

**DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
AIR QUALITY CONTROL MINOR GENERAL PERMIT**

**MINOR GENERAL PERMIT 3 FOR ASPHALT PLANTS**

Permit No. AQ \_\_\_\_\_ MG301

Final – April 8, 2009

Permittee: \_\_\_\_\_

This minor general permit is to be used for construction, operation, or relocation of the asphalt plant described below, which has a rated capacity of at least five tons per hour of product (as described in 18 AAC 50.502(b)(1)), that is also classified as or part of a minor stationary source and is not a Title-V stationary source. This minor general permit satisfies the Permittee's obligation to obtain a permit under AS 46.14.120(g).

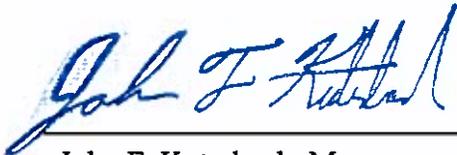
Permittee: \_\_\_\_\_

Plant name: \_\_\_\_\_

Listed Emission Units:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This minor general permit does not expire and is valid as long as the stationary source remains a minor source with respect to Title V permitting; until the Permittee requests the permit be rescinded; or until the Department terminates, modifies, reopens, or revokes and reissues the permit.



John F. Kuterbach, Manager  
Air Permits Program

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## Section 1: Qualifying Criteria

The stationary source<sup>1</sup> authorized to operate under this minor general permit are commonly referred as *hot mix asphalt plants* (Asphalt Plants). The operations of Asphalt Plants are described under Standard Industrial Classification codes 1611 and 1771 which include the production of asphalt concrete for the manufacturing of paving products. Alaska law requires operators of asphalt plants to obtain a minor permit under 18 AAC 50.502(b)(1) if the asphalt plant has a rated capacity of at least five tons per hour of product.

The only requirements under this minor general permit for nonroad engines, as defined in 40 C.F.R. 89.2, are those in condition 46.

### Exclusions

**The stationary source is excluded from using this minor general permit if the following applies. However, if there is a general permit for the activities listed below, the stationary source may operate under both permits.**

1. The stationary source is subject to a fuel consumption limit or other stationary source-specific requirement established in a construction permit, or air quality control permit under the 18 AAC 50.400 (effective prior to 1/18/97). (This does not include a limit established because a source test was conducted at less than full rated capacity.) This exclusion is not applicable if the owner or operator obtains an owner requested limit under 18 AAC 50.225, or another general or source-specific permit that covers these requirements.
2. The stationary source contains
  - a. a boiler subject to any New Source Performance Standard (NSPS) 40 C.F.R. 60, Subparts D, Da, Db or Dc;
  - b. a fuel storage tank subject to NSPS 40 C.F.R. 60, Subparts K, Ka, or Kb;
  - c. a source other than an asphalt plant or crushing and grinding equipment subject to NSPS 40 C.F.R. 60, 61, or 63;
  - d. a gas turbine;
  - e. an incinerator;
  - f. an emission unit subject to any standard in 18 AAC 50.055(a) – (f) other than standards for fuel burning equipment in (a)(1), (a)(4), (b)(1), (b)(5) and (c);
  - g. open burning at the source any time during the permit term;
  - h. renovation and demolition activities at the source that would need to comply with the provision of 40 C.F.R., Part 61, Subpart M, Section 145, National Emission Standard for Asbestos, Standard for Demolition and Renovation; or

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<sup>1</sup> *Stationary Source* means any building, structure, facility or installation that emits or may emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act (40 C.F.R. 70.2).

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- i. Recycling and emissions reduction of Class I and Class II refrigerants at the stationary source (these activities are subject to 40 C.F.R. 82, Subpart F, Section 82.150).
3. The stationary source has the potential to emit more than 100 tons per year of a regulated air pollutant (i.e. is subject to Title V permitting requirements).

### ***Permitted Emission Units***

This permit authorizes the Permittee to operate any emission unit identified in the permit application submitted for this minor general permit. The emission units need not be in the same immediate location. The operator must comply with the applicable requirements at the location where the emission units operate.

### ***Permit Duration***

This permit does not expire. The authority to operate remains in effect until either the Permittee requests their authority be rescinded or until the Alaska Department of Environmental Conservation (Department) terminates the authority for cause under 18 AAC 50.345(f).

### ***Change of Ownership***

If the ownership of the Asphalt Plant is changed, both the new and previous owners must complete a transfer of ownership form and receive authorization to operate from the Department before the plant is operated by the new owner. The transfer of ownership form is available from ADEC Air Permits Program staff or on the Department's web site. The website address at the time of issuance of this permit is <http://www.dec.state.ak.us/air/ap/permit.htm>.

Contact information for Air Permits Program staff may be found on the Department's website. The website address at the time of issuance of this permit is: <http://www.dec.state.ak.us/air/ap/aqmstaff.htm>.

## Section 2: Compliance with State Emission Standards

### *Visible Emissions Standard Requirements*

1. **Visible Emissions Standards.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, to reduce visibility through the exhaust effluent by 20 percent or greater over any six consecutive minutes for an asphalt plant constructed or modified after June 11, 1973 and more than 20 percent averaged over any six consecutive minutes for an asphalt plant constructed or modified on or before June 11, 1973 and all diesel engines.
  - 1.1 For an Asphalt Plant<sup>2</sup>, monitor, record, and report in accordance with conditions 2, 3, and 4.
  - 1.2 For diesel engines, monitor, record, and report in accordance with conditions 5, 6, and 7.
2. **Asphalt Plant Visible Emissions Monitoring.** The Permittee shall inspect each emission point capable of producing fugitive emissions, and observe the exhaust of the drum/dryer and each emission point producing fugitive emissions for visible emissions in accordance with 40 C.F.R. 60, Appendix A, Method 9 for a minimum of 18 consecutive minutes.
  - 2.1 Emission points capable of producing fugitive emissions include (but are not limited to) the descriptions in condition 28.
  - 2.2 The Permittee shall perform visible emissions observations:
    - a. when the Asphalt Plant is operating at loads typical of normal operations;
    - b. within two days of startup at a new location;
    - c. at least once during a 30-day operating period at the same location;
    - d. within 24 hours following the startup of the Asphalt Plant after a shut down period of more than five days; and
  - 2.3 The Permittee shall conduct at least one set of Method 9 readings during each one hour run of Method 5 particulate matter testing required in Section 5.
3. **Asphalt Plant Visible Emissions Recordkeeping.** The Permittee shall keep records as follows:
  - 3.1 the observer shall

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<sup>2</sup> In this permit, "asphalt plant" means all asphalt plant equipment (including the aggregate dryer and drum mixer), except the diesel engine and vehicles.

