 barrels
	37	Various Tank #6	Process Tank	N/A	750 barrels
	38	Various Tank #7	Process Tank	N/A	750 barrels
	39	Various Tank #8	Process Tank	N/A	750 barrels
	40	Various Tank #9	Process Tank	N/A	750 barrels
	41	Various Tank #10	Process Tank	N/A	750 barrels
	8	Base Oil	Storage Tank	N/A	400 barrels
	43	Corrosion Inhibitor StorageTank	Storage Tank	N/A	600 barrels
	44	Antifoam Storage Tank #1	Storage Tank	N/A	200 barrels
	45	Scale Inhibitor Storage Tank #2	Storage Tank	N/A	200 barrels
	46	Emulsion Breaker Storage Tank	Storage Tank	N/A	200 barrels
	69	OPP WIF Boiler #1	Weil McLain 780	Diesel	0.935 MMBtu/hr each
	70	OPP WIF Boiler #2	Weil McLain 780	Diesel	
	71	OPP WIF Boiler #3	Weil McLain 780	Diesel	
	106	Standby Heater	Newpoint Thermal	Fuel Gas	10.5 MMBtu/hr
	78	Construction Power Generator #1(NRE)	Caterpillar 3616C	Diesel	2,763 bhp
Nikaitchuq Operations Camp (NOC)	93	Standby Generator Reciprocating Engine	MTU 16V 2000	Diesel	1,495 bhp
	94	NOC Camp Boiler #1	Unknown	Propane	2 MMBtu/hr each
	95	NOC Camp Boiler #2	Unknown	Propane	
	97	Construction Power Generator #2 (NRE)	CAT C-32	Diesel	1,381 bhp
	111	NOC Warm Storage Boiler #1	Weil-McLain 780	Propane	0.935 MMBtu/hr each
	112	NOC Warm Storage Boiler #2			
	118	Gasoline distribution facility	N/A	N/A	12,000 gallons
	120	Diesel Tank (Distribution Facility)	N/A	N/A	12,000 gallons

Station	ID	Emission Unit Description	Make / Model	Fuel	Rating / Size
	121	Diesel Tank (Distribution Facility)	N/A	N/A	12,000 gallons
	122	Diesel Tank (Distribution Facility)	N/A	N/A	12,000 gallons
Spy Island Drillsite (SID)	47	Standby Generator E04 Reciprocating Engine	MTU 16V 4000 G83	Diesel	3,351 bhp
	49	Standby Generator E07 Reciprocating Engine	Caterpillar 3516C	Diesel	3,635 bhp
	50	Fire Water Pump	John Deere 6068 E	Diesel	183 bhp
	51	Diesel Storage Tank A	Storage Tank	N/A	750 barrels
	52	Diesel Storage Tank B	Storage Tank	N/A	750 barrels
	53	Diesel Storage Tank C	Storage Tank	N/A	750 barrels
	54	Crude Oil Storage Tank D	Process Tank	N/A	750 barrels
	55	Crude Oil Storage Tank E	Process Tank	N/A	750 barrels
	56	Corrosion Inhibitor Tank F	Process Tank	N/A	750 barrels
	57	Scale Inhibitor Tank G	Process Tank	N/A	400 barrels
	58	Emulsion Breaker Tank H	Process Tank	N/A	750 barrels
	59	Future Tank I	Process Tank	N/A	750 barrels
	60	Containment Base Oil/Diesel Tank J	Process Tank	N/A	200 barrels
	61	Emulsion Breaker Tank K	Process Tank	N/A	750 barrels
	62	Chemical Tank L	Process Tank	N/A	750 barrels
	63	Disposal Fluids Tank U	Process Tank	N/A	1,000 barrels
	96	Multiple Chamber Incinerator	Pennram ESS C-300	Wastes	300 lb/hr
	107	Tent Heating Boiler #1	Burnham V1110-WO	Diesel	2.43 MMBtu/hr each
	108	Tent Heating Boiler #2		Diesel	
	109	WIF Boiler #1	Burnham FD-38	Diesel	1.73 MMBtu/hr each
	110	WIF Boiler #2			
	114	Mud Tank Farm Boiler #1	Burnham FD-14	Diesel	0.65 MMBtu/hr
	115	Mud Tank Farm Boiler #2	Burnham FD-14	Diesel	0.65 MMBtu/hr
	64	WIF Generator Reciprocating Engine	J. Deere 6090HF485	Diesel	422 bhp
	68	WIF Cement Pump Engine #1	Detroit Diesel 8V-71N	Diesel	320 bhp
	116	WIF Cement Pump Engine #2		Diesel	320 bhp

Table Notes:

a. The turbine ratings are based on 100 percent operation and 0 degrees Fahrenheit.

b. The Permittee may install Waste Heat Recovery Units (WHRU) on the Gas Turbines (EUs 1, 2, 32, and 33) to provide process and space heat. The WHRU shall not include supplemental burners.

c. The Permittee shall not use EUs 5 and 6 for routine flow-through of sales-quality crude oil.

d. The process safety flare (EU 4B, emergency operation) is rated at 50 MMscf/day for high pressure operation

e. NRE means Nonroad Engine. All other EUs are stationary

f. N/A means Not Applicable or Not Available

2. Operation of Drilling Rigs: The Permittee is authorized to operate two drilling rigs in accordance with the terms and conditions of this permit and the minor permit application.

2.1 EUs 9 through 18, 74, and 75 (On-Shore Drilling Rig) presented in Table 2 are collectively referred to as the "Nabors 245E Drilling Rig".

a. The actual drilling rig operated may be similar or smaller than the Nabors 245E Drilling Rig. In all situations, the cumulative boiler and heater rating shall not exceed 19.3 MMBtu/hr and the cumulative engine rating shall not exceed 5,330 bhp

Table 2: On-Shore Development Drilling Rig

EU ID	EU Description	Make / Model	Rating
9	Rig Boiler #1	Cleaver Brooks CB100-100	4.2 MMBtu/hr each
10	Rig Boiler #2		
11	Rig Heaters #1	Tioga 1DF-21B0	
12	Rig Heaters #2		
13	Rig Heaters #3	Tioga 1DF-11C0	2.5 MMBtu/hr
14	Rig Engine #1 (NRE)	Caterpillar D399	1,125 bhp each
15	Rig Engine #2 (NRE)		
16	Rig Engine #3 (NRE)		
17	Rig Engine #4 (NRE)		
18	Coldstart Motors (NRE)	CAT D353	230 bhp
74	Reciprocating Engine #1 (NRE)	Cummins	300 bhp each
75	Reciprocating Engine #2 (NRE)		

Table Notes:
All of the EUs listed in table are diesel-fired
NRE means Nonroad Engine

2.2 EUs 98 through 105, and 117 (Off-Shore Development Drilling Rig) listed in Table 3 are collectively referred to as the "Doyon Drilling Rig (DDR)".

a. The actual drilling rig operated may be similar or smaller than the DDR. In all situations, the cumulative boiler and heater rating shall not exceed 16.9 MMBtu/hr and the cumulative engine rating shall not exceed 9,511 bhp.

Table 3: Offshore Development Drilling Rig Emission Units

EU ID	EU Description	Make / Model	Rating
98	Rig Boiler #1	Superior Boiler	4.184 MMBtu/hr
99	Rig Boiler #2	Superior Boiler	4.184 MMBtu/hr
100	Rig Heater #1	Dick's Air Heater	3.5 MMBtu/hr
101	Rig Heater #2	Dick's Air Heater	5.0 MMBtu/hr
102	Reciprocating Engine #1 (NRE)	Caterpillar 3516	2,523 bhp
103	Reciprocating Engine #2 (NRE)	Caterpillar 3516	2,523 bhp
104	Reciprocating Engine #3 (NRE)	Caterpillar 3516	2,523 bhp
105	Reciprocating Engine #4 (NRE)	Caterpillar 3512	1,879 bhp
117	Mud Pump #3 Coldstart (NRE)	DEUTZ AG	63 bhp

Table Notes:
All of the emission units are diesel-fired
NRE means Nonroad Engine

3. Operation of Intermittent Well Servicing Equipment: The Permittee is authorized to periodically operate intermittent well servicing equipment listed in Table 4 in accordance with the terms and conditions of this permit[1]

3.1 EUs listed in Table 4 are collectively called "Workover Rig".

[1] In all cases, intermittent well servicing equipment must be portable and operated on a periodic and temporary basis in a manner consistent with the nonroad engine rule adopted by reference in 18 AAC 50.100.

