

**ALASKA DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

**Standard Operating Permit Condition IX – Visible
Emissions and Particulate Matter Monitoring Plan for
Liquid Fuel-Burning Equipment [-FIRED EMISSION
UNITS AND FLARES]**

**Permit Condition for Air Quality Permits
Adopted by Reference in 18 AAC 50.346**

August 25, 2004

Revised {*adoption date of regulations*} [SEPTEMBER 27, 2010]

Standard Operating Permit Condition IX –Visible Emissions and Particulate Matter Monitoring Plan for Liquid Fuel-Burning Equipment [-FIRED EMISSION UNITS]

Emissions [EMISSION] Unit or Stationary Source Categories This Condition Applies to:

- Conditions IX.1 **applies to emissions units capable of burning liquid fuel.** [- IX.4 FOR VISIBLE EMISSIONS APPLY TO LIQUID-FIRED EMISSION UNITS SUBJECT TO THE OPACITY STANDARD OF 18 AAC 50.055(a)(1).]
- **Conditions IX.2 – IX.4 apply to emissions units that only burn liquid fuel.**
- **Condition IX.5 applies to flares.**
- **Condition** [CONDITIONS] **IX.6** [IX.5 APPLY] **applies to emissions units capable of burning** [DIESEL ENGINES AND] liquid **fuel** [-FIRED TURBINES SUBJECT TO 18 AAC 50.055(b)(1)].
- **Conditions IX.7 – IX.9**[IX.8] **apply to liquid fuel-burning diesel engines and turbines.**
- **Conditions IX.10 – IX.12 apply to liquid fuel-burning boilers and heaters.**
- **Condition IX.13 applies to dual fuel-burning emissions units.**

Standard Operating Permit Condition (SPC) [STANDARD PERMIT CONDITION] IX does not apply to **emissions** [EMISSION] units that are insignificant under **18 AAC 50.326(e)-(i)** [18 AAC 50.326(d)-(i), WHICH COULD INCLUDE STANDBY EMISSION UNITS]. **In addition, SPC IX provides specific monitoring exemptions, as well as monitoring triggers, for emissions units that are potentially insignificant due to actual or potential emissions but are significant per 18 AAC 50.326(d)(1) (e.g., standby, intermittently operated, emergency emissions units or small units that are included in the permit due to construction permit and/or federal requirements).**

The **Department** [DEPARTMENT] will use **SPC** [STANDARD PERMIT CONDITION] IX in **each** [ANY] operating permit unless the **Department** [DEPARTMENT] determines that **emissions** [EMISSION] unit- or stationary [SOURCE] **source**-specific conditions more adequately meet the requirements of 18 AAC 50.

Circumstances where emissions [EMISSION] unit or stationary source specific conditions more adequately meet 18 AAC 50 include:

1. if the **Department** [DEPARTMENT] finds that particulate matter and **visible** [OPACITY] emissions data available for the **emissions** [EMISSION] unit or for the equipment make and model is sufficient to demonstrate that there is a different relationship between opacity and particulate matter than that used as the basis for **SPC** [STANDARD PERMIT CONDITION] IX;
2. **emissions** [EMISSION] unit- specific conditions are requested for **Conditions** [CONDITIONS] **IX.7 - IX.9** [IX-5 - IX-8] for turbines with very wide stacks;
3. the **Department** [DEPARTMENT] determines that a different frequency of visible emissions monitoring is necessary to assure compliance because of the characteristics of the **emissions** [EMISSION] unit;
4. the **Department** [DEPARTMENT] determines that[, TO ASSURE THAT AN

EMISSION UNIT COMPLIES WITH THE APPLICABLE STANDARD,] visible emissions monitoring is necessary during a particular phase of operation **to assure that an emissions unit complies with the applicable standard.**

Permit Wording:

[SECTION 1.STATE REQUIREMENTS]

Visible Emissions Standard [STANDARDS]

1. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from **Emissions Unit (EU)** [ID](s) <insert EU [ID] numbers> listed in Table <insert Table of **Emissions Unit Inventory** [EMISSION UNITS DESIGNATION]> 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 C.F.R. 71.6(a)(1)]

- 1.1. For EU [ID](s) <insert EU [ID] numbers **of significant liquid fuel-burning equipment**>, monitor, record, and report in accordance with Conditions **2 through 4** [3 – 5].

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- 1.2. FOR EU ID(S) <INSERT EU ID NUMBERS>, BURN ONLY GAS AS FUEL. MONITORING FOR THESE EMISSION UNIT(S) SHALL CONSIST OF A STATEMENT IN EACH OPERATING REPORT UNDER CONDITION<INSERT OPERATING REPORT CONDITION NUMBER> WHETHER EACH OF THESE EMISSION UNIT(S) FIRED ONLY GAS DURING THE PERIOD COVERED BY THE REPORT. REPORT UNDER CONDITION<REFER TO EXCESS EMISSION/PERMIT DEVIATIONS CONDITION NUMBER> IF ANY FUEL IS BURNED OTHER THAN GAS.]

- 1.2. **For each of EU(s) <insert EU numbers of potentially insignificant units based on actual emissions but are significant per 18 AAC 50.326(d)(1)>, as long as the emissions unit does not exceed the significant emissions thresholds listed in 18 AAC 50.326(e), monitoring shall consist of an annual compliance certification under Condition <refer to Annual Compliance Certification condition number> with the visible emissions standard based on reasonable inquiry. The Permittee shall report in the operating report under Condition <insert condition number for Operating Reports> if any of EUs <insert EU number(s)> exceeds the significant emissions thresholds listed in 18 AAC 50.326(e); if so, monitor, record, and report visible emissions in accordance with Conditions 2 through 4 for the remainder of the permit term for that emissions unit.**

- 1.3. For each of EU [ID](s) *<insert EU [ID] numbers of potentially insignificant units but are significant per 18 AAC 50.326(d)(1)>*, as long as the **emissions** [EMISSION] unit does not exceed the **limit(s)** [LIMITS] in Condition(s) *<insert number(s) of Condition(s) that state the emissions unit's [EU(S)] operating limit(s) [LIMITS] that also keep(s) the unit from exceeding the significant emissions thresholds in 18 AAC 50.326(e)>*, monitoring shall consist of an annual compliance certification under Condition *<refer to Annual Compliance Certification condition number>* **for** [W I T H] the visible emissions standard **based on reasonable inquiry. Otherwise, monitor, record, and report visible emissions in accordance with Conditions 2 through 4 for the remainder of the permit term for that emissions unit.**
- 1.4. **For each of EU(s) <insert EU numbers of potentially insignificant units based on unrestricted operations but are significant per 18 AAC 50.326(d)(1)>, monitoring shall consist of an annual compliance certification under Condition <refer to Annual Compliance Certification condition number> for the visible emissions standard based on reasonable inquiry.**
- 1.5. [1.4] For EU [ID](s) *<insert EU [ID] numbers of significant dual fuel-burning equipment>*, **burn** [USE ONLY] gas as primary fuel. Monitoring for these **emissions** [EMISSION] unit(s) shall consist of a statement in each operating report required **under** [IN] Condition *<insert Operating Report condition number>* indicating whether each of these **emissions** [EMISSION] unit(s) **burned** [FIRED] gas as the primary fuel during the period covered by this report. If operation on a back-up liquid fuel occurred during the period covered by the report, the Permittee shall monitor, record, and report **in accordance with** [ACCORDING TO] Condition 13 [15].
- 1.6. [1.5] For EU [ID](s) *<insert EU [ID] number(s) [NUMBERS] of flare(s)>*, monitor, record, and report in accordance with Condition 5 [6].