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- a. List and record the emission points capable of producing fugitive emissions that the observer inspected.
- b. Record
  - (i) the name of the stationary source, emission unit and location, stationary source type, observer's name and affiliation and the date on the Visible Emissions Form in Section 8;
  - (ii) the production rate or operating rate at the time of the Method 9 observation;
  - (iii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
  - (iv) 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;
  - (v) opacity observations to the nearest five percent at 15-second intervals on the Visible Emission Form Section 8; and
  - (vi) 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.
- c. 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.
- d. Calculate and record the highest 6-consecutive-minute averages observed.

**4. Asphalt Plant Visible Emissions Reporting.** The Permittee shall report visible emissions as follows:

- 4.1 Include in each operating report required in condition 45:
  - a. the emission points capable of producing fugitive emissions that the observer inspected;
  - b. copies of the observation results (i.e. opacity observations) for each emission unit except for the observations the Permittee has already supplied to the Department;

- c. a summary to include:
    - (i) number of days observations were made;
    - (ii) highest six-minute average observed; and
    - (iii) dates when one or more observed six-minute averages were greater than 20 percent; and
  - d. a summary of any monitoring or record keeping required under condition 2 that was not done.
- 4.2 Report under condition 44 for excess emissions and permit deviation reports:
- a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
  - b. if any monitoring under condition 2 was not performed when required, report within three days of the date of discovery.
5. **Diesel Engine Visible Emissions Monitoring.** The Permittee shall observe the exhaust of any diesel engines subject to condition 1 for visible emissions using either the Method 9 Plan under condition 5.1 or the Smoke/No-Smoke Plan under condition 5.2. The Permittee may change visible emission plans for an emission unit at any time unless prohibited from doing so by condition 5.3.
- 5.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe 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 5.4, for diesel engines, observe exhaust for 18 minutes within 15 days of beginning production in each operating season or within 3 operating days after changing from the Smoke/No Smoke Plan of condition 5.2, whichever is later.
  - b. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that the engine operates.
- 5.2 **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.
- a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that an emission unit operates.

- b. Reduced Monitoring Frequency. After the emission unit has been observed on 30 consecutive operating days, if the emission unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emission unit operates.
- c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of condition 5.1 or perform the corrective action required under condition 5.3.

**5.3 Corrective Actions Based on Smoke/No Smoke Observations.** If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of condition 5.2, then the Permittee shall either follow the Method 9 plan of condition 5.1 or

- a. initiate actions to eliminate smoke from the 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 smoke; and
- c. after completing the actions required under condition 5.3a,
  - (i) take Smoke/No Smoke observations in accordance with condition 5.2
    - (A). at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and
    - (B). continue as described in condition 5.2b; or
  - (ii) if the actions taken under condition 5.3a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of condition 5.3c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under condition 5.2a.

**5.4** In the case of renewal permits, the Permittee shall have the option to continue an established monitoring frequency rather than re-starting the cycle of monitoring from the beginning as in Condition 5.1a. The Permittee shall make note of this option in the first operating report required by Condition 45 submitted under the renewed permit.

**6. Diesel Engine Visible Emissions Recordkeeping.** The Permittee shall keep records as follows:

6.1 If using the Method 9 Plan of condition 5.1

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- a. the observer shall record
    - (i) the name of the stationary source, emission unit and location, stationary source type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 8;
    - (ii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;
    - (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 Emission Form in Section 8, 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 18-consecutive-minute average observed.
- 6.2 If using the Smoke/No Smoke Plan of condition 5.2, record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department:
- a. the date and time of the observation;
  - b. the ID of the emission unit observed;
  - c. whether visible emissions are present or absent in the exhaust;
  - d. a description of the background to the exhaust during the observation;
  - e. if the emission unit starts operation on the day of the observation, the startup time of the emission unit;
  - f. name and title of the person making the observation; and
  - g. operating rate (load or fuel consumption rate).

**7. Diesel Engine Visible Emissions Reporting.** The Permittee shall report visible emissions as follows:

- 7.1 include in each operating report required in condition 45:
- a. which visible-emissions plan of condition 2 was used for each emission unit; if more than one plan was used, give the time periods covered by each plan;
  - b. for each emission unit under the Method 9 Plan,
    - (i) copies of the observation results (i.e. opacity observations) for each emission unit that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and
    - (ii) a summary to include:
      - (A). number of days observations were made;
      - (B). highest six-minute average observed; and
      - (C). dates when one or more observed six-minute averages were greater than 20 percent;
  - c. for each emission unit under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and
  - d. a summary of any monitoring or record keeping required under conditions 5 and 5.3c(ii) that was not done.
- 7.2 Report under condition 44:
- a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and
  - b. if any monitoring under condition 5 was not performed when required, report within three days of the date the monitoring was required.

***Particulate Matter (PM) Standard Requirements***

**8. Asphalt Plant PM Emissions Standard, Monitoring, Recordkeeping, and Reporting.**

- 8.1 The Permittee shall:
- a. for Asphalt Plants constructed, reconstructed or modified on or before June 11, 1973, not discharge PM concentrations in the exhaust gas which contain more than 0.05 gr/dscf; and