3.2 The actual Workover Rigs operated under this permit may be similar or smaller than the Workover Rig presented in Table 4. In all situations, the cumulative boiler / heater rating of the EUs in the Workover Rig shall not exceed 15.5 MMBtu/hr, the cumulative engine rating of EUs in the Workover Rig shall not exceed 1,225 bhp, and the rating of portable flare shall not exceed 83 Mscf/hr.

Table 4: Partial List of Intermittent Well Servicing Equipment

EU ID	EU Description	Make / Model	Rating
19	Peak Crane (NRE)	To Be Determined	500 tons, 650 bhp
20	Manitowoc Crane (NRE)		300 tons, 575 bhp
23	Hot Oiler Boiler / Heater #1		6 MMBtu/hr
24	Hot Oiler Boiler / Heater #2		9.5 MMBtu/hr

Table Notes:
All of the emission units are diesel-fired, except the portable flare.
NRE means Nonroad Engine

4. **Labeling of EUs**: Label each EU listed in Table 1 with the EU ID within 30 days of installing the EU. Place the ID in a conspicuous location on or adjacent to the EU.

5. **Emissions and Fuel Control Settings and Stacks of Turbines**: For EUs 1, 2, 32, and 33, if the Permittee makes changes to the emission and fuel control settings and stacks, the Permittee shall provide the revised settings and the reason for the revision in the applicable operating report described in the operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.

6. **Emissions and Fuel Control Settings of Engines:** If the Permittee makes changes to the emission and fuel control settings on any of the EUs 3, 47, 49, 50, 64, 68, 93, and 116, the Permittee shall provide the revised settings and the reason for the revision in the applicable operating report described in the operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.

7. **Submission of Drilling Rig Information**: Upon subsequent revisions to the EU inventory of the selected drilling rig, submit to the Department's Fairbanks Office:

7.1 The name of the selected drilling rigs (e.g., Nabors 245E, DDR);

7.2 an EU inventory listing each combustion unit in the drilling rig, along with the make, model, and rating of each combustion unit;

7.3 the cumulative capacity of the Drilling Rig engines;

7.4 the cumulative capacity of the drilling rig boilers / heaters; and

7.5 a statement as to whether the selected drilling rig complies with Condition 2.1a and Condition 2.2a.

8. **Report as Excess Emissions and Permit Deviation:** As described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the cumulative EU rating limits under Conditions 2 or 3 are exceed, or if any of Conditions 4 through 7 are not met.

Section 2. State Emission Standards

9. Industrial Process and Fuel Burning Equipment Visible Emissions (VE). Permittee shall not cause or allow VE, excluding condensed water vapor, emitted from stationary EUs 1, 2, 3, 4, 32, 33, 47, 49, 50, 64, 68, 69 through 71, 93 through 95, and 106 through 112, and 114 through 116 listed in Table 1; EUs 9 through 13 listed in Table 2; EUs 98 through 101 listed in Table 3; and EUs 23 and 24 listed in Table 4 to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

10. Incinerator VE. The Permittee shall not cause or allow VE, excluding condensed water vapor, through the exhaust of EU 96 listed in Table 1 to reduce visibility by more than 20 percent averaged over any six consecutive minutes.

11. Industrial Process and Fuel-Burning Equipment Particulate Matter (PM). The Permittee shall not cause or allow PM emitted from stationary EUs 1, 2, 3, 4, 32, 33, 47, 49, 50, 64, 68, 69 through 71, 93 through 95, 106 through 112, and 114 through 116 listed in Table 1, EUs 9 through 13 listed in Table 2, EUs 98 through 101 listed in Table 3, and EUs 23 and 24 listed in Table 4 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

11.1 The Permittee shall comply with Condition 11 by complying with Condition 9.

12. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from stationary EUs 1, 2, 3, 4, 32, 33, 47, 49, 50, 64, 68, 69 through 71, 93 through 95, 106 through 112, and 114 through 116 listed in Table 1, EUs 9 through 13 listed in Table 2, EUs 98 through 101 listed in Table 3, and EUs 23 and 24 listed in Table 4 to exceed 500 ppm averaged over three hours.

12.1 The Permittee shall comply with Condition 12 by complying with Condition 18.

Section 3. Requirements to Avoid PSD Classification

13. Carbon Monoxide (CO) and Nitrogen Oxides (NOx) Limits

13.1 CO and NOx emissions from stationary EUs 1, 2, 3, 4, 32, 33, 47, 49, 50, 64, 68, 69, 70, 71, 93 through 96, 106 through 112, and 114 through116 listed in Table 1; EUs 9 through 13 listed in Table 2; EUs 98 through 101 listed in Table 3; and EUs 23 and 24 listed in Table 4 shall not exceed 225 tons per 12-month rolling period for each pollutant. Monitor and record as follows (Data selection and recording may be electronic):

a. Group A (Fuel Gas-fired Solar Taurus 70 Gas Turbines - EUs 1, 2, 32 (when firing fuel gas), and 33. For Group A,

(i) Capture the *60-second average load* in percent of full load and the *60-second average inlet air temperature* in degrees Fahrenheit (ºF) for each EU during all periods of operation. Record for each calendar day, the minimum *60-second average load* and the minimum *60-second average inlet air temperature*.

(ii) Except as noted below, round the *60-second average load* up to the next higher load and round the *60-second air inlet temperature* down to the next lower inlet air temperature presented in Table A-1 and Table A-2 of Appendix A. Consider all *60-second average loads* between 40 percent (inclusive) and 45 percent (exclusive), as 40 percent loads.

(iii) Using the method described in Condition 13.1a(iv), determine the pounds (lb) of CO and NOx emitted during the 60-second period for the given *60-second average load* and *60-second average inlet air temperature*, as rounded under Condition 13.1a(ii). For each hour, calculate and record the hourly CO and NOx emissions in lb.

(iv) When calculating the CO and NOx emissions under Condition 13.1a(iii), the Permittee must use either the pounds per minute (lb/min) CO and NOx emission values listed in Table A-1 and Table A-2 of Appendix A or Department-approved substitute lb/min values. Use one of the following approaches if a parameter measured under Condition 13.1a is missing or suspect. Note which approach is used (if applicable) in the operating report described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50.

(A) If the *60-second average load* is unknown or suspect, use the largest lb/min CO and NOx emissions value in Table A-1 and Table A-2 of Appendix A (or the substitute worst-case lb/min value) for the given inlet air temperature; or

(B) If the *60-second average inlet temperature* is unknown or suspect:

(1) use the largest lb/min CO and NOx emissions value in Table A-1 and Table A-2 of Appendix A (or the worst-case lb/min value) for the given load; or

(2) obtain the ambient temperature measured by the National Weather Service (NWS) at the Deadhorse Airport for each hour of missing inlet air temperature and use the NWS temperature in lieu of the inlet air temperature when calculating the pounds of CO and NOx under Condition 13.1a(iii).

(C) If the *60-second average load* and the *60-second average inlet air* temperature are both unknown or suspect, use 17.03 lb/min for CO emissions calculations and 0.78 lb/min for NOx emissions calculations or Department-approved substitute maximum lb/min values.

(v) By the end of each calendar month, calculate and record the *monthly CO and NOx emissions* (in lb) for each EU, the *cumulative monthly CO and NOx emissions* (in lb), and the *12-month rolling CO and NOx emissions* in tons for the previous month.

b. Group B (Diesel Internal Combustion Engines - EUs 3, 47, 49, 50, 64, 68, 93, and 116). For Group B,

(i) Install and maintain a dedicated engine hour meter on each EU listing in Condition 13.1b.

(ii) Calculate and record the *monthly CO and NOx emissions* in pounds (lb) for each EU, as follows:

(A) For each calendar month, monitor and record the *total monthly hours of operation* of the EU.

(B) By the end of each month, calculate the *monthly CO and NOx emissions* (in lb) for the previous month for each EU using a Department approved emission factor.[2] If the *total monthly hours of operatio*n is unknown or suspect, use the total hours for that month.

(iii) By the end of each calendar month, calculate and record the *cumulative monthly CO and NOx emissions* (in lb) and the *12-month rolling CO and NOx emissions* (in tons).

c. Group C (Flares – EU 4). For Group C,

(i) Monitor and record the volume of flared gas in standard million cubic feet (MMscf) on a monthly basis.

[2] Emission Factor determined from performance tests, provided by equipment manufacturer, listed in Table A-3, or derived from emission factors listed in Table A-3.

(ii) By the end of each month, calculate, and record the *monthly CO and NOx emissions* (in lb) by using a representative fuel gas analysis and the emission factors: 0.31 lb/MMBtu to calculate the CO emissions and 0.068 lb/MMBtu to calculate the monthly NOx emissions.