[18 AAC 50.040(j),[:] 50.326(j), & [AND] 50.346(c)]
[40 C.F.R. 71.6(a)(3)]

- [
2. INCINERATOR VISIBLE EMISSIONS. THE PERMITTEE SHALL NOT CAUSE OR ALLOW VISIBLE EMISSIONS, EXCLUDING CONDENSED WATER VAPOR, THROUGH THE EXHAUST OF EU ID(S) <INSERT EU ID NUMBERS>, TO REDUCE VISIBILITY BY MORE THAN 20 PERCENT AVERAGED OVER ANY SIX CONSECUTIVE MINUTES.

[18 AAC 50.040(j); 50.326(j); AND 50.050(a)]
[40 C.F.R. 71.6(a)(1)]

2.1 (USE STATIONARY SOURCE-SPECIFIC VE MR&R FOR INCINERATORS.)

[18 AAC 50.040(j) AND 50.326(j)(4)]

[40 C.F.R. 71.6(a)(3) & (c)(6)]

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Visible Emissions Monitoring, Recordkeeping, and Reporting (MR&R)

*Liquid **Fuel-burning Equipment*** [FUEL-FIRED EMISSION UNITS (EU IDS <INSERT EU ID NUMBERS>)]

2. [3] **Visible Emissions Monitoring.** When required by any of **Conditions** [CONDITIONS] 1.1 through 1.3, [OR IN THE EVENT OF REPLACEMENT DURING THE PERMIT TERM,] the Permittee shall observe the exhaust of EU [ID](s) <insert EU [ID] numbers> for visible emissions using either the Method 9 Plan under Condition **2.4** [3.1] or the Smoke/No-Smoke Plan under Condition **2.5** [3.2].

2.1. **In the event of replacement¹ of any of EUs <insert EUs from Condition 1.1>, the Permittee shall observe the exhaust of the newly installed emissions unit(s) using either the Method 9 Plan under Condition 2.4 or the Smoke/No-Smoke Plan under Condition 2.5.**

2.2. The Permittee may change visible emissions **monitoring plan** [PLANS] for an **emissions** [EMISSION] unit at any time unless prohibited from doing so by Condition **2.6** [3.3].

2.3. The Permittee may, for each unit, elect to continue the visible emissions monitoring schedule in effect from **a** [THE] previous permit [AT THE TIME A RENEWAL PERMIT IS ISSUED], if applicable.

[18 AAC 50.040(j), [;] 50.326(j), & [AND] 50.346(c)]

[40 C.F.R. 71.6(a)(3)(i)]

2.4. [3.1] **Method 9 Plan.** For all [18-MINUTE] observations in this plan, observe **emissions unit** exhaust following 40 C.F.R. 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.

a. **First Method 9 Observation.** Except as provided in **Condition 2.3 or Condition 2.6.c(ii)** [3.4], [FOR EU ID(S) <INSERT EU ID NUMBERS>,] observe **the exhaust of EU(s) <insert EU numbers>** [FOR 18 MINUTES] within six months after the issue date of this permit.

(i) For any unit, observe **emissions unit** exhaust [FOR 18 MINUTES] within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition **2.5** [2.2].

(ii) [(i)] For any **of EUs <insert EUs from Condition 1.1 > that are** [UNITS] replaced [DURING THE TERM OF THIS PERMIT], observe exhaust for 18 minutes within 30 days of startup.

¹ **“Replacement,” as defined in 40 CFR 51.166(b)(32).**

- (iii) [(ii)] For each existing **emissions** [EMISSION] unit that exceeds the **significant emissions or** operational **threshold(s)** [THRESHOLD] in **Conditions** [CONDITION] **1.2** [IX.1.3] **or the limit in Condition 1.3**, observe the exhaust of **the emissions unit** [FOR 18 MINUTES OF OPERATIONS] within 30 days after the calendar month during which **the** [THAT] threshold **or limit was** [HAS BEEN] exceeded, or within 30 days of the unit's next scheduled operations, whichever is later.
 - b. **Monthly Method 9 Observations.** After the first Method 9 observation **conducted under Condition 2.4.a**, perform 18-minute observations at least once in each calendar month that **the** [AN] **emissions** [EMISSION] unit operates.
 - c. **Semiannual Method 9 Observations.** After **at least** [OBSERVING EMISSIONS FOR] three [CONSECUTIVE OPERATING] **monthly** [MONTHS] **observations** under Condition **2.4.b** [2.1.a(i)], unless a six-minute average **opacity** is greater than 15 percent and one or more observations are greater than 20 percent;[,] perform [18-MINUTE] observations:
 - (i) within six months after the preceding observation; or
 - (ii) for an **emissions** [EMISSION] unit with intermittent operations, during the next scheduled operation immediately following six months after the preceding observation.
 - d. **Annual Method 9 Observations.** After at least two semiannual [18-MINUTE] observations **under Condition 2.4.c**, unless a six-minute average **opacity** is greater than 15 percent and one or more individual observations are greater than 20 percent;[,] perform [18-MINUTE] observations:
 - (i) **within** [WITHIN] twelve months after the preceding observation; or
 - (ii) **for** [FOR] an **emissions** [EMISSION] unit with intermittent operations, during the next scheduled operation immediately following twelve months after the preceding observation.
 - e. **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 **emissions** [EMISSION] unit to at least monthly intervals as described in Condition **2.4.b** [2.1.b], **and continue monitoring in accordance with the Method 9 Plan** [UNTIL THE CRITERIA IN CONDITION 2.1.c FOR SEMIANNUAL MONITORING ARE MET].
- 2.5. [3.2] **Smoke/No Smoke Plan.** Observe the **emissions unit** exhaust for the presence or absence of visible emissions, excluding condensed water vapor.
- a. **Initial Monitoring Frequency.** **Conduct observations** [OBSERVE THE EXHAUST DURING] each calendar day that **the** [AN] **emissions** [EMISSION] unit operates.

- b. Reduced Monitoring Frequency. **If** [AFTER] the emissions [EMISSION] unit operates [HAS BEEN OBSERVED ON 30 CONSECUTIVE OPERATING DAYS, IF THE EMISSION UNIT OPERATED] without visible emissions [SMOKE IN THE EXHAUST] for [THOSE] 30 consecutive operating days, [THEN] observe the emissions unit exhaust at least once in every calendar month that the [AN] emissions [EMISSION] unit operates.
- c. Smoke Observed. If visible emissions are [SMOKE IS] observed, comply with [EITHER BEGIN THE METHOD 9 PLAN OF CONDITION 2.1 OR PERFORM THE CORRECTIVE ACTION REQUIRED UNDER] Condition 2.6 [2.3].

2.6. [3.3] **Corrective Actions Based on Smoke/No Smoke Observations**. If visible emissions are present in the emissions unit exhaust during an observation performed under the Smoke/No Smoke Plan of Condition 2.5 [2.2], then the Permittee shall either begin [FOLLOW] the Method 9 Plan [PLAN] of Condition 2.4 [2.1], or

- a. initiate actions to eliminate visible emissions [SMOKE] from the emissions [EMISSION] unit within 24 hours of the observation;
- b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce visible emissions [SMOKE]; and
- c. after completing the actions required under Condition 2.6.a [2.3.a],
 - (i) make [TAKE] smoke/no smoke [SMOKE/NO SMOKE] observations in accordance with Condition 2.5 [2.2]
 - (A) at least once per day for the next seven operating days and until the initial 30-day [30 DAY] observation period is completed; and
 - (B) continue as described in Condition 2.5.b [2.2.b]; or
 - (ii) if the actions taken under Condition 2.6.a [2.3.a] do not eliminate the visible emissions [SMOKE], or if subsequent visible emissions [SMOKE] are [IS] observed under the schedule of Condition 2.6.c(i)(A) [2.3.c(i)(A)], then observe the emissions unit exhaust using the Method 9 Plan unless the Department [DEPARTMENT] gives written approval to resume observations under the Smoke/No Smoke Plan.; After [AFTER] observing visible emissions [SMOKE] and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates visible emissions [SMOKE] and restart the Smoke/No Smoke Plan under Condition 2.5.a [2.2.a].