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- b. for Asphalt Plants constructed, reconstructed or modified after June 11, 1973, not discharge PM concentrations in the exhaust gas which contain more than 0.04 gr/dscf.
- 8.2 The Permittee shall conduct PM source tests in accordance in accordance with Section 5 and as follows:
- a. Conduct a source test within the first thirty operating days under this permit unless the source has conducted a PM source test approved by the Department within the last five years.
  - b. If the source has conducted a PM source test approved by the Department within the last five years, conduct a source test no later than five calendar years after that test. For example, if the last test was conducted in 2006, then this condition requires a test no later than 2011.
  - c. While operating under this permit, a conduct a source test every five calendar years. Each subsequent test must be completed no later than five calendar years after last source test approved by the Department.
  - d. Notwithstanding a – c above, if the source does not operate at least 30 days in a calendar year, any source test required in that calendar year may be deferred to the next year. Until the required test is performed, the source may not operate more than 6 hours in any calendar day.
  - e. If the results of any PM source test exceed more than 90 percent of the PM emission standard listed in condition 8.1 (i.e., either 0.045 grains per dry standard cubic foot (gr/dscf) or 0.036 gr/dscf depending on date of construction of the Asphalt Plant), then the Permittee shall conduct another source test within one year of the date of the most recent PM source test.
  - f. If the Permittee does not operate in a calendar year, then the calendar year that the Permittee did not operate does not count toward the time requirement to conduct another PM source test in conditions 8.2d or 8.2e. This delays the due date one year for each calendar year that the Asphalt Plant did not operate.
  - g. Monitor, record, and report per conditions 8.4 and 8.6.
- 8.3 For all PM source tests, the Permittee shall record the information requested in Section 5 in addition to the following:
- a. average asphalt production rate: \_\_\_\_\_ tons/hour
  - b. Method 9 readings
  - c. for an Asphalt Plant using a baghouse:
    - (i) the baghouse exit temperature: \_\_\_\_\_ °F

- (ii) the pressure drop across the baghouse: \_\_\_\_\_ inches of water
  - d. for an Asphalt Plant using a scrubber:
    - (i) the pressure drop across the scrubber: \_\_\_\_\_ inches of water
    - (ii) water flow rate: \_\_\_\_\_ gallons/minute
    - (iii) indication of whether the water recycled
- 8.4 The Permittee shall not operate the Asphalt Plant at a production level greater than the maximum throughput measured during the most recent PM source test that showed compliance. Maintain a daily production log showing:
  - a. the daily total asphalt production;
  - b. the peak hourly rate production for each day;
  - c. the start and stop time with the date for each day the Asphalt Plant operated;
  - d. total hours operated per day; and
  - e. the total number of operating hours operated since the last source test.
- 8.5 If the results of any PM source test exceed the PM standard or if the Permittee did not conduct a PM source test as required by condition 8.2, then the Permittee shall notify the Department as set out in condition 44, make any necessary repairs or adjustments to the operation, and schedule another source test as requested by the Department under condition 31, but no later than specified in condition 8.2e.
- 8.6 The Permittee shall provide the information recorded in condition 8.4 including the maximum production rate on the day of the source test in the operating report under condition 45.
- 9. **Diesel Engine PM Standard.** The Permittee shall not cause or allow particulate matter emitted from a diesel engine authorized by this permit to exceed 0.05 grains per cubic foot of exhaust corrected to standard conditions and averaged over three hours.
  - 9.1 For diesel engines, monitor, record, and report in accordance with conditions 10, 11, and 12.
- 10. **Diesel Engine PM Monitoring.** The Permittee shall conduct source tests on a diesel engine authorized by this permit to determine the concentration of PM in the exhaust in accordance with this condition 10.
  - 10.1 Within six calendar months that the engine operates after exceeding the criteria of conditions 10.2 or 10.2b, either

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- a. conduct a PM source test according to Section 5; or
  - b. make repairs so that emissions no longer exceed the criteria of conditions 10.2a and 10.2b; to show that emissions are below those criteria, observe emissions as described in condition 5.1 under load conditions comparable to those when the criteria were exceeded.
- 10.2 Conduct the test according to condition 10.1 if
- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or
  - b. for a diesel engine with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.
- 10.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 10.4 The automatic PM source test requirement in conditions 10.1 and 10.2 is waived for an engine if a PM source test on that unit has shown compliance with the PM standard within the last five years.
- 11. Diesel Engine PM Recordkeeping.** Within 180 calendar days after letter of authorization is issued for this minor general permit, the Permittee shall record the exhaust stack of diameter(s) of each diesel engine authorized under this minor general permit. Report the stack diameters in the next operating report required by condition 45.
- 12. Diesel Engine PM Reporting.** The Permittee shall:
- 12.1 report under condition 44
    - a. the results of any PM source test that exceeds the PM emissions limit; or
    - b. if one of the criteria of condition 10.2 was exceeded and the Permittee did not comply with either condition 10.1a or 10.1b, this must be reported by the day following the day compliance with condition 10.1 was required;
  - 12.2 report observations in excess of the threshold of condition 10.2b within 30 days of the end of the month in which the observations occur;
  - 12.3 in each operating report required by condition 45, include

- a. the dates, diesel engine ID(s), and results when an observed 18-minute average was greater than an applicable threshold in condition 10.2;
- b. a summary of the results of any PM testing under condition 10; and
- c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of condition 10.2, if they were not already submitted.

***Sulfur Compound Emissions Standard Requirements***

- 13. Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO<sub>2</sub>, from an Asphalt Plant or a diesel engine to exceed 500 parts per million (ppm) averaged over three hours.
- 14. Sulfur Compound Emissions – Monitoring and Record Keeping**
  - 14.1 The Permittee shall do one of the following for each shipment of fuel:
    - a. if the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or
    - b. if the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and
      - (i) test the fuel for sulfur content; or
      - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
  - 14.2 Fuel testing under condition 14.1 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the Department.
  - 14.3 If a load of fuel contains greater than 0.75 weight percent sulfur, the Permittee shall calculate SO<sub>2</sub> emissions in parts per million (ppm) using either the SO<sub>2</sub> material balance calculation in *Section 9* or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
- 15. Sulfur Compound Emissions – Reporting.** The Permittee shall report in accordance with this condition 15.
  - 15.1 If SO<sub>2</sub> emissions calculated under condition 14.3 exceed 500 ppm, the Permittee shall report under condition 44. When reporting under this condition 15.1, include the calculation under condition 14.3.
  - 15.2 The Permittee shall include in the report required by condition 45:
    - a. a list of the fuel grades received at the **stationary source** during the reporting period;

- b. for any grade with a maximum fuel sulfur greater than 0.5 weight percent, the fuel sulfur of each shipment; and
- c. for fuel with a sulfur content greater than 0.75 percent, the calculated SO<sub>2</sub> emissions in ppm.

**16. Sulfur Compound Emissions – North Slope – Monitoring, Record Keeping, and Reporting.** For liquid fuel from a North Slope topping plant, the Permittee shall obtain from the topping plant the results of a monthly fuel analysis.