(iii) By the end of each calendar month, calculate and record the *12-month rolling CO and NOx emissions (in tons)*.

d. Group D (Heaters and Boilers - EUs 9 through 13, 23, 24, 69, 70, 71, 94, 95, 98 through 101, 106 through 112, 114, and 115): For Group D,

(i) Determine and record the *monthly hours of operation* for each EU using one of the following three methods. The Permittee does not need to use the same method for all EUs. Identify the method selected for each EU in the applicable operating report described in the operating permit issued to the source under AS 46.14.130 and 18 AAC 50.

(A) Daily Operation Method

(1) For each calendar day, monitor and record whether the EU was operated.

(2) By the end of each calendar month, calculate the *monthly hours of operation* during the previous month by multiplying the days operated by 24 hours.

(B) Hourly Operation Method

(1) Monitor and record each start-up and shutdown time.

(2) By the end of each calendar month, review the start-up and shutdown times during the previous month and determine the *monthly hours of operation*. Round portions of an hour up to the next quarter hour fraction.

(C) Monthly Operation Method. For each EU with an hour meter, for each calendar month monitor and record the total monthly hours of operation.

(ii) By the end of each calendar month, calculate, and record the *monthly CO and NOx emissions* (in lb) of each

(A) diesel-fired EU during the previous month using the emission factors 0.0417 lb/MMBtu for CO emissions and 0.1667 lb/MMBtu for NOx emissions .

(B) propane-fired EU during the previous month using the emission factors: 0.0829 lb/MMBtu for CO emissions and 0.1436 lb/MMBtu for NOx emissions.

(C) fuel-gas fired EU during the previous month using the emission factors: 84 lb/MMscf for CO emissions and 100 lb/MMscf for NOx emissions.

(iii) By the end of each calendar month, calculate, and record the *cumulative monthly CO and NOx emissions* (in pounds) and the *12-month rolling CO and NOx emissions* (in tons).

e. Group E (Incinerator - EU 96): For Group E,

(i) Determine and record the *monthly amount of waste burned* (in tons) for EU ID 96.

(ii) By the end of each calendar month, calculate, and record the *monthly CO and NOx emissions* (in lb) using the emission factors: 10 lb/ton for CO emissions and 3 lb/ton for NOx emissions.

(iii) By the end of each calendar month, calculate, and record the *cumulative monthly CO and NOx emissions* (in pounds) and the *12-month rolling CO and NOx emissions* (in tons).

f. Group F (EU 32 when firing Liquid Fuel): For EU 32 when firing liquid fuel,

(i) By the end of each calendar month, calculate, and record the *monthly CO and NOx emissions* (in lb) using the emission factors: 10 *lb/hr for CO emissions and by 31.5 lb/hr for NOx emissions*.

(ii) By the end of each calendar month, calculate, and record the *cumulative monthly CO and NOx emissions* (in lb) and the *12-month rolling CO and NOx emissions* (in tons).

g. By the end of each calendar month, calculate and record the *Total 12-Month Rolling CO and NOx Emissions* (in tons) *for Groups A through F*.

13.2 Report the *Total 12-Month Rolling CO and NOx Emissions* calculated under Condition 13.1g for each 12-month period as follows:

a. In the operating report described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50; and

b. As excess emissions and permit deviation as specified in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the emissions exceed 225 tons.

13.3 In each operating report submitted in accordance with the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, report

a. For each month of the reporting period:

(i) The range of inlet air temperatures recorded for EUs 1, 2, 32 (when burning fuel gas and when burning liquid fuel) and 33 during the month: and

(ii) Any periods where the monitoring equipment or electronic algorithm required under Condition 13.1, was malfunctioning or inoperable. Specify the malfunctioning or inoperable item with each period.

13.4 If a source test reveals any emission rate greater than the applicable emission factors used to calculate potential emissions under Condition 13.1g, the Permittee shall calculate and report the new potential emissions from that EU and apply for a permit revision within 90 days of the source test.

Section 4.Ambient Air Quality Protection Requirements

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

14.1 Air Quality Boundary: Establish and maintain the ambient boundaries using the procedures described in Condition 15.

14.2 Stack Configuration:

a. For all stationary fuel EUs listed in Table 1, Table 2, Table 3, or Table 4 maintain each exhaust stack with uncapped, vertical outlets – flapper valves, or similar devices, are allowed for these EUs as long as they do not hinder the vertical momentum of the exhaust plume.

(i) eni may use capped stacks for the following units: EUs 47, 50, 69-71, 94, 95, 106-112, and 114-116.

(ii) Intermittent well service equipment rated at less than 400 bhp or 2.8 MMBtu/hr (as applicable) are exempt from Condition 14.2a.

b. Maintain the exhaust stack for each EU listed in Table 5 with a release height (above ground) that meets or exceeds the indicated height.

Table 5: Minimum Stack Height Requirements

Emission Unit ID	Emission Unit Description	Minimum Release Height Above Ground (m)
1, 2, 32, and 33	Gas Turbines #1 through #4	28.0
3	Standby Generator Reciprocating Engine	7.0
47	Standby Generator E04 Reciprocating Engine	8.2
9-12	On-Shore Rig Heaters #1 through #3 and Boilers #1 and #2	12.8
49	Standby Generator E07 Reciprocating Engine	12.8
50	Fire Water Pump	11.7
14-17	On-Shore Rig Engines #1 through #4 (NRE)	14.8
64	WIF Generator Reciprocating Engine	11.3
68	WIF Cement Pump Engine #1	6.4
78	Construction Power Generator #1 (NRE)	6.1
93	Standby Generator Reciprocating Engine	6.0
94 and 95	NOC Camp Boilers #1 and #2	7.7
98 and 99	Offshore Rig Boilers #1 and #2	11.6
100	Offshore Rig Heater #1	12.6
101	Offshore Rig Heater #2	12.1
102, 103, and 104	Offshore Rig Reciprocating Engines #1 through #3 (NRE)	13.0
105	Offshore Rig Reciprocating Engine #4 (NRE)	12.2
106	Standby Heater	8.0
116	WIF Cement Pump Engine #2	6.4

Table Notes:
Stack heights determined in air quality modeling performed during the AQ0923MSS04 through AQ0923MSS07 permit actions.

14.3 On-Site Housing: If providing on-site housing, follow the procedures described in Condition 16.

15. Public Access Control Plan[3]. Establish and maintain the ambient air boundaries as follows:

15.1 Comply with the provisions contained in the "Nikaitchuq Project Public Access Control Plan" (as provided in Appendix B), or a subsequent written version approved by the Department that contains at least the following elements:

a. a scaled map that clearly shows the ambient air boundaries, coast line, spill response boat ramp, Kuparuk Seawater Treatment Plant, Oliktok Road, and warning sign locations;

b. ambient boundaries that are consistent with the land owner's authorization to preclude public access from the area within the boundaries;

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

d. the date of the Public Access Control Plan; and

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

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

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

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

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

d. keep all signs free of nearby visible obstructions (including wind-blown snow), as safety allows.

16. Comply with the provisions contained in the November 6, 2009 "eni Local Policy" (as provided in Appendix C), or a subsequent written version approved by the Department that contains at least the following elements:

16.1 a statement specifying that the worker housing area is for official business / worker use only; and

16.2 a statement specifying that the on-site workers are on 24-hour call.

17. Annual Average NO_2 and SO_2 Ambient Air Quality Protection: Protect the Annual Average NO_2 and SO_2 ambient air quality standards as described in Condition 17.1 and Condition 17.2:

17.1 Limit the operation of EUs listed in Table 6 as follows:

[3] Public Access Control Plan as provided by eni and presented in Appendix B. eni revised the original plan.

a. Maintain a dedicated engine hour meter on each EU listed in Table 6.

b. For each calendar month, monitor and record the total hours of operation during the month of each EU listed in Table 6.

c. By the end of each month, calculate and record the cumulative hours of operation during the previous 12 months for each EU listed in Table 6.

d. Report the hours recorded under Condition 17.1b and 17.1c with the report required under

(i) the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, for each month covered by the reporting period; and

(ii) excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the operation hours exceed the limits listed in Table 6.