3. [4] **Visible Emissions Recordkeeping**. When visible emissions monitoring is conducted [WHEN REQUIRED BY ANY OF CONDITIONS 1.1 THROUGH 1.4, OR IN THE EVENT OF REPLACEMENT OF ANY EU ID(S) <INSERT EU ID NUMBERS> DURING THE PERMIT TERM], the Permittee shall keep records as follows:

[18 AAC 50.040(j),; 50.326(j), & [AND] 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]

3.1. [4.1] For all Method 9 observations [IF USING THE METHOD 9 PLAN OF CONDITION 3.1],

- a. the observer shall record:

- (i) the name of the stationary source, **emissions** [EMISSION] unit and location, **emissions** [EMISSION] unit type, observer's name and affiliation, and the date on the Visible Emissions **Observation Form** [FIELD DATA SHEET] in *<insert Visible Emissions **Observation Form** [FIELD DATA SHEET] Section number>*;
 - (ii) the time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky **condition** [CONDITION] (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate or best estimate, if unknown) on the sheet at the time opacity observations are initiated and completed;
 - (iii) 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;
 - (iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation **Form** in [SECTION] *<insert Visible Emissions **Observation Form** Section number>*, and
 - (v) 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.
- b. 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.
 - c. Calculate and record the highest **six-** [6-MINUTE] and 18-consecutive-minute **average opacities** [AVERAGES] observed.
- 3.2. [4.2] If using the Smoke/No Smoke Plan of Condition **2.5** [3.2], record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department [DEPARTMENT]:
- a. the date and time of the observation;
 - b. from Table *<insert Table of **Emissions** [EMISSION] Units designation>*, the ID of the **emissions** [EMISSION] unit observed;
 - c. whether visible emissions are present or absent in the **emissions unit** exhaust;
 - d. a description of the background to the exhaust during the observation;
 - e. if the **emissions** [EMISSION] unit starts operation on the day of the observation, the startup time of the **emissions** [EMISSION] unit;
 - f. name and title of the person making the observation; and
 - g. operating rate (load or fuel consumption rate).
- 3.3. **The records may be kept in electronic format.**

4. [5] **Visible Emissions Reporting. When visible emissions monitoring is conducted** [WHEN REQUIRED BY ANY OF CONDITIONS 1.1 THROUGH 1.4, OR IN THE EVENT OF REPLACEMENT OF ANY EU ID(S) <INSERT EU ID NUMBERS> DURING THE PERMIT TERM], the Permittee shall report [VISIBLE EMISSIONS] as follows:

[18 AAC 50.040(j),:] 50.326(j), & [AND] 50.346(c)
[40 C.F.R. 71.6(a)(3)(iii)]

4.1. [5.1] **Include** [INCLUDE] in each operating report required under Condition <insert *Operating Reports condition number*>:

- a. which visible[-] emissions plan of Condition **2** [3] was used for each **emissions** [EMISSION] unit; if more than one plan was used, give the time periods covered by each plan;
- b. for each **emissions** [EMISSION] unit under the Method 9 Plan,
 - (i) copies of the observation results (i.e. opacity observations) for each **emissions** [EMISSION] unit [THAT USED THE METHOD 9 PLAN], except for the observations the Permittee has already supplied to the **Department** [DEPARTMENT]; and
 - (ii) a summary to include:
 - (A) number of days observations were made;
 - (B) highest six-[MINUTE] **and 18-consecutive minute average opacities** observed; and
 - (C) dates when one or more observed six-minute **average** [AVERAGES] **opacities** were greater than 20 percent;
- c. for each **emissions** [EMISSION] unit under the Smoke/No Smoke Plan, the number of days that **smoke/no smoke** [SMOKE/NO SMOKE] observations were made and which days, if any, that **visible emissions were** [SMOKE WAS] observed; and
- d. a summary of any monitoring or record keeping required under Conditions 2 and **3** [3.3c(ii)] that was not done.[:]

4.2. [5.2] **Report** [REPORT] under Condition <insert *Excess Emissions and Permit Deviations condition number*>:

- a. the results of Method 9 observations that exceed [AN AVERAGE] 20 percent **average opacity** for any six-minute period; and
- b. if any monitoring under Condition **2** [3] was not performed when required, report within three days of the date the monitoring was required.

Flares[, EU ID(S) <INSERT FLARE/EU ID NUMBERS>]

5. [6] **Visible Emissions MM&R** [MONITORING, RECORDKEEPING, AND REPORTING]. **If a visible emission observation has not been previously conducted on EU <insert EU numbers>, the**[THE] Permittee shall observe one daylight flare event² within 12 months of the **effective date of this permit. The Permittee shall also observe one daylight flare event within 12 months of the** preceding flare event observation. If no event exceeds 1 hour within **the** [THAT] 12-month period, then the Permittee shall observe the next daylight flare event.

5.1. [6.1] Monitor **the flare for visible emissions for 18 minutes during** flare events using Method 9.

5.2. [6.2] Record the following information for **each** observed **event** [EVENTS]:

- a. [THE] **flare** [FLARE(S)] EU [ID] number;
- b. results of the Method [-]9 observations;
- c. reason(s) for flaring;
- d. date, beginning and ending time of event; [and]
- e. volume of gas flared; **and**

5.3. **The records may be kept in electronic format.**

5.4. [6.3] Monitoring of a flare event may be postponed for safety or weather reasons[, OR BECAUSE A QUALIFIED OBSERVER IS NOT AVAILABLE]. If monitoring of a flare event is postponed for any of the reasons described in this condition, the Permittee shall include in the next operating report required by Condition <insert Operating Reports condition number> an explanation of the reason the event was not monitored.

5.5. [6.4] **Include** [ATTACH] copies of the records required by Condition 5.2 **in** [WITH] the operating report required by Condition <insert Operating Reports condition number>[FOR THE PERIOD COVERED BY THE REPORT].

5.6. [6.5] Report under Condition <insert Excess Emissions and Permit Deviations condition number> whenever the opacity standard in Condition 1 is exceeded.

[18 AAC 50.040(j),; AND] 50.326(j)[(4)], **& 50.346(c)**
[40 C.F.R. 71.6(a)(3)] & (c)(6)]

Particulate Matter Emissions Standard [STANDARDS]

6. [7] **Industrial Process and Fuel-Burning Equipment Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from EU [ID](s) <insert EU [ID] numbers> listed in Table <insert reference to Table of **Emissions** [EMISSION] Units> 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(j),;] **&** [AND] 50.055(b)(1)]

² For purposes of this permit, a “flare event” is flaring of gas for greater than one hour as a result of scheduled release operations, i.e. maintenance or well testing activities. It does not include non-scheduled release operations, i.e. process upsets, emergency flaring, or de-minimis venting of gas incidental to normal operations.
Standard Operating Permit Condition IX – Visible Emissions and Particulate Matter
Monitoring Plan for Liquid **Fuel-burning Equipment** [-FIRED SOURCES] August 20, 2008
Revised {adoption date of regulations} 9
[SEPTEMBER 27, 2010]