16.1 The Permittee shall include in the operating report required by condition 45, a list of the sulfur content measured for each month covered by the report.

16.2 The Permittee shall report under condition 44, if the sulfur content for any month exceeds 0.75 weight percent.

**17. Sulfur Monitoring for sources using fuel gas**

17.1 The Permittee shall either:

- a. obtain a semiannual statement from the fuel supplier of the fuel gas H<sub>2</sub>S concentration in ppm; or
- b. analyze a representative sample of the fuel semiannually to determine the sulfur content using 40 C.F.R. 60, Appendix A, Method 15.

17.2 Recordkeeping - Keep records of the semiannual statement from the fuel supplier or the sulfur content analysis required under condition 17.1.

17.3 Reporting –

- a. Report as excess emissions, in accordance with condition 44, whenever the fuel combusted causes sulfur compound emissions to exceed the standard of condition 13.
- b. Include copies of the records required by condition 17.2 with the operating report required by condition 45.

***Ambient Air Quality Protection***

**18. General Requirements.** In order to protect the State ambient air quality standards and increments listed in 18 AAC 50.010 and 18 AAC 50.020, the Permittee shall

18.1 not operate the Asphalt Plant or a diesel engine used to provide electrical or mechanical power<sup>3</sup> to the Asphalt Plant, that is located within 330 feet of the nearest residential or other occupied structure;<sup>4</sup>

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<sup>3</sup> This does not include wheeled or tracked equipment powered by a diesel engine such as front end loaders.

<sup>4</sup> For purposes of complying with Conditions 18.1 and 18.2, all distances shall be measured from the air emission release point, or material handling activity, that is located nearest to a residential/occupied structure to the nearest face of the residence/structure.

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- 18.2 not operate for more than *two* construction seasons an Asphalt Plant, or a diesel engine used to provide electrical or mechanical power to the Asphalt Plant, that is located:
- a. within 800 feet of the nearest residence or other occupied structure; or
  - b. within 1,100 feet of the nearest residence or other occupied structure if the residence or structure is located on terrain that is more than 50 feet above any ground level of the Asphalt Plant aggregate drier or drum mixer; and
- 18.3 give adequate consideration to siting issues as described in the note below when operating or changing locations of a crusher permitted to operate under this permit.

***NOTE:*** *The above setback distances are minimum requirements. Permittees should give adequate consideration to local siting issues which may exist within a given area. Poor siting can lead to public complaints regarding dust impacts and/or impacts from other air pollutants. The Department does investigate these types of public complaints. These investigations could result in:*

1. *formal enforcement with punitive damages;*
  2. *a formal request under 18 AAC 50.201 that the Permittee demonstrate, by air quality dispersion modeling or other means, that the air quality impacts are not violating State air quality standards or increments; or creating a public nuisance (under 18 AAC 50.110);*
  3. *the requirement to reduce emissions or implement another control strategy to reduce the ambient impact of those emissions as necessary to ensure that the concentration of air pollutants does not exceed the State air quality standards or increments; or the concerns listed in 18 AAC 50.110;*
  4. *a requirement to install and operate air quality monitoring equipment; or*
  5. *the requirement to obtain a site specific permit with which would contain requirements tailored to that exact operation.*
19. **SO<sub>2</sub> Special Protection Area.** If operating in one of the Sulfur Dioxide Special Protection Areas described in 18 AAC 50.025(c) (Unalaska or St. Paul Island areas) the diesel engines may not be used for electrical power generation. The Asphalt Plant must operate on highline power. If the diesel engines are used for another purpose other than electrical power generation they may not burn fuel with a sulfur content greater than 0.075 percent by weight.
20. **Additional Restrictions for Bells Flats (Kodiak).** In any equipment operating at an Asphalt Plant in the Bells Flats area of Kodiak that burns liquid fuel, the Permittee shall:
- 20.1 burn fuel that has a sulfur content not exceeding 0.4 percent by weight;
  - 20.2 not operate more than 13 hours in a calendar day; and

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**20.3 submit records of fuel burned and hours of operation in the operating report required by condition 45.**

## Section 3: Stationary Source Wide Requirements

### 21. Pollution Control Equipment Breakdown Reporting

- 21.1 Notify the Department within two days of a pollution-control equipment breakdown. Provide a schedule for repair of the pollution control equipment and do not operate the plant after the breakdown until repairs have been completed.
- 21.2 In the operating report required by condition 45, provide a summary of any pollution control equipment breakdowns. The summary shall include:
- a. the equipment involved;
  - b. the date of the breakdown; and
  - c. the date the equipment was returned to service.

### 22. Relocation and Reporting of Site Selection

- 22.1 The Permittee shall provide notice to the Department at least 10 days prior to installing or relocating the Asphalt Plant by using the Application Addendum (Location Change) in *Section 11*.
- 22.2 If relocating to an Alaska Coastal District designated area. The Permittee shall certify they are aware of and will comply with the Coastal District Plan Designated Area Enforceable Policies in accordance with condition 23.

### 23. Alaska Coastal Management Program<sup>5</sup> (ACMP). Compliance with Coastal District Plan Designated Area Enforceable Policies.

- 23.1 The Permittee shall comply with coastal district designated areas in accordance with 11 AAC 114.250 subject uses, activities and designations, and identified in district enforceable policies that address designated areas when operating within the boundaries of a coastal district.
- 23.2 The Permittee shall note in each relocation notice required by condition 22, the location where the stationary source will operate and applicable coastal district policies if any.
- 23.3 The Permittee shall note in each operating report required by condition 45 the location where the stationary source operated during the reporting period.
- 23.4 The Permittee shall certify the compliance status with applicable coastal district policies in the operating report required under condition 45 when operating within the boundaries of a coastal district.

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<sup>5</sup> The ACMP is a State Only Requirement

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District enforceable policies are available on the Division of Coastal and Ocean Management, District Enforceable Policies web page:  
<http://alaskacoast.state.ak.us/Explore/alldistEPS.html>.