Table 6: Annual Operating Limits of Emission Units

EU	Emission Unit Description	Operating Limit
3	Standby Generator Reciprocating Engine	2,000 hr/yr
14-17	On-Shore Rig Engines #1 through #4 (NRE)	6,570 hr/yr each
49	Standby Generator Engine E07 Reciprocating Engine	2,000 hr/yr
50	Fire Water Pump	100 hr/yr
74	On-Shore Rig Reciprocating Engines #1 and #2 (NRE)	8,760 hr/yr combined
78	Construction Power Generator #1 (NRE)	1,500 hr/yr
93	Standby Generator-Reciprocating Engine	500 hr/yr

17.2 Limit the operation of the Workover Rig to 55 days per consecutive 12-month period as follows:

a. For each calendar month in which the Workover Rig is on site, monitor and record the total days of operation during the month. Days of operation includes movement between wellheads but does not include transportation to and from the Nikaitchuq onshore and offshore pads.

b. By the end of each calendar month, calculate and record the cumulative days of operation during the previous 12 months. During the initial 12 months of operation, use the operating period to date as a substitute for the 12-month period.

c. Report the days recorded under Condition 17.2a in the report required under

(i) the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, for each month of the reporting period; and

(ii) excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the days exceed the limit specified in Condition 17.2.

18. Annual, 24-hr, and 3-hr Average SO_2 Ambient Air Quality Protection. Protect the

Annual, 24-hr, and 3-hr Average SO_2 ambient air quality standards as follows:

18.1 For EUs 1, 2, 4, 32 (while burning natural gas), 33, and 106, burn only natural gas with hydrogen sulfide (H_2S) content not exceeding 250 ppmv (on an instantaneous basis at standard conditions).

a. Monitor compliance monthly using ASTM D 4810-88, D 4913-89, or Gas Producers Association 2377-86, or an alternative analytical method approved by the Department.

b. Keep records of the monitoring conducted under Condition 18.1a, for five years. The records may be kept in electronic format.

c. Report the results of the monitoring conducted under Condition 18.1a, under

(i) the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, for each month of the reporting period, as applicable; and

(ii) excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the H_2S content of the fuel gas exceeds 250 ppmv at any time.

18.2 For diesel burning EUs, burn only ultra low sulfur diesel (ULSD) fuel.

a. For each shipment of fuel, keep receipts that specify fuel grade and amount.

b. Clearly label the fuel tanks for the diesel burning EUs as “ULSD Only”.

c. Report under the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, the sulfur content of the diesel fuel burned in each of the EUs.

d. Report under excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the sulfur content of the diesel fuel burned in any EU exceeds 15 ppmw.

18.3 For propane burning EUs, burn only propane with sulfur content not exceeding 185 ppmw.

a. For each shipment of fuel, keep receipts that specify fuel grade and amount

b. Clearly label the fuel tanks for the propane burning EUs as “Propane Only”.

c. Report under the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, the sulfur content of the fuel burned in each EU; and

d. Report under excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the sulfur content of the propane fuel burned in any EU exceeds 185 ppmw.

Section 5.Assessable Emissions and Estimates

19. Assessable Emissions

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

a. The stationary source's assessable potential to emit 648 tpy; or

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

(i) An enforceable test method described in 18 AAC 50.220;

(ii) Emission factors provided by manufacturers of the equipment;

(iii) Material balance calculations;

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

(v) Other methods and calculations approved by the Department.

20. Assessable Emission Estimates

20.1 Emission fees will be assessed as follows:

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

b. if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 19.1a.

Section 6. Limit to Avoid Source Testing When Operating EU 32 on ULSD

21. Operation Hours on ULSD: The Permittee shall operate EU 32 on ULSD for no more than 600 hours per consecutive 12 months.

21.1 Monitor, record, and report as follows:

a. Install, maintain and operate a non-resettable hour meter on EU 32.

b. Monitor and record monthly operating hours for EU 32 when using diesel fuel except when conducting a source test required in an operating permit.

c. By the end of each calendar month, add the previous month's total operating hours for EU 32 when using ULSD to the previous 11 months' total operating hours when EU 32 used ULSD.

d. If the 12-month rolling total operating hours for EU 32 when operating on ULSD recorded in Condition 21.1c exceeds the limit in Condition 21,

(i) report as excess emissions and permit deviations, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50;

(ii) within 60 days after the permit deviation report under Condition 21.1d(i) is due, submit to the Department a complete plan for conducting a source test to verify NOx and CO emission factors specified in Condition 13.1f using the applicable test methods set out in 40 CFR Part 60, Appendix A. The Permittee may propose alternative test methods if it can be shown to be of equivalent accuracy, and will ensure compliance with the applicable standards or limits. The Department must approve the source test plan prior to the test date;

(iii) conduct a source test within 180 days of Department approval of the plan submitted under Condition 21.1d(ii);

(iv) within 60 days after completion of the source test required under Condition 21.1d(iii), submit the results; and

(v) in the source test report submitted under Condition 21.1d(iv) compare the NOx and CO emissions factors in lb/min to the NOx and CO emission factors specified in Condition 13.1f. Propose for Department approval revised NOx and CO emission factors in lb/min if source test results exceed the NOx and CO emission factors specified in Condition 13.1f.

e. Include the records of the preceding consecutive 12 months totals recorded in Condition 21.1c in each operating report required the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, for each month of the reporting period.

Section 7. Requirements for Composition of Wastes Burned in Incinerators

22. Composition of Wastes Burned in Incinerators: Limit the amount of hospital wastes, medical wastes, and infectious wastes combusted in the incinerator, EU 96, to less than 10 percent by weight of the wastes and fuels combusted on a calendar quarter basis in each incinerator. Monitor, record, and report as follows:

22.1 Keep records on a calendar quarter basis of the weight of hospital waste, medical waste, infectious waste, and all other fuels and wastes combusted.

22.2 At the end each of calendar month, calculate and record the percent by weight of hospital wastes, medical wastes, and infectious wastes in the total amount of material combusted.

22.3 Report in the operating report required by the applicable operating permit issued to the source under AS 46.14.130(b) and 18 AAC 50, the percent of hospital wastes, medical wastes, and infectious wastes in the total wastes calculated in Condition 22.2 for each calendar quarter in the reporting period.

22.4 Report as a permit deviation in the Excess Emissions and Deviations Report, as described in the applicable operating permit issued for the source under AS 46.14.130(b) and 18 AAC 50, if the percent of hospital wastes, medical wastes, and infectious wastes in the total wastes calculated in Condition 22.2 for each calendar quarter in the reporting period is not less than 10 percent.

Section 8. General Record Keeping, Reporting, and Compliance Requirements

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

24. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send two copies of reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with Condition 23.

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

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

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

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

a. the date, place, and time of sampling or measurements;

b. the date(s) analyses were performed;

c. the company or entity that performed the analyses;

d. the analytical techniques or methods used;

e. the results of such analyses; and,

f. the operating conditions as existing at the time of sampling or measurement.

Section 9. Terms to Make Permit Enforceable

27. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

27.1 an enforcement action; or

27.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.

28. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

29. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

30. The permit may be modified, reopened, revoked and reissued, or terminated for cause. 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.

31. The permit does not convey any property rights of any sort, nor any exclusive privilege.

32. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

32.1 enter upon the premises where an emission unit subject to the permit is located or where records required by the permit are kept;

32.2 have access to and copy any records required by the permit;

32.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

32.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

Section 10. Permit Documentation

April 9, 2009	Application for AQ0923MSS04 received
May 5, 2006	Permit No. AQ0923MSS01 Technical Analysis Report.
April 9, 2009	Minor permit application submitted by eni for the Nikaitchuq Development.
October 21, 2009	Minor permit application addendum submitted by eni for Nikaitchuq Development containing revised Public Access Control Plan and turbine emission factors spreadsheet.
November 6, 2009	Minor permit application addendum submitted by eni for Nikaitchuq Development containing revised eni Working Times and Hours Policy document and emission calculations spreadsheet.
December 9, 2009	Minor permit application addendum submitted by eni for Nikaitchuq Development containing AERMET Stage 3 modeling files.
December 14, 2009	Minor permit application addendum submitted by eni for Nikaitchuq Development containing BPIP modeling files.
December 18, 2009	Minor permit application addendum submitted by eni for Nikaitchuq Development containing revised modeling files.
March 8, 2010	Comments submitted by the North Slope Borough on preliminary decision to approve application
March 19, 2010	Comments submitted by the Kuukpik Corporation on preliminary decision to approve application
March 19, 2010	Comments submitted by eni on preliminary decision to approve application
April 30, 2010	AQ0923MSS04 issued
June 18, 2010	Application for AQ0923MSS05 to revise AQ0923MSS04 received
August 1, 2010	Eni revised application for Minor Permit AQ0923MSS04.
August 6, 2010	The Department wrote to eni that emission estimates from spreadsheets included in its application were inconsistent with emission factors, equipment ratings, and fuel characteristics.
August 23, 2010	Chris Menefee submitted revised application that updated the emissions estimated in previous submissions.
November 10, 2010	In an email to eni and Chris Menefee of Hoefler Consulting (eni's consultants), the Department proposed rescinding Minor Permit AQ0923MSS04 instead of revising it. Chris Menefee agreed to the new minor permit rescinding Minor Permit AQ0923MSS04.