- 6.1. [7.1] For EU [ID](s) *<insert EU [ID] numbers of significant liquid fuel-burning emissions units>*, monitor, record and report in accordance with Conditions **7 through 9** [9 - 11].
- 6.2. **For each of EU(s) <insert EU numbers of potentially insignificant units based on actual emissions but are significant per 18 AAC 50.326(d)(1)>, as long as the emissions unit does not exceed the significant emissions thresholds listed in 18 AAC 50.326(e), monitoring shall consist of an annual compliance certification under Condition <refer to Annual Compliance Certification condition number> for the particulate matter emissions standard based on reasonable inquiry. The Permittee shall report in the operating report under Condition <insert condition number for Operating Reports> if any of EUs <insert EU number(s)> exceeds any of the significant emissions thresholds; if so, monitor, record, and report particulate matter emissions in accordance with Conditions 7 through 9 for the remainder of the permit term for that emissions unit.**
[
- 6.3. FOR EU ID(S) <INSERT EU ID NUMBERS>, BURN ONLY GAS AS FUEL. MONITORING FOR THESE EMISSION UNIT(S) SHALL CONSIST OF A STATEMENT IN EACH OPERATING REPORT UNDER CONDITION <INSERT OPERATING REPORTS CONDITION NUMBER> WHETHER EACH OF THESE EMISSION UNIT(S) FIRED ONLY GAS DURING THE PERIOD COVERED BY THE REPORT. REPORT UNDER CONDITION <INSERT EXCESS EMISSIONS AND PERMIT DEVIATIONS REPORTS CONDITION NUMBER> IF ANY FUEL OTHER THAN GAS IS BURNED.]
- [7.3] For each of EU [ID](s) *<insert EU [ID] numbers of potentially insignificant units but are significant per 18 AAC 50.326(d)(1)>*, as long as **the** [EACH] **emissions** [EMISSION] unit does not exceed the limits in Condition *<insert number of condition that states emissions [EMISSION] unit(s) operating limit(s) [LIMITS] that also keep(s) the unit from exceeding the significant emissions thresholds in 18 AAC 50.326(e)>*, monitoring shall consist of an annual compliance certification under Condition *<insert Annual Compliance Certification condition number>* **for** [WITH] the particulate matter **emissions** standard **based on reasonable inquiry. Otherwise, monitor, record, and report particulate matter emissions in accordance with Conditions 7 through 9 for the remainder of the permit term for that emissions unit.**
- 6.4. [7.4] For each of EU [ID](s) *<insert EU [ID] numbers of potentially insignificant units based on unrestricted emissions but are significant per 18 AAC 50.326(d)(1)>*, the Permittee must annually certify compliance under Condition *<insert Annual Compliance Certification condition number>* **for** [WITH] the particulate matter standard **based on reasonable inquiry.**

6.5. [7.5] For EU [ID](s) <insert EU [ID] numbers **of significant dual fuel-burning emissions units**>, **the Permittee shall comply with Condition 1.5.** [USE GAS AS PRIMARY FUEL. MONITORING FOR THESE EMISSION UNIT(S) SHALL CONSIST OF A STATEMENT IN EACH OPERATING REPORT REQUIRED IN CONDITION <INSERT OPERATING REPORTS CONDITION NUMBER> WHETHER EACH OF THESE EMISSION UNIT(S) FIRED GAS AS THE PRIMARY FUEL DURING THE PERIOD COVERED BY THE REPORT. IF OPERATION ON A BACK-UP LIQUID FUEL OCCURRED DURING THE PERIOD COVERED BY THE REPORT, THE PERMITTEE SHALL MONITOR, RECORD AND REPORT ACCORDING TO CONDITION <INSERT VE & PM MR&R FOR DUAL FUEL-FIRED SOURCES CONDITION NUMBER>.]

6.6. **For EU(s) <insert EU numbers of flares>, the Permittee shall comply with Condition 5.**

[18 AAC 50.040(j), [;] 50.326(j), & [AND] 50.346(c)]
[40 C.F.R. 71.6(a)(3)]

[
8. INCINERATOR PARTICULATE MATTER EMISSIONS. PARTICULATE MATTER EMISSIONS FROM EU ID(S) <INSERT EU ID NUMBERS> MAY NOT EXCEED THE PARTICULATE MATTER STANDARD, AS LISTED IN TABLE A:

[18 AAC 50.040(J); 50.326(J) AND 50.050(B)]
[40 C.F.R. 71.6(A)(1)]

TABLE A - PARTICULATE MATTER STANDARDS FOR INCINERATORS

INCINERATOR RATED	PARTICULATE MATTER STANDARD
LESS THAN 1000 LBS./HR	NO LIMITS
EU ID(S) <INSERT EU ID NUMBERS>: GREATER THAN OR EQUAL TO 1000 LBS./HR BUT LESS THAN 2000 LBS./HR	0.15 GRAINS/CUBIC FOOT OF EXHAUST GAS CORRECTED TO 12 PERCENT CO ₂ AND STANDARD CONDITIONS, AVERAGED OVER
EU ID(S) <INSERT EU ID NUMBERS>: GREATER THAN OR EQUAL	0.08 GRAINS/CUBIC FOOT OF EXHAUST GAS CORRECTED TO 12 PERCENT CO ₂ AND
EU ID(S) <INSERT EU ID NUMBERS>: BURNS WASTE CONTAINING MORE THAN 10 PERCENT WASTEWATER TREATMENT PLANT SLUDGE BY DRY WEIGHT FROM A MUNICIPAL	0.65 GRAMS PER KILOGRAM OF DRY SLUDGE INPUT

8.1 (USE STATIONARY SOURCE-SPECIFIC PM MR&R FOR INCINERATORS.)

[18 AAC 50.040(j) AND
50.326(j)(4)] [40 C.F.R. 71.6(a)(3)
AND 71.6(c)(6)]

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Particulate Matter MR&R [PM MONITORING, RECORDKEEPING AND REPORTING]

*Liquid **Fuel-burning Equipment*** [FUEL-FIRED EMISSION UNITS (EU IDS <INSERT EU ID NUMBERS>)]

7. [9] **Particulate Matter Monitoring** [FOR DIESEL ENGINES AND LIQUID-FIRED TURBINES]. The Permittee shall conduct source tests on diesel engines and liquid **fuel-burning** [FUEL-FIRED] turbines, **EU(s)** <insert *EU numbers* [IDENTIFY EMISSION UNITS]>, to determine the concentration of particulate matter [(PM)] in the exhaust of **each** [AN] **emissions** [EMISSION] unit as follows:

[18 AAC 50.040(j), 50.326(j), & [AND] 50.346(c)]
[40 C.F.R. 71.6(a)(3)(i)]

- 7.1. [9.1] If any of **EUs** [EU ID(S)] <insert *EU [ID] numbers*> [EXCEPT AS ALLOWED UNDER CONDITION 9.4, WITHIN SIX MONTHS OF] **exceed(s)** [EXCEEDING] the criteria of Conditions **7.2.a** [9.2.a] or **7.2.b** [9.2.b], **the Permittee shall, within six months of the exceedance, either:**
- a. **except as exempted under Condition 7.4,** conduct a **particulate matter** [PM] source test according to requirements set out in <insert *General Source Testing and Monitoring* [STANDARD SOURCE TEST] *Section number*>; or
 - b. make repairs **and** [SO THAT EMISSIONS NO LONGER EXCEED THE CRITERIA OF CONDITION 9.2; TO SHOW THAT EMISSIONS ARE BELOW THOSE CRITERIA,] observe **visible** emissions as described in Condition **2.4** [3.1] **to show that emissions no longer exceed the criteria of Condition 7.2** under load conditions comparable to those when the criteria were exceeded.
- 7.2. [9.2] Conduct the **particulate matter source** test **or make repairs in accordance with** [ACCORDING TO] Condition **7.1** [9.1] if
- a. [18 CONSECUTIVE MINUTES OF] Method 9 observations, **as calculated under Condition 3.1.c,** result in an 18-minute average opacity greater than 20 percent; or
 - b. for an **emissions** [EMISSION] unit with an exhaust stack diameter that is less than 18 inches, [18 CONSECUTIVE MINUTES OF] Method 9 observations, **as calculated under Condition 3.1.c,** result in an 18-minute average opacity that is greater than 15 percent [AND NOT MORE THAN 20 PERCENT], unless the **Department** [DEPARTMENT] has waived this requirement in writing.
- 7.3. [9.3] During each one-hour **particulate matter** [PM] source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the **highest 18-minute** average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 7.4. [9.4] The [AUTOMATIC] **particulate matter** [PM] source test requirements in Conditions **7.1** [9.1] and **7.2** [9.2] are waived for an emissions unit if a [PM] source test on that unit has shown compliance with the **particulate matter** [PM] standard during this permit term.