## Section 4: General Conditions

- 24. Administration Fees.** The Department charges Permit Administration fees for the issuing the Minor General Permit. Permit compliance fees are charged for the review of the operating reports. The Permittee shall pay to the Department all assessed permit administration fees. Administration fee rates are set out in 18 AAC 50.400-405.
- 25. Assessable Emissions.** The Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of
- 25.1 the stationary source's assessable potential to emit measured in tons per year; or
  - 25.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by
    - a. an enforceable test method described in 18 AAC 50.220;
    - b. material balance calculations;
    - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035;
    - d. calculations based upon the Department's Asphalt Plant Emission Fee Calculation Guide in *Section 12*; or
    - e. other methods and calculations approved by the Department.
- 26. Assessable Emissions Estimates.** Emission fees will be assessed as follows:
- 26.1 no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, per the Emission Reporting and Emission Fee Estimate form in Attachment 1 of the Technical Analysis Report (TAR); 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
  - 26.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in condition 25.1.

**27. Good Air Pollution Control Practice.**

27.1 For all emission units authorized by this minor general permit, the Permittee shall:

- a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- b. keep records of any maintenance that would have a significant effect on emissions (the records may be kept in electronic format); and
- c. keep a copy of either the manufacturer's or the operator's maintenance procedures.

27.2 The Permittee operating an Asphalt Plant using a baghouse shall:

- a. operate the baghouse per the manufacturer's recommended operating procedures;
- b. at the end of each run, operate the baghouse fans until the baghouse has been purged of exhaust gases per the manufacturer's recommendations;
- c. monitor the pressure drop across the baghouse and the baghouse outlet temperature ensuring they remain within the manufacturer's recommendations or specifications;
- d. perform inspections of the equipment and complete necessary maintenance;
  - (i) prior to equipment startup in a new location and after shutdown periods lasting more than 5 days;
  - (ii) every 30 days of operation at the same location;
- e. replace worn or damaged bags within 72 hours of discovery;
- f. operate the baghouse efficiently to control opacity and particulate matter emissions;
- g. keep a daily production log showing the following:
  - (i) pressure drop across the baghouse and the baghouse outlet temperature at the beginning of each production day; and
  - (ii) pressure drop across the baghouse and the baghouse outlet temperature at the end of each production day;
- h. keep a record of the baghouse inspections showing the following:
  - (i) date of inspection and name of person conducting the inspection;
  - (ii) number of worn or damaged bags detected and the date discovered;

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- (iii) number of bags replaced and date replaced;
  - (iv) number of worn or damaged seals/gaskets detected and the date discovered; and
  - (v) number of seal/gaskets replaced and the date replaced.
- i. submit a summary of the records and information required by condition 27.2 in the operating report required by condition 45.

27.3 The Permittee operating an Asphalt Plant using a wet scrubber shall:

- a. inspect every component of the control device before the first operating each season and repair or replace any component that shows signs of deterioration;
- b. monitor the differential pressure across the scrubber, the scrubber water flow rate and scrubber water inlet and outlet temperatures and maintain these operating conditions within limits recommended by the manufacturer;
- c. operate the scrubber efficiently to control opacity and particulate matter emissions;
- d. keep a record of the scrubber inspections showing:
  - (i) date of inspection and name of person conducting the inspection;
  - (ii) number of components detected that are worn or damaged and the date discovered; and
  - (iii) number of components replaced and date replaced;
- e. keep a daily production log showing:
  - (i) pressure drop across the scrubber and the scrubber inlet and outlet temperatures at the beginning of each production day;
  - (ii) pressure drop across the scrubber and the scrubber inlet and outlet temperatures at the end of each production day; and
  - (iii) scrubber water flow rate for each day of production; and
- f. submit a summary of the records and information required by condition 27.3 in the operating report required by condition 45.

**28. Reasonable Precautions to Prevent Fugitive Dust.** A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent the release of airborne PM and fugitive dust from aggregate piles, conveyors and elevators, loading locations, the rotary drum, screens, baghouse ash discharge, vehicle traffic within the stationary source boundaries and other sources of fugitive dust into the ambient air.

28.1 Reasonable precautions for Asphalt Plants to prevent PM from becoming airborne include as necessary:

- a. installation and use of hoods;
- b. fans and dust collectors to enclose and vent dusty materials;
- c. other covers and enclosures to prevent generation or release of fugitive dust;
- d. cleanup of loose material on work surfaces;
- e. minimizing drop distances on conveyor systems and lowering loader buckets to be in contact with the surface of the soil or ground before dumping;
- f. application of water or suitable chemicals to road surfaces to prevent the generation of fugitive dust;
- g. gratings at the exit of the Stationary source to prevent tracking of dirt or mud onto public roads; and
- h. for an Asphalt Plant located near a business, residence or other occupied structure, if the wind is blowing toward the structure and emissions from an activity would result in a violation of condition 29, stopping the activity that would cause the violation while the wind blows in that direction.

28.2 Dust Control Plans

- a. If a location listed in an application or in an application addendum (see *Section 11*) is within one mile of the nearest inhabited off-site structure, the Permittee shall attach a fugitive dust control plan as part of that application or addendum. The Permittee shall also submit a fugitive dust control plan, or revision to the plan if requested by the Department. The Permittee shall comply with a dust control plan approved by the Department.

- b. The plan must be specific to any location named in a permit application or application addendum, and must specify the measures that will be taken and under what circumstances the Permittee will use them. If necessary, the plan will identify the frequency with which the measures will be applied. A plan does not fulfill this requirement if it simply mentions the measures that can be taken to control fugitive dust for a particular emission unit.
- c. The plan must specify the frequency of fugitive emission inspections for each emission point, and must use the form in Section 14 to record the results. The Permittee shall record the following information in a written log for each observation and submit copies of the recorded information upon request of the department.

28.3 The Permittee shall keep records of

- a. complaints received by the Permittee and complaints received by the department and conveyed to the Permittee; and
- b. any additional precautions that are taken
  - (i) to address complaints described in condition 28.3a or to address the results of department inspections that found potential problems; and
  - (ii) to prevent future dust problems.

28.4 The Permittee shall report under condition 44 for permit deviation reports if the Permittee deviates from the dust control plan and explain:

- a. in what way the Permittee deviated from the plan;
- b. the cause of the deviation; and
- c. the reason for the deviation.

28.5 The Permittee shall report according to condition 30.

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

**30. Monitoring, Record Keeping, and Reporting for Air Pollution Prohibited**

30.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 44.