December 22, 2010	Comments submitted by eni on preliminary decision to approve application.
December 30, 2010	Department issues AQ0923MSS05
December 30, 2010	eni submits application to revise Minor Permit AQ0923MSS05
February 25, 2011	eni revises its application and submits revised calculations.
May 17, 2011	eni revises application and requests that the Department to allow stationary boilers to have capped exhausts. eni submitted revised screening to support the requested revision.
July 29, 2011	eni submits comments on preliminary permit the Department sent out for public notice.
August 11, 2011	Department issues Minor Permit AQ0923MSS06
January 18, 2012	Department receives eni's application for AQ0923MSS07 to revise AQ0923MSS06
May 8, 2012	eni submits application for AQ0923MSS08 requesting authorization to convert one of the turbines to dual fuel firing capability.
October 1, 2012	Department issues Minor Permit AQ0923MSS08
November 27, 2012	Department issues Minor Permit AQ0923MSS07
November 27, 2012	eni submits application for AQ0923MSS09 requesting revisions to AQ0923MSS07
February 8, 2013	eni submits addendum to application for AQ0923MSS09
June 10, 2013	eni submits comments on preliminary documents for AQ0923MSS09
June 27, 2013	eni submits request to withdraw some of their comments on preliminary documents for AQ0923MSS09
August 3, 2015	eni submits application to revise Minor Permit AQ0923MSS10

Section 11. Appendix A: Emission Factors (EFs)[4]

Table A-1 presents EFs for the Solar Taurus Turbines, EUs 1, 2, 32 (when burning fuel gas), and 33. The EFs reflect the results of the source test eni conducted in March 2011.

Table A-1: Solar Taurus NOx EFs (lb/min) at Selected Ambient Temperatures

Percent Load	NOx EFs (lb/min) at Indicated Ambient Temperature				
	60°F	30°F	0°F	-20°F	-60°F
10	0.10	0.11	0.11	0.25	0.26
20	0.13	0.13	0.14	0.29	0.31
30	0.16	0.16	0.17	0.34	0.35
40	0.19	0.20	0.28	0.38	0.40
45-49[a]	0.19	0.20	0.20	0.38	0.40
45-49[b]	0.05	0.05	0.06	0.16	0.51
50	0.05	0.05	0.06	0.16	0.51
60	0.05	0.06	0.06	0.18	0.56
70	0.06	0.06	0.07	0.20	0.62
80	0.06	0.07	0.07	0.43	0.66
90	0.07	0.07	0.08	0.43	0.72
100	0.07	0.08	0.09	0.25	0.78

Table Notes:
[a]: Out of SoLoNOx
[b]: In SoLoNOx

Table A-2: Solar Taurus CO EFs (lb/min) at Selected Ambient Temperatures

Percent Load	CO EFs (lb/min) at Indicated Ambient Temperature				
	60°F	30°F	0°F	-20°F	-60°F
10	11.25	11.52	11.87	12.03	12.67
20	12.50	12.70	12.70	12.70	12.70
30	12.70	12.70	12.70	12.70	12.70
40	12.70	12.70	12.70	12.70	17.03
45-49[a]	12.70	12.70	12.70	12.70	17.03
45-49[b]	0.06	0.01	0.01	0.01	0.46
50	0.06	0.01	0.01	0.01	0.46
60	0.05	0.01	0.01	0.01	0.43
70	0.06	0.01	0.01	0.01	0.47
80	0.06	0.01	0.01	0.01	0.51
90	0.07	0.01	0.01	0.01	0.54
100	0.07	0.08	0.09	0.36	0.60

Table Notes:
[a]: Out of SoLoNOx
[b]: In SoLoNOx

[4] The hierarchy of Department-approved emission factors (EFs) is as follows:
EFs determined from performance tests (Table A-1); provided by equipment manufacturer, listed in Table A-3

Table A-3: Average EFs of Stationary Combustion EUs

Emission Unit	NOx	CO	Units of EF	Reference for Emission Factors
1, 2, and 33	5.1	5.2	lb/hr	Vendor data
32 (burning fuel gas)	5.1	5.2	lb/hr	Vendor data
32 (burning ULSD)	31.5	10	lb/hr	Vendor data (from AQ0923MSS08)
3	39.54	5.20	lb/hr	Vendor data
4	0.068	0.31	lb/MMBtu	AP-42, Table 13.5-1
47	6.71	0.88	g/bhp-hr	Vendor data
	42.46	3.92	lb/hr	
50	2.5	1.10	g/bhp-hr	Vendor data
64	3.45	0.54	g/bhp-hr	Vendor data
68 and 116	0.031	0.00668	lb/bhp-hr	AP-42, Table 3.3-1
96	3	10	lb/ton	AP-42, Table 2.1-12
	0.45	1.5	lb/hr	From rating & AP-42, Table 2.1-12
9-13, 23-24, 69-71, 98-101, 107-110, 114, and 115	20	5	lb/1,000 gal	AP-42, Table 1.3-1, 3
106	100	84	lb/MMscf	AP-42, Table 1.4-2
94, 95, 111, and 112	13	7.5	lb/1,000 gal	AP-42, Table 1.5-1
	0.1436	0.0829	lb/MMBtu	AP-42, Table 1.5-1 & fuel properties
93	20.6	2.0	lb/hr	Vendor data

Table Notes
For EUs 1, 2, 32 (when burning fuel gas), and 33, EFs in Table A-1 and Table A-2 supersede EFs in Table A-3
The Department used EFs in Table A-3 for EUs 1, 2, 32, and 33 for calculation purposes to estimate emissions.

Section 12. Appendix B: Public Access Control Plan

Public Access Control Plan

eni US Operating Co. Inc.
July 2015

Purpose

This Public Access Control Plan for the Nikaitchuq Project is designed to protect the general public from health and safety hazards that could occur as a result of heavy industrial work during well drilling, work-over activities, and crude oil production at Nikaitchuq. eni US Operating Co. Inc. (eni) has established these reasonable restrictions on general public access to ensure adequate protection of public health and welfare.

eni is committed to fully and adequately protecting the health and safety of its work force by remaining within the standards for air exposure of the Occupational Safety and Health Administration (OSHA) and, where the general public has access, the National and Alaska Ambient Air Quality Standards (AAQS). The primary purpose of this plan is to delineate the area to be protected and controlled for occupational health and safety from the area that is subject to unrestricted, general public access where the AAQS are applicable. By limiting access to Nikaitchuq Project Facilities to ENI authorized personnel, ENI will reduce the chance that a member of the general public will be injured or otherwise impacted by ENI operations.

This plan ensures that reasonable measures are in place to accomplish reasonable restrictions on public access.

General Information

eni operates the Oliktok Point Processing Facility and associated production well network from a 600 foot by 600 gravel pad constructed on Oliktok Point (see Figure 1). eni has constructed a gravel island approximately 3.5 miles north of the Oliktok Point Processing Facility to drill and install wells. The island will be approximately 630 feet wide and 830 feet long. Personnel responsible for the operation of the Nikaitchuq project are housed at the Nikaitchuq Operations Center (NOC), south of the Oliktok Point Processing Facility.

eni will restrict access to the on-shore production facility, the off-shore gravel island and the personnel housing camps to eni authorized personnel for health and safety and property control reasons. As a result, the ambient air boundary is marked by the edge of the gravel production and personnel camp pads and the off-shore gravel island with signs and reflective boundary markers that will delineate the controlled area. This is consistent with other ambient air boundary selections that have been made for similar facilities and circumstances on the North Slope. To accommodate the required safety zone for the processing facility safety flare, a gravel

triangle will be constructed on the south side of the pad that will extend some portions of the on-shore gravel pad up to 170 feet to the south.

Drilling, crude oil production and three-phase fluid processing will be conducted on the on-shore gravel pad. Drilling and crude oil production will occur on the off-shore gravel island. Three phase fluid that is produced from the off-shore gravel island will be shipped via sub-sea pipeline to the Oliktok Point Processing Facility. Once development drilling and construction is completed on the off-shore gravel island, the island will be unoccupied with the exception of occasional maintenance activities. Operations on the off-shore gravel island will be monitored and controlled from the Oliktok Point Processing Facility. Remote monitoring systems will be installed on the off-shore gravel island to detect the presence of unauthorized personnel on the off-shore gravel island. Public access will be restricted at the edge of the of the gravel pad at the Oliktok Point Processing Facility, the NOC, and the off-shore gravel island.