8. [10] Particulate Matter **Recordkeeping** [RECORD KEEPING FOR DIESEL ENGINES AND LIQUID-FIRED TURBINES]. **The Permittee shall comply with the following:**

8.1. Within 180 calendar days after the effective date of this permit, the Permittee shall record the exhaust stack diameter(s) of EU [ID](s) <list EU [ID] numbers [FROM THE <INSERT TABLE OF EMISSION UNITS DESIGNATION> IN THE PERMIT] of new units whose stack diameters have not yet been reported>. [REPORT THE STACK DIAMETER(S) IN THE NEXT OPERATING REPORT UNDER CONDITION <INSERT OPERATING REPORTS CONDITION NUMBER>.]

8.2. **Keep records of the results of any source test and visible emissions observations conducted under Condition 7.**

[[18 AAC 50.040(j); 50.326(j) AND 50.346(c)]
[40 C.F.R. 71.6(a)(3)(ii)]]

9. [11] **Particulate Matter Reporting [FOR DIESEL ENGINES AND LIQUID-FIRED TURBINES]**. The Permittee shall report as follows:

[18 AAC 50.040(j); 50.326(j), & [AND] 50.346(c)]
[40 C.F.R. 71.6(a)(3)(iii)]

9.1. [11.1] **Report** [REPORT] **in accordance with** [UNDER] Condition <insert Excess Emissions and Permit Deviations condition number>:

a. **if** the results of any **particulate matter** [PM] source test [THAT] **exceed** [EXCEEDS] the **particulate matter** [PM] emissions limit **in Condition 6**; or

b. if one of the criteria of Condition **7.2** [9.2] was exceeded and the Permittee did not comply **on time** with either Condition **7.1.a** [9.1a] or **7.1.b** [9.1b], [THIS MUST BE REPORTED BY THE DAY FOLLOWING THE DAY] **Report the deviation within 24 hours of the date** compliance with Condition **7.1** [9.1] was required;

9.2. [11.2] **Notify the Department of any** [REPORT] observations in excess of the threshold of **either** Condition **7.2.a or 7.2.b** [9.2b] within 30 days of the end of the month in which the observations occur. **Include the dates, EU(s), and results when an observed 18-minute average opacity was greater than an applicable threshold in Condition 7.2.**[:]

9.3. [11.3] **In** [IN] each operating report under Condition <insert Operating Report condition number>, include:

[

a. THE DATES, EU ID(S), AND RESULTS WHEN AN OBSERVED 18-MINUTE AVERAGE WAS GREATER THAN AN APPLICABLE THRESHOLD IN CONDITION 9.2;]

a. [b] a summary of the results of any **source test conducted** [PM TESTING] under Condition **7** [9]; and

b. [c] copies of any visible emissions observation results [(OPACITY OBSERVATIONS)] greater than the thresholds of Condition **7.2** [9.2], if they were not already submitted.

9.4. **Report the stack diameter(s) of EUs <list EU numbers of new units whose stack diameters have not yet been reported> in the next operating report under Condition <insert Operating Reports condition number> following issuance of this permit.**

[FOR] Liquid Fuel-burning [FUEL-FIRED] *Boilers and Heaters*

10. [12] Particulate Matter Monitoring [FOR LIQUID FUEL-FIRED BOILERS AND HEATERS]. The Permittee shall conduct source tests on EU [ID](s) *<insert EU [ID] numbers for liquid fuel-burning boilers and heaters>*, to determine the concentration of **particulate matter** [PM] in the exhaust of **the emissions units** [EU ID(S) <INSERT EU ID NUMBERS>] as follows:

[18 AAC 50.040(j), [AND] 50.326(j), & [(4) AND] **50.346(c)**]
[40 C.F.R. 71.6(a)(3)(i)[AND 71.6(c)(6)]]

10.1. [12.1] Except as **exempted** [ALLOWED] under Condition **10.3** [12.3], conduct a **particulate matter** [PM] source test [ACCORDING TO THE REQUIREMENTS SET OUT IN <INSERT STANDARD SOURCE TEST SECTION> NO LATER THAN 90 CALENDAR DAYS AFTER] any time [CORRECTIVE MAINTENANCE FAILS TO ELIMINATE VISIBLE EMISSIONS GREATER THAN THE 20 PERCENT OPACITY THRESHOLD FOR] **each of** two [OR MORE] **consecutive** 18-minute observations (**as described in Condition 2.4**) **exceed 20 percent opacity within** [IN] a [CONSECUTIVE] six-month period.

a. **Conduct the particulate matter source test according to the requirements in <insert General Source Testing and Monitoring Requirements Section number> and no later than 90 calendar days after the second consecutive Method 9 visible emissions observation that exceeds 20 percent opacity.**

10.2. [12.2] During each one-hour [PM] source test run **under Condition 10.1**, observe the **emissions unit** exhaust for 60 minutes in accordance with Method 9 and calculate the **highest 18-minute** average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.

10.3. [12.3] The [PM] source test requirement in Condition **10.1** [12.1] is waived for an **emissions** [EMISSION] unit if:

- a. a **particulate matter** [PM] source test on that unit has shown compliance with the **particulate matter** [PM] standard during this permit term, or
- b. [TAKE] corrective action **was taken to reduce visible emissions** and [CONDUCT] two **consecutive** 18-minute **Method 9** visible emissions observations (**as described in Condition 2.4**) **conducted thereafter within** [IN] a [CONSECUTIVE] six-month period [TO] show [THAT THE EXCESS] visible emissions **less than the threshold** [DESCRIBED] in Condition **10.1** [12.1 NO LONGER OCCUR].

11. [13] Particulate Matter Recordkeeping [FOR LIQUID FUEL-FIRED BOILERS AND HEATERS]. The Permittee shall keep records of the results of any [PM] **source test** [TESTING] and visible emissions observations conducted under Condition 10.

[18 AAC 50.040(j), [AND] 50.326(j), & [(4) AND] **50.346(c)**]
[40 C.F.R. 71.6(a)(3)(ii)[AND 71.6(c)(6)]]

12. [14] Particulate Matter Reporting. The Permittee shall report as follows:

[18 AAC 50.040(j), [AND] 50.326(j), & [(4) AND] **50.346(c)**]
[40 C.F.R. 71.6(a)(3)(iii)[AND 71.6(c)(6)]]

12.1. [14.1] In each operating report required by Condition *<insert Operating Report condition number>*, include for the period covered by the report:

Standard Operating Permit Condition IX – Visible Emissions and Particulate Matter

Monitoring Plan for Liquid **Fuel-burning Equipment** [-FIRED SOURCES]

Revised {*adoption date of regulations*}
[SEPTEMBER 27, 2010]

- a. the dates, EU [ID](s), and results when an 18-minute opacity observation was greater than the applicable threshold [CRITERION] in Condition **10.1** [12.1].
 - b. a summary of the results of any **source test** [PM TESTING] and visible emissions observations conducted under Condition **10** [12].
- 12.2. [14.2] Report as excess emissions, in accordance with Condition *<insert Excess Emissions and Permit Deviations condition number>*, any time the results of a source test [PM] exceeds the **particulate matter** [PM] emission limit stated in Condition **6** [7].