30.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 29.

- 30.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
- a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the Asphalt Plant have caused or are causing a violation of condition 29; or
  - b. the Department notifies the Permittee that it has found a violation of condition 29.
- 30.4 The Permittee shall keep records of
- a. the date, time, and nature of all emissions complaints received;
  - b. the name of the person or persons that complained, if known;
  - c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 29; and
  - d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.
- 30.5 With each operating report under condition 45, the Permittee shall include a brief summary report which must include
- a. the number of complaints received;
  - b. the number of times the Permittee or the department found corrective action necessary;
  - c. the number of times action was taken on a complaint within 24 hours; and
  - d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.
- 30.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

## Section 5: General Source Testing and Monitoring Requirements

31. **Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.
32. **Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing
  - 32.1 at a point or points that characterize the actual discharge into the ambient air; and
  - 32.2 at the maximum rated burning or operating capacity of the emission unit or another rate determined by the Department to characterize the actual discharge into the ambient air.
33. **Reference Test Methods.** The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:
  - 33.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.
  - 33.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.
  - 33.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.
  - 33.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9 and may use the form in *Section 8* to record data.
  - 33.5 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.
  - 33.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.
  - 33.7 Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

34. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific emission unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).
35. **Test Exemption.** The Permittee is not required to comply with conditions 37, 38, and 39 when the exhaust is observed for visible emissions by Method 9 Plan (conditions 2 and 5.1) or Smoke/No Smoke Plan (condition 5.2 for *Diesel Engines Only*).
36. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.
37. **Test Plans.** Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the emission unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under condition 31 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.
38. **Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.
39. **Test Reports.** Within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in condition 43. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

## Section 6: General Recordkeeping and Reporting

- 40. Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including
- 40.1 copies of all reports and certifications submitted pursuant to this section of the permit; and
  - 40.2 records of all monitoring required by this permit, and information about the monitoring including:
    - a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
    - b. sampling dates and times of sampling or measurements;
    - c. the operating conditions that existed at the time of sampling or measurement;
    - d. the date analyses were performed;
    - e. the location where samples were taken;
    - f. the company or entity that performed the sampling and analyses;
    - g. the analytical techniques or methods used in the analyses; and
    - h. the results of the analyses.
- 41. Information Requests.** The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the federal administrator.
- 42. Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Avenue, 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 43.

- 43. Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: “Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.” Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal. The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if
- 43.1 a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and
  - 43.2 the person providing the electronic signature has made an agreement, with the certifying authority described in condition 43.1, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.
- 44. Excess Emissions and Permit Deviation Reports.**
- 44.1 Except as provided in condition 29, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:
- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report
    - (i) emissions that present a potential threat to human health or safety; and
    - (ii) excess emissions that the Permittee believes to be unavoidable;
  - b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;
  - c. report all other excess emissions and permit deviations
    - (i) within 30 days of the end of the month in which the emissions or deviation occurs or is discovered, except as provided in conditions 44.1c(ii) and 44.1c(iii);
    - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under condition 44.1c(i); and
    - (iii) for failure to monitor, as required in other applicable conditions of this permit.

- 44.2 When reporting excess emissions, the Permittee must report using either the department's on-line form, which can be found at <http://www.dec.state.ak.us/air/ap/site.htm> or <https://myalaska.state.ak.us/deca/air/airtoolsweb/>, or, if the Permittee prefers, the form contained in *Section 10*. The Permittee must provide all information called for by the form that is used.
- 44.3 When reporting a permit deviation, the Permittee must report using the form contained in *Section 10*. The Permittee must provide all information called for by the form.
- 44.4 If requested by the department, the Permittee shall provide a more detailed written report as requested to follow up on an excess emissions report.
- 45. Operating Reports.** The Permittee shall submit an original and two copies of an operating report by April 30 for the period October 1 (of the previous year) to March 31 and by October 30 for the period April 1 to September 30.
- 45.1 The operating report must include all information required to be in operating reports by other conditions of this permit. 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 Departmental submission requirements.
- 45.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 45.1, either
- a. the Permittee shall identify
    - (i) the date of the deviation;
    - (ii) the equipment involved;
    - (iii) the permit condition affected;
    - (iv) a description of the excess emissions or permit deviation; and
    - (v) any corrective action or preventive measures taken and the date or dates of such actions; or
  - b. when excess emissions or permit deviations have already been reported under condition 44, the Permittee may cite the date or dates of those reports.
- 45.3 The operating report must include a listing of emissions monitored (e.g., conditions 2, 5, 8, 10, 14, and 30) which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report
- a. the date of the emissions;

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- b. the equipment involved;
- c. the permit condition affected; and
- d. the monitoring result which triggered the additional monitoring.

45.4 Transition from expired to renewed permit. For the first period of this renewed operating permit, also provide the previous permit's operating report elements covering that partial period immediately preceding the effective date of this renewed permit.

**46. Nonroad Engines.** The Permittee shall keep a log of following information for each engine that meets the definition of nonroad engine under 40 CFR 89.2:

46.1 date and location each time the engine is relocated; and

46.2 make, model, serial number and capacity of the engine.

46.3 The Permittee shall make these records available to the Department upon request.

## **Section 7: Terms to Make Permit Enforceable**

47. Compliance with permit terms and conditions is considered to be compliance with those requirements that are
  - 47.1 included and specifically identified in the permit; or
  - 47.2 determined in writing in the permit to be inapplicable.
48. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14.120(c), 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
  - 48.1 an enforcement action; or
  - 48.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.
49. 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.
50. 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.
51. 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.
52. The permit does not convey any property rights of any sort, nor any exclusive privilege.
53. 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
  - 53.1 enter upon the premises where a emission unit subject to the permit is located or where records required by the permit are kept;
  - 53.2 have access to and copy any records required by the permit;
  - 53.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and
  - 53.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