The ambient boundary for the Oliktok Point Processing Facility will be marked on the east side by the west edge of the Oliktok road that provides access to the Kuparuk Seawater Treatment Plant (KSTP). The edge of the processing facility gravel pad will mark the north, south, and west ambient boundaries. The south edge of the NOC is marked by the north edge of the DS3Q access road. The east, north, and west edges of the NOC are marked by the gravel pad edge of the NOC.

Ambient air quality receptors were modeled on the Oliktok and DS3Q access roads and on the processing facility, and the NOC pad boundaries. The modeled concentrations on the roads and the pad boundaries show ambient air concentrations below the AAQS. Ambient air quality receptors were also modeled on the toe of the off-shore gravel island facility and the modeled concentrations on the toe of off-shore gravel island were also below the AAQS.

eni will also establish a second boundary to ensure public safety during flaring by keeping the public a safe distance from the flare at all times. The safe distance from the flare is a semi-circle with a 170 foot radius centered on the extreme southern edge of the pad extension that contains the flare.

The ambient boundary for the off-shore gravel island will be marked along the edge of the off-shore gravel island and the ocean. The top of the off-shore gravel island is approximately 18 feet above sea level.

Public Access Control Measures

The Oliktok Point Processing Facility is located on Oliktok Point, which is a peninsula that is surrounded on three sides by the Beaufort Sea and is located within the Kuparuk River Unit (KRU). The KRU is controlled and operated by Conoco-Philips Alaska Incorporated (CPAI). Access to the KRU is controlled by CPAI. The only access to the Oliktok Point Processing Facility is from the south via the Oliktok Rd. Personnel are not allowed to travel to Oliktok Point without first obtaining permission from CPAI.

Personnel traveling to the KSTP will travel on the Oliktok Rd. passing east of the Oliktok Point Processing Facility. Personnel traveling to the KSTP will not need to cross or access the Oliktok Point Processing Facility in order to access the KSTP. KSTP personnel will not be allowed to enter the Oliktok Point Processing Facility without first obtaining permission from the operator of the Oliktok Point Processing Facility. As a practical matter, few people are likely to visit or traverse the area in which Nikaitchuq development and crude oil production will be located. However, road access by personnel without permission from CPAI to be in the area is possible. As a result, several measures will be implemented to reasonably ensure that unauthorized personnel do not access the Oliktok Point Processing Facility. These measures include:

1. Signs;
2. Pad boundary markers;
3. Education and training; and
4. Pad surveillance and exclusion.

The above listed measures will also be used to ensure that unauthorized personnel do not access the NOC, and off-shore gravel island, although the probability of unauthorized access to the gravel island is even less likely than the Oliktok Processing Facility. Details about the public access control measures are presented below.

Signs

To notify unauthorized personnel that they may not access the Oliktok Point Processing Facility, the NOC, and the off-shore gravel island, signs will be posted at strategic locations, as follows:

- On the northeast, northwest, southeast, and southwest corners of the Oliktok Point Processing Facility
- At designated points of ingress and egress from the Oliktok Point Processing Facility, and the NOC; and
- At the top of the two access ramps to the off-shore gravel island.

The sign specifications are:

- Each sign will be 4 feet by 6 feet and will be supported by sawhorse or pallet post with sandbags.
- Each sign will be inspected regularly and will be repaired or replaced, as necessary.

- Each sign will be free of visible obstructions.
- Each sign will read:

eni US Operating Co. Inc.
DANGER
UNAUTHORIZED PERSONNEL
KEEP OUT If access is requested,
Contact eni Security

In addition to the warning signs, reflective, boundary markers will be placed in the following locations:

- Along the eastern production pad border between the Oliktok Rd. and the Oliktok Point Processing Facility;
- Along the northern edge of the Oliktok Point Processing Facility pad separating it from the adjacent KSTP pad; and
- Along the southern edge of the NOC pad edge and the DS 3Q access road.

Reflective boundary markers will be used. In order to distinguish the pad boundary markers from the reflective road edge markers that are used on the North Slope, the pad boundary markers will be spaced at approximately fifty percent of the spacing that is normally used for road edge markers on the North Slope.

Education and Training

To work in or access Nikaitchuq, all personnel must have completed or be escorted by someone who has completed the 8-hour North Slope Training Cooperative course. One rule that is emphasized in the training for North Slope workers is to be present only in locations where they are authorized to be. North Slope workers that are present at sites where they are not authorized are subject to discipline up to and including termination of employment. Additionally, during their local orientation training eni workers and eni contractors that will be working at the Oliktok Point Processing Facility and the gravel island will be made aware of this Public Access Control plan and that if they notice unauthorized personnel at the Oliktok Point Processing Facility, the NOC or the gravel island that they should notify appropriate personnel that an unauthorized person or persons are in Oliktok Point Processing Facility, the NOC, or the gravel pad.

Pad Boundary Surveillance

Unless prohibited by adverse weather conditions or similar safety related circumstances, the Oliktok Point Processing Facility, and the NOC will be formally checked at least twice a day. During these checks of the pad boundary, the inspector will check the following items:

1. The presence or indications of the presence, of unauthorized personnel within the Oliktok Point Processing Facility boundary;
2. That the pad boundary warning signs are clear of obstructions such as snow and are still standing. If possible, the inspector will fix sign problems when they are discovered; and
3. That the reflective pad boundary markers that delineate the northern and eastern pad boundaries are in place and are intact. If possible, the inspector will fix problems with the

reflective pad boundary markers when they are discovered.

In addition to the formal pad inspections, all eni personnel and eni contractors will be responsible for maintaining Oliktok Point Processing Facility, the NOC, and the gravel island boundary integrity. When eni personnel or eni contractors notice either unauthorized persons within the pad boundaries or conditions that compromise the integrity of the pad boundaries, they are required to either correct the situation or notify appropriate personnel that have the authority to remedy the situation.

The gravel island will follow the same procedures that will be used for the Oliktok Point Processing Facility when eni personnel or eni contractors are present on the gravel island for construction, drilling, or maintenance activities. When the gravel island is unoccupied, the pad boundary will be monitored remotely from the Oliktok Point Processing Facility. If unauthorized personnel are present on the island, when the island is unoccupied, the person would not be exposed to pollutants exceeding the AAQS because with exception of the emergency generator, no emission units will be operating on the island when eni or eni contractor personnel are not present on the island.

Pad Boundary Violations

In the event that an unauthorized person enters the Oliktok Point Processing Facility, the NOC, or the offshore gravel island, they will be notified by a representative of eni that they are not allowed within the perimeter of the Nikaitchuq facility without prior approval and will be escorted off the pad by a representative of eni. The incident will be recorded in the Security Desk Log and will list the person's name (if the unauthorized visitor will provide his name), the mode of travel, and the date and time of the incident.

Figure 1. Oliktok Point Processing Facility Ambient Air Boundary.