Visible Emissions & Particulate Matter [VE & PM] MR&R [FOR]

Dual Fuel-Burning [Fired] **Emissions** [EMISSION] Units[, EU ID(S) <INSERT EU ID NUMBERS>]

13. [15] The Permittee shall monitor, record and report the monthly hours of operation **of EU(s) <insert EUs of dual fuel-fired units >** when operating on a back-up liquid fuel.

- 13.1. [15.1] For any of EU [ID](s) *<insert EU [ID] numbers>* that does not exceed 400 hours of operations per calendar year on a back-up liquid fuel, monitoring of compliance for visible emissions and particulate matter [IS NOT REQUIRED FOR THAT EMISSION UNIT AND MONITORING] shall consist of an annual **compliance** certification under Condition *<insert Annual Compliance Certification condition number>* **based on reasonable inquiry.**
- 13.2. [15.2] For any of EU [ID]s *<insert EU [ID] numbers>*, notify the Department and begin monitoring the affected **emissions** [EMISSION] unit **in accordance with** [ACCORDING TO] Condition 13.3 no later than 15 days after the end of a calendar month in which the cumulative hours of operation for the calendar year exceed any multiple of 400 hours on a back-up liquid fuel. [IF THE OBSERVATION EXCEEDS THE LIMIT IN CONDITION 1, MONITOR AS DESCRIBED IN CONDITION 9 OR 12, AS APPLICABLE BY THE TYPE OF EMISSION UNIT. IF THE OBSERVATION DOES NOT EXCEED THE LIMIT IN CONDITION 1, NO ADDITIONAL MONITORING IS REQUIRED UNTIL THE CUMULATIVE HOURS OF OPERATION EXCEED EACH SUBSEQUENT MULTIPLE OF 400 HOURS ON BACK-UP LIQUID FUEL DURING A CALENDAR YEAR.³]
- 13.3. [15.3] When required to do so by Condition 13.2, observe the **emissions unit** exhaust, following 40 C.F.R. 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. **If the observation exceeds the limit in Condition 1, monitor as described in Condition 7 or 10, as applicable by the type of emissions unit. If the observation does not exceed the limit in Condition 1, no additional monitoring is required until the cumulative hours of operation exceed each subsequent multiple of 400 hours on back-up liquid fuel during a calendar year³.**
- 13.4. [15.4] Keep records and report in accordance with Conditions *<edit list as applicable>* 3, 4, 8, 9, 11, and/or 12 as applicable.

³ **If the requirement to monitor is triggered more than once in a calendar month, only one Method 9 observation is required to be conducted by the stated deadline for that month.**

13.5. [15.5] Report under Condition <*insert Excess Emissions and Permit Deviations condition number*> if the Permittee fails to comply with **any of** Conditions 13.2, 13.3, and[/OR] 13.4.

[18 AAC 50.040(j), [AND] 50.326(j), (4)] **& 50.346(c)**
[40 C.F.R. 71.6(a)(3)[and 71.6(c)(6)]]

REASON FOR THE STANDARD PERMIT CONDITION CHANGES:

[CONDITION 3.1a WAS MODIFIED TO ACCOUNT FOR AN EMISSION UNIT'S STATUS CHANGE. IF THE UNIT IS REPLACED, THE PERMITTEE WILL NEED TO CONDUCT AN INITIAL OBSERVATION WITHIN 30 DAYS AFTER REPLACEMENT TO ENSURE THE REPLACEMENT UNIT CAN MEET THE EMISSION STANDARD. FURTHER, IF AN EMISSION UNIT STATUS CHANGES FROM INSIGNIFICANT TO ONE REQUIRING PERIODIC MONITORING, RECORD KEEPING AND REPORTING, THEN THE PERMITTEE WOULD CONDUCT THE INITIAL OBSERVATION WITHIN A REASONABLE PERIOD OF OPERATIONS.

CONDITIONS 3.1(c) AND (d) WERE CHANGED TO ALLOW GREATER FLEXIBILITY AND REDUCE PERIODIC MONITORING. FIRST, PERIODIC MONITORING CAN BE CONDUCTED AT ANY TIME WITHIN THE SIX-MONTH OR TWELVE MONTHS FOLLOWING THE LATEST OBSERVATION RATHER THAN TO BE LIMITED WITHIN A THREE MONTH BLOCK (IE. 4-7 MONTHS OR 11-13 MONTHS FOR SEMI-ANNUAL AND ANNUAL SURVEILLANCE FREQUENCY RESPECTIVELY). IF A PERMITTEE CONDUCTS AN EMISSION UNIT SURVEILLANCE AT ANY TIME, THAT SURVEILLANCE CAN RE-SET THE DATE FOR WHICH THE NEXT PERIODIC SURVEILLANCE IS DUE.

FURTHER TO ACCOMMODATE INTERMITTENTLY OPERATED EMISSION UNITS SUCH AS EMERGENCY UNITS OR STAND-BY UNITS, THE NEXT SURVEILLANCE DUE DATE WILL BE UPON THE NEXT SCHEDULED OPERATIONS AFTER THE DEADLINE, SUCH AS FOR READINESS TESTING OF SUCH UNITS.

CONDITION 4.1 WAS MODIFIED TO ALLOW FOR ESTIMATING OPERATIONAL PARAMETERS FOR AN EMISSION UNIT THAT THE PERMITTEE DOES NOT MEASURE AND RECORD THOSE PARAMETERS.

CONDITION 6.1 WAS MODIFIED TO ALLOW THE PERMITTEE TO CONDUCT VISIBLE EMISSION SURVEILLANCE OF SCHEDULED FLARE EVENTS WITHIN 12 MONTHS OF THE LAST OBSERVATION OR DURING THE NEXT SCHEDULED FLARE EVENT. THIS PROVIDES ADDED FLEXIBILITY TO STATIONARY SOURCE PERMITTEES EQUIPPED WITH SUCH DEVICES TO SCHEDULE CERTIFIED STAFF TO OBSERVE SCHEDULED EVENTS. FURTHER THE REVISED TEXT ALLOWS THE PERMITTEE TO RESET THE DUE DATE WHENEVER THE PERMITTEE CHOOSES TO CONDUCT SURVEILLANCE ON THE FLARE. FINALLY, THE REVISED TEXT PROVIDES THE PERMITTEE AN OPPORTUNITY TO CONDUCT THE FOLLOWING OBSERVATION UPON THE NEXT SCHEDULED EVENT IF NO ONE-HOUR EVENT OCCURS WITHIN TWELVE MONTHS.]

The following revisions were made on SPC IX (September 27, 2010, version):

- 1. Updated the condition numbers in the introductory part to accurately specify which conditions apply to certain types of emissions units covered by SPC IX.**
- 2. Corrected the regulation citation pertaining to insignificant emissions units in the introductory part.**
- 3. Changed the term "liquid-fired" to "liquid fuel-burning" throughout the document, to be**

- consistent with terminology in 18 AAC 50.
4. Conditions 1.2 and 6.2 (and corresponding statement of basis) of the previous (9/27/2010) SPC IX version have been deleted as those conditions pertain to gas-fired emissions units. Standard permit conditions for fuel gas-fired emissions units VE and PM monitoring are addressed in SPC VIII (Visible Emissions and Particulate Matter Monitoring Plan for Gas-Fired Fuel Burning Equipment).
 5. Conditions 1.1, 1.4, 1.5, through 1.6 and Conditions 6.1, 6.2, 6.5, and 6.6 are revised to specify what type of emissions units are specifically covered by each respective condition as well as clarify applicable monitoring triggers.
 6. Conditions 1.2, 1.3, 6.3, and 6.4 are added to include applicable MR&R requirements for emissions units that are potentially insignificant based on actual or potential emissions but are significant per 18 AAC 50.326(d)(1) (e.g., standby, intermittently operated, emergency emissions units or small units that are included in the permit due to construction permit and/or federal requirements).
 7. Conditions 2 and 8 (and corresponding statement of basis) of the previous (9/27/2010) SPC IX version have been deleted as those conditions pertain to incinerators that need emissions unit-specific requirements and cannot be covered under standard permit conditions.
 8. Revisions on text formatting, grammar, correction of citations and other text edits for clarification, consistency, and readability are made throughout the document, as shown in the document.