## Section 8: Visible Emissions Form

### Visible Emissions Field Data Sheet

Certified Observer: \_\_\_\_\_

Company &  
Stationary  
Source: \_\_\_\_\_

Location: \_\_\_\_\_

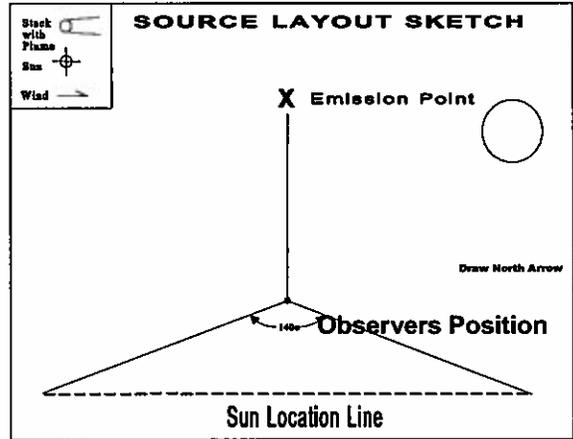
Test No.: \_\_\_\_\_ Date: \_\_\_\_\_

Emission Unit: \_\_\_\_\_

Production Rate/Operating  
Rate: \_\_\_\_\_

Unit Operating Hours: \_\_\_\_\_

Hrs. of observation: \_\_\_\_\_



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					



## Section 9: Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO<sub>2</sub> using the following equations:

$$A. = 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$B. = 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$C. = 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$D. = 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$E. = B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$F. = 21 - [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$G. = [\text{vol}\%_{\text{dry}}O_{2, \text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$H. = 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$I. = E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$SO_2 \text{ concentration} = A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ ppm}$$

The wt%*S<sub>fuel</sub>*, wt%*C<sub>fuel</sub>*, and wt%*H<sub>fuel</sub>* are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 14.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%*dry O<sub>2, exhaust</sub>*) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if wt%*S<sub>fuel</sub>* = 1.0%, then enter 1.0 into the equations not 0.01 and if vol%*dry O<sub>2, exhaust</sub>* = 3.00%, then enter 3.00, not 0.03.

## Section 10: ADEC Notification Form<sup>6</sup>

Stationary Source Name \_\_\_\_\_

Air Quality Permit Number \_\_\_\_\_

Company Name \_\_\_\_\_

**When did you discover the Excess Emissions/Permit Deviation?**

Date: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Time: \_\_\_\_\_ : \_\_\_\_\_

**When did the event/deviation occur?**

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

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

**What was the duration of the event/deviation?:** \_\_\_\_\_ : \_\_\_\_\_ (hrs:min) or \_\_\_\_\_ days

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

**Reason for Notification:** (please check only 1 box and go to the corresponding section)

- Excess Emissions - Complete Section 1 and Certify.
- Deviation from Permit 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  Continuous

(b) Cause of Event (Check one that applies):

- Start Up /Shut Down
- Natural Cause (weather/earthquake/flood)
- Control Equipment Failure
- Scheduled 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.

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

<sup>6</sup> Revised as of August 20, 2008.

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(e) Type of Incident (Please Check only one).

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Opacity      %        | <input type="checkbox"/> Venting      (gas/scf)  | <input type="checkbox"/> Control Equipment Down |
| <input type="checkbox"/> Fugitive Emissions    | <input type="checkbox"/> Emission Limit Exceeded | <input type="checkbox"/> Record Keeping Failure |
| <input type="checkbox"/> Marine Vessel Opacity | <input type="checkbox"/> Flaring                 | <input type="checkbox"/> Other:                 |

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?     Yes       No

Do you intend to assert the affirmative defense of 18 AAC 50.235?       Yes       No

Certify Report (go to end of form)

**Section 2 Permit Deviations**

(a) Permit Deviation Type (check one only) (check boxes correspond with sections in permit)

- Source Specific
- Failure to monitor/report
- General Source Test/Monitoring Requirements
- Recordkeeping/Reporting/Compliance Certification
- Standard Conditions Not Included in Permit
- Generally Applicable Requirements
- Reporting/Monitoring for Diesel Engines
- Insignificant Source
- Facility Wide
- Other Section: (title of section and section # of your permit)

(b) Emission 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.

<u>Unit ID</u>	<u>Emission Unit Name</u>	<u>Permit Condition /Potential Deviation</u>

(c) **Description of Potential Deviation:**

**Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.**

(d) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

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

Printed Name: \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Signature: \_\_\_\_\_ Phone number \_\_\_\_\_

**NOTE:** *This document must be certified in accordance with 18 AAC 50.345(j)*

**To Submit this report:**

1. Fax this form to: **907-451-2187**

Or

2. E-mail to: [DEC.AQ.airreports@alaska.gov](mailto:DEC.AQ.airreports@alaska.gov)  
*if faxed or e-mailed,*

Or

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

Or

4. Phone notifications: 907-451-5173.  
*Phone notifications require written follow up report.*

Or

5. Submission of information contained in this report can be made electronically at the following website:

<https://myalaska.state.ak.us/deca/air/airtoolsweb/>

*if submitted online, report must be submitted by an authorized E-Signer for the Stationary Source.*

## Section 11: Application Addendum (Location Change)

Submit the information specified below to the Department's Air Permits Program, Compliance Technician, 610 University Avenue, Fairbanks, Alaska 99709-3643 *ten* days before moving of the plant to any new location, and the exact date before startup by telephone, fax, e-mail or letter.

Name of Firm: \_\_\_\_\_ Permit Number \_\_\_\_\_  
Make and Model of the Equipment/ Stationary source to be relocated \_\_\_\_\_  
\_\_\_\_\_ Attach a complete list of equipment to be operated at the  
new location.

Contact Person: \_\_\_\_\_ Telephone: \_\_\_\_\_

New plant location (Street address, Milepost number etc. Include site maps):  
\_\_\_\_\_

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ or

UTM Coordinates: Zone \_\_\_\_\_ Northing \_\_\_\_\_ Easting \_\_\_\_\_

Datum \_\_\_\_\_

Estimated start-up and shut-down dates: \_\_\_\_\_

Distance from Plant boundary to nearest inhabited structure \_\_\_\_\_ feet.

Nearest inhabited structures are on (check one) \_\_\_ flat or \_\_\_ elevated terrain

If this distance is within one mile, include with this addendum a dust control plan that is specific to this location and is adequate to prevent violations of condition 29, Air Pollution Prohibited.

Attach approval documents from Borough where plant is to be located.

Comments: \_\_\_\_\_

Alaska Coastal Management Plan (Check One):

- This plant will not be located within a Coastal District as identified in the Alaska Coastal Management Plan.
- This plant will be located within a Coastal District and will comply with the enforceable policies for the district it is located in.