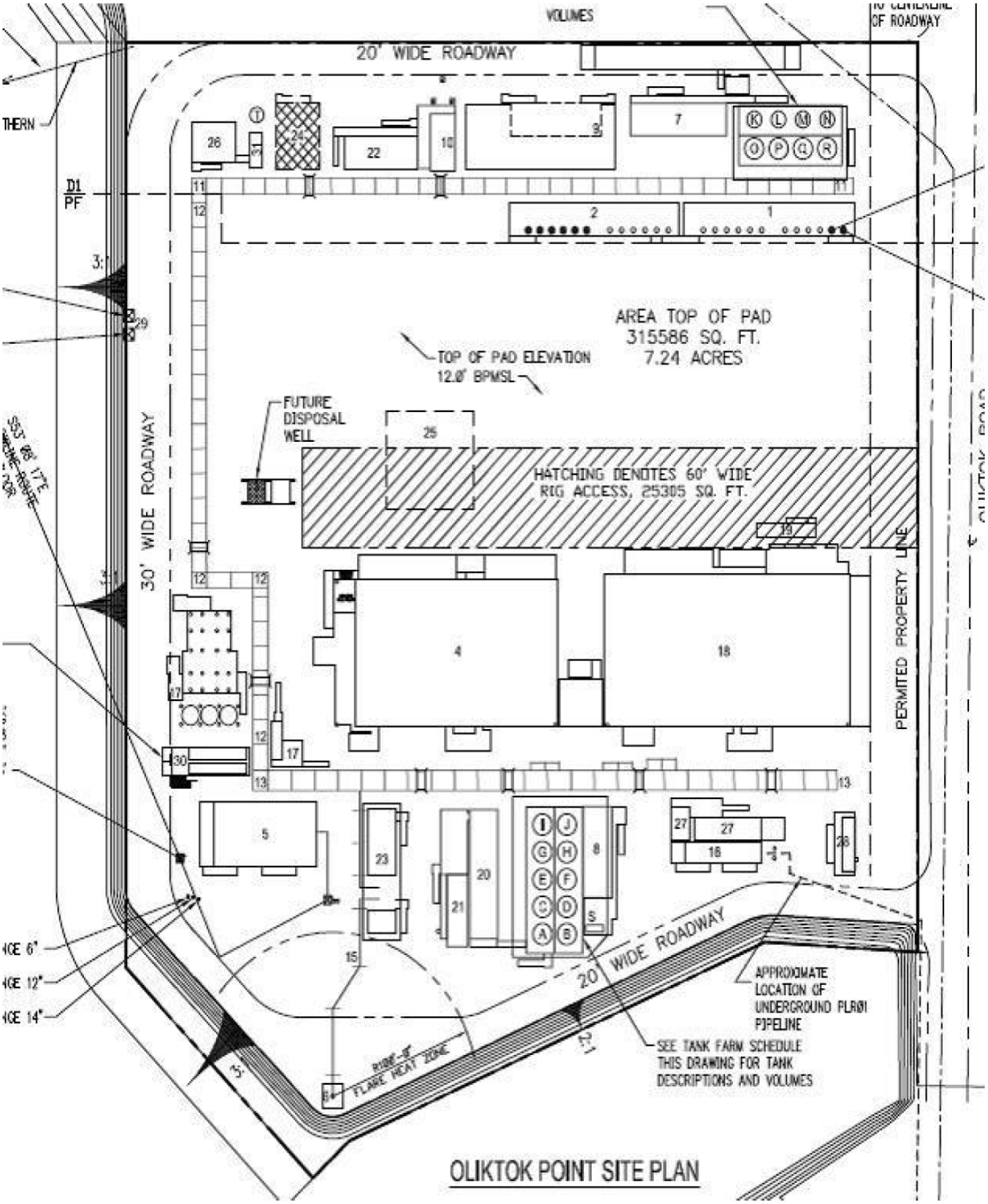


Figure 2. Off-Shore Oliktok Point Gravel Island

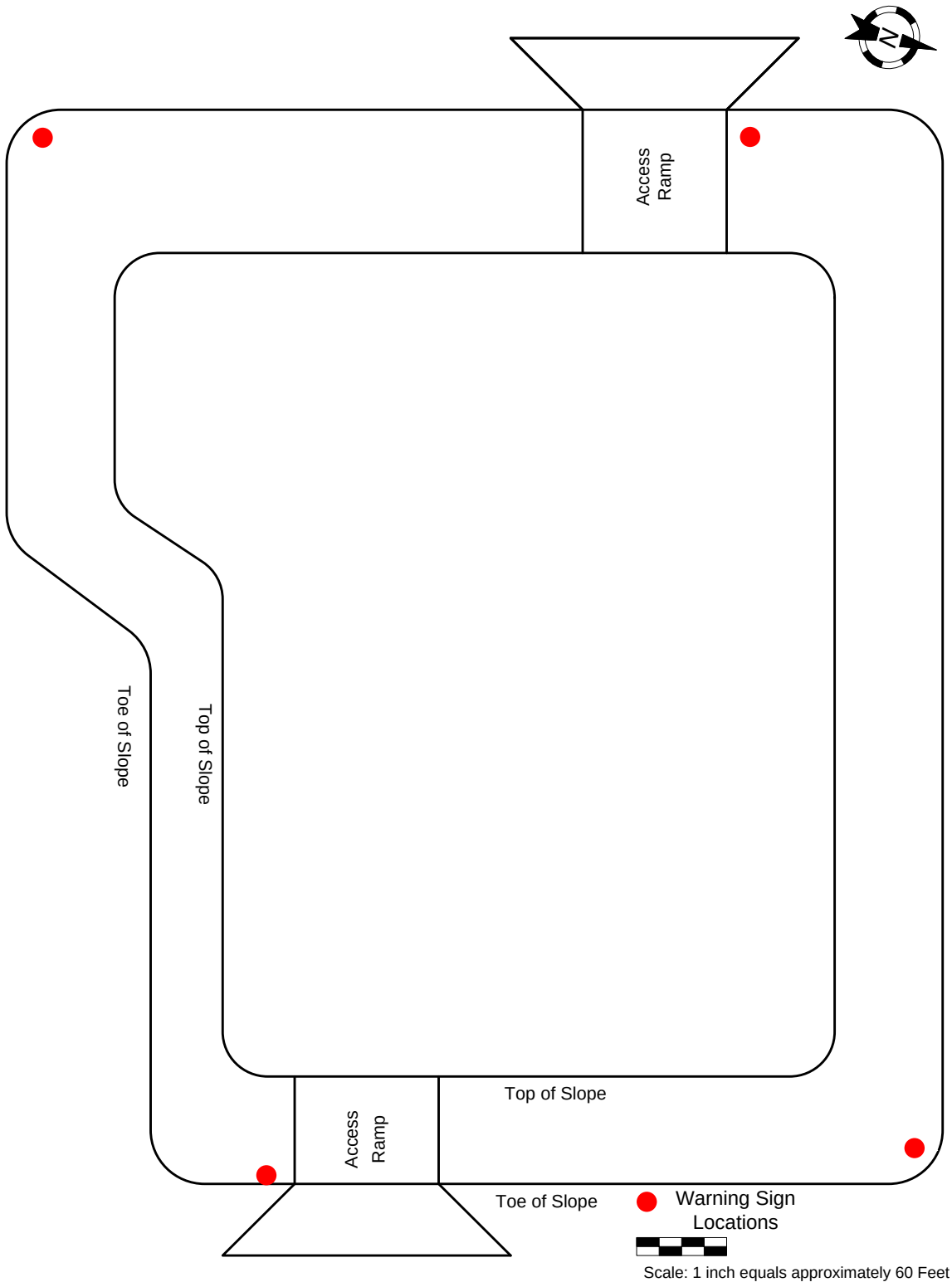


Figure 3. Nikaitchuq Operations Camp

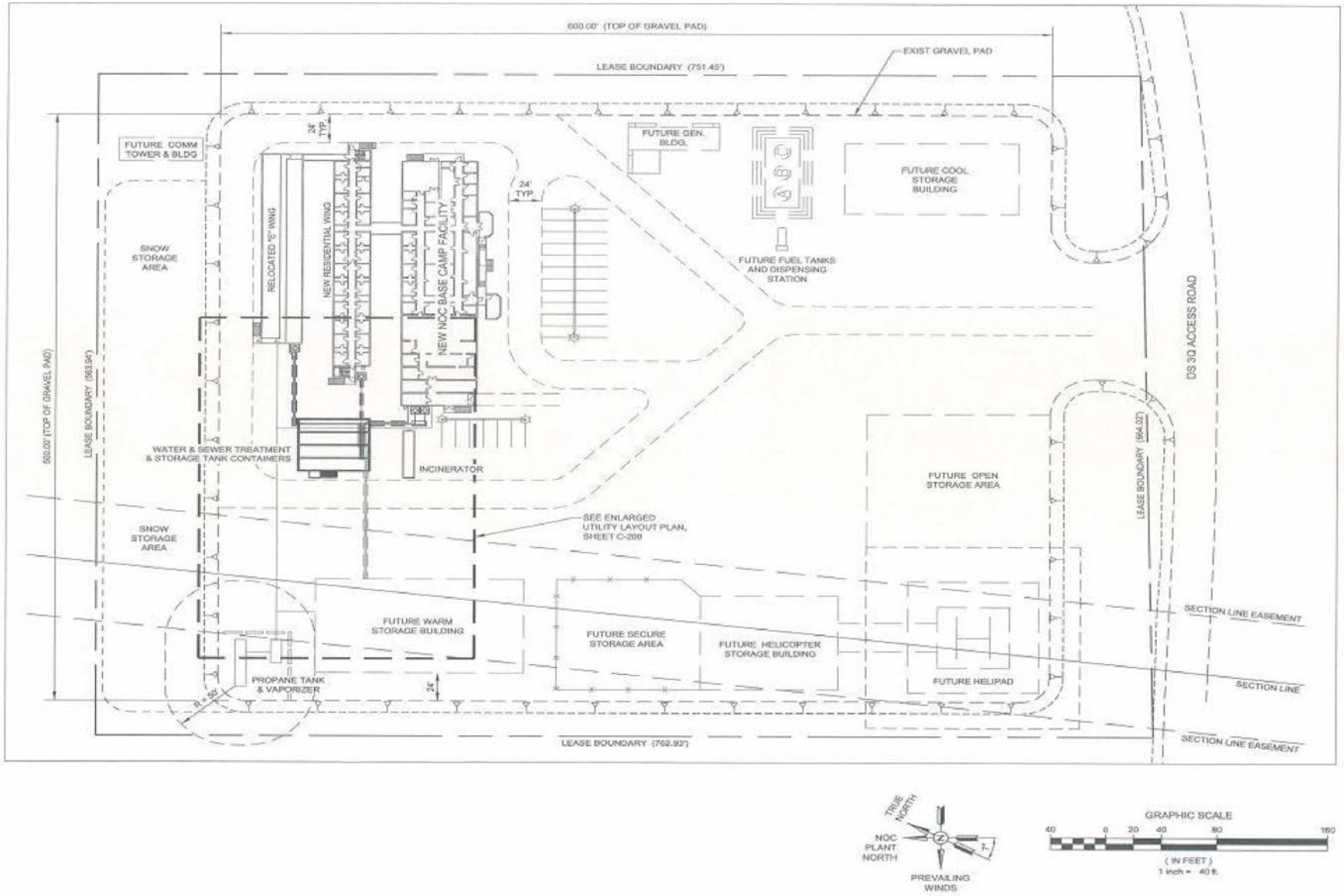
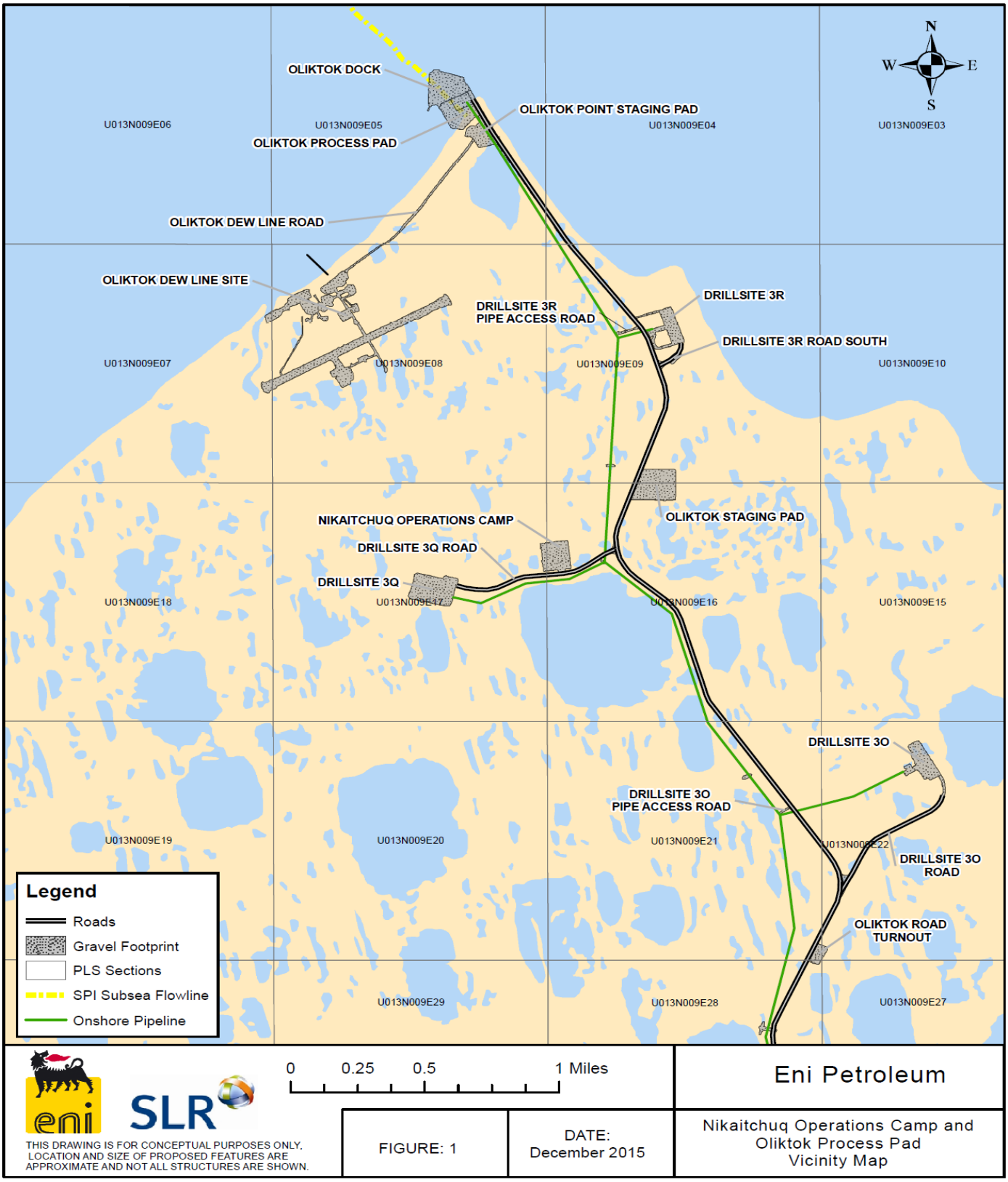


Figure 4. Nikaitchuq Operations Camp and Oliktok Process Pad Vicinity Map



Appendix C: Eni Local Policy (November 6, 2009)

ENI LOCAL POLICY
Nikaitchuq Working Times and Hours Policy for Employees and Contractors
November 6, 2009

POLICY NAME: "ENI Working Times and Hours Policy"
POLICY STATEMENT: It is important that all employees and contractor employees know and understand the work schedule that is expected of them. This policy is written with the goal of making clear the days and hours that employees and contractor employees are expected to work at Nikaitchuq.

The work schedule at Nikaitchuq varies depending on the activity that an employee or a contractor is performing. Generally speaking, Nikaitchuq will operate around the clock. Nikaitchuq drilling and construction activities will also be conducted on a 24-hour basis. The normal shift at Nikaitchuq is 12 hours on and 12 hours off. When employees or contractor employees are not working, they will reside at a camp provided by ENI Petroleum. Nikaitchuq camp facilities are for ENI Petroleum Employees and Contractor Employees on official business. No visitors that are not on official business may use Nikaitchuq camp facilities.

Camp facilities either may be local to Nikaitchuq or may be removed from the immediate vicinity of Nikaitchuq. Regardless as to the camp location, ENI employees or contractor employees can be required to work shifts in excess of 12 hours or be recalled to work during their off-shift time if emergencies or other special circumstances occur.

Section 13. Appendix D - ADEC Notification Form[1]

Excess Emissions and Permit Deviation Reporting
State of Alaska Department of Environmental Conservation