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The state and federal regulations for each Condition are cited in Operating Permit [NO.] *<Insert Operating Permit Number>*.

Conditions 1 and 2 through 4, 5, & 13 [3 - 5, 6, & 15] **Visible Emissions Standard and MR&R**

Legal Basis: These conditions **require** [ENSURE] compliance with the applicable requirements in 18 AAC 50.050(a) and 18 AAC 50.055(a).

- 18 AAC 50.055(a) applies to the operation of fuel-burning equipment and industrial processes. EU [ID]s < > are fuel-burning equipment (*or industrial processes*).
- [18 AAC 50.050 (a) APPLIES TO THE OPERATION OF INCINERATORS. EU IDS < > ARE INCINERATORS.]

U.S. EPA **approved the addition of these standards to** [INCORPORATED THESE STANDARDS AS REVISED IN 2002 INTO] the State Implementation Plan (**SIP**), **as noted in 40 CFR 52.70. The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1)** [EFFECTIVE SEPTEMBER 13, 2007].

Factual Basis: Condition 1 prohibits the Permittee from causing or allowing visible emissions in excess of the applicable standard in 18 AAC 50.055(a)(1). [CONDITION 2 PROHIBITS THE PERMITTEE FROM CAUSING OR ALLOWING VISIBLE EMISSIONS IN EXCESS OF 18 AAC 50.050(a).] MR&R requirements are listed in Conditions 2 through 4, 5, and 13 of the permit. These conditions have been adopted into regulation as Standard Permit Condition (SPC) IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid-Fired Emission Units and Flares.

[MR&R REQUIREMENTS ARE LISTED IN CONDITIONS 3 THROUGH 5, 6, AND 15 OF THE PERMIT. THESE CONDITIONS HAVE BEEN ADOPTED INTO REGULATION AS STANDARD CONDITIONS.]

The Permittee must establish by [ACTUAL] visual observations, which may [THAT CAN] be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the state [STATE] emission standards for visible emissions [AND PARTICULATE MATTER].

These conditions detail a stepwise process for monitoring to determine compliance with the state's [STATE'S] visible emissions standard [and particulate matter standards] for liquid fuel-burning equipment [AND GAS FIRED EMISSION UNITS]. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from emissions [EMISSION] units either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Condition 6 was developed to provide a standardized version of flare monitoring that is not dependent upon the type or design of upstream equipment. It has been claimed that gas-fired flares normally burn without emitting visible emissions[, BUT ACTUAL FIELD DATA DEMONSTRATING THIS ASSUMPTION IS NOT AVAILABLE]. However, gas-fired flares have been shown to smoke when a control device malfunctions [, I.E. A] (e.g. knockout drum, flare scrubber, gas or steam assist, or vapor recovery system)[MALFUNCTIONS]. [THUS, THE] The Condition [CONDITION] sets out a protocol to collect actual field data to determine compliance with the 20 percent opacity standard for flares.

[GAS FIRED:

MONITORING – THE MONITORING OF GAS FIRED EMISSION UNITS FOR VISIBLE EMISSIONS IS WAIVED, I.E. NO SOURCE TESTING WILL BE REQUIRED. THE DEPARTMENT HAS FOUND THAT NATURAL GAS FIRED EQUIPMENT INHERENTLY HAS NEGLIGIBLE PM EMISSIONS. HOWEVER, THE DEPARTMENT CAN REQUEST A SOURCE TEST FOR PM EMISSIONS FROM ANY SMOKING EQUIPMENT.

REPORTING – THE PERMITTEE MUST STATE IN EACH OPERATING REPORT WHETHER ONLY GAS WAS FIRED IN THE EMISSION UNIT FOR THE PERIOD COVERED BY THE REPORT.]

Liquid Fuel-burning Equipment [FIRED]:

Monitoring – The [VISIBLE] emissions **unit must** [MAY] be observed by either **the** Method 9 **Plan** or the Smoke/No Smoke **Plan** [PLANS] as detailed in Condition **2** [3]. Corrective actions such as maintenance procedures **or** [AND EITHER] more frequent **observations** [OR LESS FREQUENT TESTING] may be required depending on the results of the observations.

Recordkeeping - The Permittee is required to record the results of all [VISIBLE EMISSION] observations and record any actions taken to reduce visible emissions.

Reporting - The Permittee is required to report[: 1)] emissions in excess of the **state** [STATE] visible emissions standard and [2)] deviations from permit conditions. The Permittee is **also** required to include copies of the results of all visible emission observations **in** [WITH] the operating report.

Dual Fuel-burning equipment [FUEL-FIRED EMISSION]:

[FOR EU ID(S) <INSERT EU ID NUMBERS>, AS] **As** long as **dual fuel-burning equipment** [THEY] operate only on gas, monitoring consists of a statement in each operating report **indicating** [TO INDICATE WHETHER] only gaseous fuels were used in the equipment during the reporting period. When any of these **emissions** [EMISSION] units **operate** [OPERATES] on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in Condition **13.2** [15] is required for that **emissions** [EMISSION] unit in accordance with **Department** [DEPARTMENT] Policy and Procedure No. [AWQ] 04.02.103, Topic # 2[, 10/8/04]. When any of these **emissions** [EMISSION] units **operate** [OPERATES] on a backup liquid fuel for [LESS THAN] 400 hours **or less** in a calendar year, monitoring for that **emissions** [EMISSION] unit consists of an annual certification of compliance with the opacity standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Significant [INSIGNIFICANT] **Emissions** [EMISSION] Units **under 18 AAC 50.326(d)(1)**:

<Add statement of basis on a case-by-case basis for emissions units under Conditions 1.2 through 1.4 that are potentially insignificant based on actual or potential emissions but are significant per 18 AAC 50.326(d)(1). See example below.>

For EU [ID](s) <insert EU [ID] numbers> no visible emissions monitoring is required when these **emissions** [EMISSION] units are insignificant based on actual or potential emissions due to permit Condition(s) <insert Condition numbers> that limit either their hours of operation or fuel consumption. As long as the **emissions** [EMISSION] units do not exceed these limits, they are insignificant by emissions rate as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with **Department** [DEPARTMENT] Policy and Procedure No. [AWQ]

04.02.103, Topic # 3[, 10/8/04]. The Permittee must annually certify compliance under Condition <insert Annual Compliance Certificate Condition> with the opacity standard **based on reasonable inquiry**.

Flares:

Monitoring for flares [(EU ID(S) <INSERT EU ID NUMBERS>)] requires Method 9 observations of scheduled flaring events lasting more than one hour. The Permittee must report the results of these observations to the **Department** [DEPARTMENT].

[CONDITION 2, INCINERATOR VISIBLE EMISSIONS AND MR&R

LEGAL BASIS: THIS VISIBLE EMISSION STANDARD APPLIES TO THE OPERATION OF ANY INCINERATOR IN ALASKA, INCLUDING AN AIR CURTAIN INCINERATOR.