Division of Air Quality

Stationary Source Name | **Air Quality Permit No.**

Company Name | **Date**

When did you discover the Excess Emissions/Permit Deviation?

Date: ____ / ____ / ____ Time: ____ : ____

When did the event/deviation occur?

Begin Date: ____ / ____ / ____ Time: ____ : ____ (Use 24-hr clock.)

End Date: ____ / ____ / ____ Time: ____ : ____ (Use 24-hr 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 Condition – Complete Section 2 and Certify

☐ Deviations 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 ☐ Schedule Maintenance/Equipment Adjustment

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

[1] Revised as of September 27, 2010

EU ID	EU 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 ☐ Other _____

☐ Marine Vessel Opacity ☐ Flaring _____

(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 only one box, corresponding with the section in the permit):

☐ Emission Unit-Specific ☐ Generally Applicable Requirements

☐ Failure to Monitor/Report ☐ Reporting/Monitoring for Diesel Engines

☐ General Source Test/Monitoring Requirements ☐ Recordkeeping Failure

☐ Recordkeeping/Reporting/Compliance Certification ☐ Insignificant Emission Unit

☐ Standard Conditions Not Included in the Permit ☐ Stationary Source Wide

☐ Other Section: _____ (Title of section and section number of your permit).

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

EU ID	EU 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:

Fax to: 907-451-2187
Or
Email to: DEC.AQ.Airreports@alaska.gov
Or
Mail to: ADEC
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643
Or
Phone Notification: 907-451-5173
Phone notifications require a written follow-up report.
Or
Submission of information contained in this report can be made electronically at the following website:
https://myalaska.state.ak.us/dec/air/airtoolsweb/
If submitted online, report must be submitted by an authorized E-Signer for the stationary source.