FACTUAL BASIS: THE CONDITION REQUIRES THE PERMITTEE TO COMPLY WITH THE VISIBLE EMISSION STANDARD APPLICABLE TO INCINERATORS. THE PERMITTEE MAY NOT CAUSE OR ALLOW THE AFFECTED INCINERATOR TO VIOLATE THIS STANDARD. THE PERMITTEE IS REQUIRED TO MONITOR, RECORD, AND REPORT ACCORDING TO CONDITION 2.1.]

Conditions 6, [7 AND] 7 through 9 [9 -11], 10 through 12 [12 - 14], & 13 [15], Particulate Matter (PM) Standard

Legal Basis: These conditions require compliance with the applicable requirement in 18 AAC 50.055(b).

- **18 AAC 50.055(b)(1)** [THE PM STANDARD] applies to **the** operation of all fuel-burning equipment **and industrial processes** [IN ALASKA]. EU [ID](s) <insert EU [ID] numbers> are fuel-burning equipment (**or industrial processes**). [THE SIP STANDARD FOR PM APPLIES]

This particulate matter standard applies [TO ALL FUEL-BURNING EQUIPMENT] because it is contained in the federally-approved SIP [DATED OCTOBER 1983]. **The Department included permit conditions for MR&R as required by 40 CFR 71.6(a)(3) and 71.6(c)(1).**

Factual Basis: Condition **6** [7] **prohibits emissions in excess of the applicable state particulate matter** [REQUIRES THE PERMITTEE TO COMPLY WITH THE STATE PM (ALSO CALLED GRAIN LOADING)] standard [APPLICABLE TO FUEL-BURNING EQUIPMENT]. [THE PERMITTEE SHALL NOT CAUSE OR ALLOW FUEL-BURNING EQUIPMENT TO VIOLATE THIS STANDARD.]

MR&R requirements are listed in Conditions **7 through 9, 10 through 12, & 13** [9 - 11, 12 - 14, AND 15] of the permit. These conditions have been adopted into regulation as SPC IX.

The Permittee must establish by [ACTUAL] visual observations, which may be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the **state's** [STATE'S] emission standards for

particulate matter.

[THESE CONDITIONS DETAIL A STEPWISE PROCESS FOR MONITORING COMPLIANCE WITH THE STATE'S PARTICULATE MATTER STANDARDS FOR LIQUID- AND GAS-FIRED EMISSION UNITS. EQUIPMENT TYPES COVERED BY THESE CONDITIONS ARE INTERNAL COMBUSTION ENGINES, TURBINES, HEATERS, AND BOILERS. INITIAL MONITORING FREQUENCY SCHEDULES ARE ESTABLISHED ALONG WITH SUBSEQUENT REDUCTIONS OR INCREASES IN FREQUENCY DEPENDING ON THE RESULTS OF THE SELF-MONITORING PROGRAM.

GAS FIRED:

MONITORING – THE MONITORING OF GAS-FIRED EMISSION UNITS FOR PARTICULATE MATTER IS WAIVED, I.E. NO SOURCE TESTING WILL BE REQUIRED. THE DEPARTMENT HAS FOUND THAT NATURAL GAS-FIRED EQUIPMENT INHERENTLY HAS NEGLIGIBLE PM EMISSIONS. HOWEVER, THE DEPARTMENT CAN REQUEST A SOURCE TEST FOR PM EMISSIONS FROM ANY SMOKING EQUIPMENT.

REPORTING – THE PERMITTEE MUST STATE IN EACH OPERATING REPORT WHETHER ONLY GASEOUS FUELS WERE USED IN THE EQUIPMENT DURING THE PERIOD COVERED BY THE REPORT.]

Liquid Fuel-burning Emissions Units [FIRED]:

Monitoring – The Permittee is required to conduct **particulate matter** [PM] source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of **particulate matter** [PM] source tests.

Reporting - The Permittee is required to report[: 1)] incidents when emissions in excess of the opacity threshold [VALUES HAVE BEEN] **are** observed[,] **and the** [2) AND] results of **particulate matter** [PM] source tests. The Permittee is **also** required to include copies of the results of all visible emission observations **taken during particulate matter source testing in** [WITH] the operating report.

Dual Fuel-burning Equipment [FUEL-FIRED EMISSION]:

[FOR EU ID(S) <INSERT EU ID NUMBERS>, AS] **As** long as **dual fuel-burning equipment** [THEY] operate only on gas, monitoring consists of a statement in the operating report **indicating** [TO INDICATE WHETHER] only gaseous fuels were used in the equipment during the reporting period. When any of these **emissions** [EMISSION] units **operate** [OPERATES] on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in **Condition** [CONDITION] **13.2**[9 AND 12] is required for that **emissions** [EMISSION] unit in accordance with **Department** [DEPARTMENT] Policy and Procedure No. [AWQ] 04.02.103,

Topic # 2[, 10/8/04]. When any of these **emissions** [EMISSION] units **operate** [OPERATES] on a backup liquid fuel for 400 hours or less in a calendar year, monitoring for that **unit** [SOURCE] consists of an annual certification of compliance with the particulate matter standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Significant [INSIGNIFICANT] **Emissions** [EMISSION] Units **under 18 AAC 50.326(d)(1):**

<Add statement of basis on a case-by-case basis for emissions units under Conditions 6.2 through 6.4 that are potentially insignificant based on actual or potential emissions but are significant per 18 AAC 50.326(d)(1). See example below.>

For EU [ID](s) *<insert EU [ID] numbers>*, no monitoring is required because these **emissions** [EMISSION] units are insignificant **emissions** [EMISSION] units based on actual or potential emissions. EU [ID](s) *<insert EU [ID] numbers>* must not exceed operational hour limit(s) as required by Condition(s) *<insert Conditions that apply>*. As long as they operate within these limits, they are considered insignificant sources by emissions as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with **Department** [DEPARTMENT] Policy and Procedure No. [AWQ] 04.02.103, Topic # 3[, 10/8/04]. The Permittee must annually certify compliance under Condition *<insert condition reference to Annual Compliance Certification condition number>* with the particulate matter standard.

Flares:

Monitoring of gas-fired flares for particulate matter is waived, i.e. no source testing **is** [WILL BE] required, because of the difficulty and questionable results these tests produce when applied to flares. [THE DEPARTMENT HAS RECOGNIZED THIS FACT BY INCORPORATING THE WAIVER IN THE STATE IMPLEMENTATION PLAN ADOPTED IN NOVEMBER 1984, WHICH HAS NOT BEEN FEDERALLY APPROVED. NO RECORDKEEPING OR REPORTING IS REQUIRED.] **Compliance with the state visible emissions standard serves as surrogate compliance demonstration for the state particulate matter emissions standard.**

[CONDITION 8, INCINERATOR PARTICULATE MATTER EMISSIONS AND MR&R

LEGAL BASIS: THE PARTICULATE MATTER EMISSION STANDARDS AS LISTED IN TABLE A APPLY TO THE OPERATION OF AN INCINERATOR BASED ON ITS RATED CAPACITY.

FACTUAL BASIS: THE CONDITION REQUIRES THE PERMITTEE TO COMPLY WITH THE PARTICULATE MATTER EMISSION STANDARDS APPLICABLE TO INCINERATORS BASED ON RATED CAPACITY. THE PERMITTEE MAY NOT CAUSE OR ALLOW THE AFFECTED INCINERATOR TO VIOLATE THIS STANDARD.

THE PERMITTEE IS REQUIRED TO MONITOR, RECORD, AND REPORT ACCORDING TO CONDITION 8.1. FOR INCINERATORS WITH A RATED CAPACITY OF LESS

THAN 1000 POUNDS PER HOUR, THE PERMITTEE IS NOT REQUIRED TO MONITOR PARTICULATE MATTER BECAUSE THERE IS NO STANDARD SET FOR SUCH INCINERATORS.]