Attach all applicable policies for the coastal district to this report.

MG3 – Asphalt Plant Minor General Permit

I hereby certify that the information contained in this notification to the best of my knowledge and belief, is true, complete, and accurate. I have taken the information in conditions 18 and 23 into account in the site selection for this plant relocation.

Signature: \_\_\_\_\_ Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_ Telephone: \_\_\_\_\_

## Section 12: Asphalt Plant Emission Calculation Guide

The Permittee is required to pay to the Department an annual emission fee based on the stationary source's assessable emissions for each year it is subject to this permit. The emission fee is assessed per ton for each air pollutant for which projected emissions are 10 tons per year (tpy) or greater, except as limited in AS 46.14.250(e).

Emission fees are assessed from July 1<sup>st</sup> through the following June 30<sup>th</sup> for each year.

The quantity of emissions for which fees will be assessed is the lesser of the stationary source's potential to emit; or the projected annual rate of emissions, as that term is used in AS 46.14.250, if demonstrated by an enforceable test method described in 18 AAC 50.220, material balance calculations, emission factors from EPA's publication AP-42, *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition with Supplements A – E*, as amended through September 1999 adopted by reference in 18 AAC 50.035; or other methods and calculations approved by the Department.

### **Emissions for the Asphalt Plant:**

Calculate the actual emissions from the Asphalt Plant for NO<sub>x</sub>, CO, SO<sub>x</sub>, PM-10, and VOC in tons per year (tpy) using Equation 1 below.

Report the actual emissions in the Emission Reporting and Emission Fee Estimate form, provided in Attachment 1 of the Technical Analysis Report (TAR), in the column labeled "Asphalt Plant."

Attach the calculations for all pollutants calculated to the Emission Reporting and Emission Fee Estimate form.

If the manufacturer has provided more accurate emission factors than the factors listed in this section, you may use those emission factors provided the Department approves the use of the factors and the methods used to perform the calculations. You may also use emission factors based upon the latest source test provided the source test has been approved by the Department. The calculations shall be recorded and kept on site for a minimum of five years. The calculations shall clearly reflect the emission factors used. If you are using emission factors based upon manufacturer's data, attach the manufacturer's data to the calculations.

### **Emissions for Diesel Engine Generator/s:**

Calculate the actual emissions from the diesel engine generator/s for NO<sub>x</sub>, CO, SO<sub>2</sub>, PM-10, and VOC in tpy using either Equation 2 or Equation 3 below.

Report the actual emissions in the Emission Reporting and Emission Fee Estimate form, provided in Attachment 1 of the TAR, in the column for the "Diesel Generator".

Attach the calculations for all pollutants calculated to the form contained in Emission Reporting and Emission Fee Estimate form.

If your facility operates more than one diesel engine, add the totals for all the diesel engines together before entering them in the appropriate column. If your facility does not

use a diesel engine but uses highline electrical power, mark the blocks as Uses Highline Power.

If the manufacturer has provided more accurate emission factors than the factors listed in this section, you may use those emission factors provided the Department approves the use of the factors and the methods used to perform the calculations. You may also use emission factors based upon the latest source test provided the source test has been approved by the Department. The calculations shall be recorded and kept on site for a minimum of five years. The calculations shall clearly reflect the emission factors used. If you are using emission factors based upon manufacturer’s data, attach the manufacturer’s data to the calculations.

**Assessable Emissions Fee Estimate:**

Add the pollutant from each column (Asphalt Plant and Diesel Generator) of the Emission Reporting and Emission Fee Estimate form together. If the total equals or exceeds 10 tpy, enter that amount in the column labeled “Assessable Emissions”.

Submit the form to the Department no later than March 31<sup>st</sup> of each year.

**Equation 1**

$$\text{Emissions} = (\text{EF} \times (\text{Hours of operation} * \text{RC})) / \text{lbs per ton}$$

Where:

EF = pollutant emission factor in lb/ton of asphalt processed

RC = rated capacity of Asphalt Plant in tons per hour

Hours of operation = hours of operation of Asphalt Plant

lbs per ton = 2,000

$$\text{Emissions} = (\text{EF} \times (\text{hrs} * \text{RC})) / 2,000 = \text{tons per year}$$

**Emission Factors for Batch Mix Hot Mix Asphalt Plants (lb/ton of asphalt processed)**

Process	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM-10 <sup>7</sup>	PM-10 <sup>8</sup>	PM-10 <sup>9</sup>	VOC
Natural gas-fired dryer, hot screens, and mixer	0.40	0.025	0.0046	4.5	0.027	0.14	0.0082
No. 2 fuel oil-fired dryer, hot screens, and mixer	0.40	0.12	0.088	4.5	0.027	0.14	0.0082

*Emission factor units are lb per ton of hot mix asphalt produced. The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Tables 11.1-1, 11.1-5, & 11.1-6*

<sup>7</sup> Uncontrolled emissions. Note: uncontrolled emission factors are provided as a reference only. At no times are facilities allowed to operate the hot mix asphalt plant without a control device i.e. baghouse or wet scrubber.

<sup>8</sup> Emissions controlled with a fabric filter (baghouse)

<sup>9</sup> Emissions controlled with a wet scrubber. Emission factor of 0.14 corresponds to total PM under AP-42. Upon approval from the Department, Permittee may use alternative emission factors including but not limited to those provided by the equipment manufacturer or data derived from a recent source test.

**Emission Factors for Drum Mix Hot Mix Asphalt Plants (Continuous)**

Process	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM-10 <sup>10</sup>	PM-10 <sup>11</sup>	PM-10 <sup>12</sup>	VOC
Natural gas-fired dryer, hot screens, and mixer	0.13	0.026	0.0034	6.5	0.023	0.045	0.032
No. 2 fuel oil-fired dryer, hot screens, and mixer	0.13	0.055	0.011	6.5	0.023	0.045	0.032

*Emission factor units are lb per ton of hot mix asphalt produced. The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Tables 11.1-3, 11.1-7, & 11.1-8*

**Equation 2**

$$\text{Emissions} = ((\text{EF} \times \text{Hp}) * \text{Hours of operation}) / \text{lbs per ton}$$

Where:

EF = emission factor

HP= horse power of unit

Hours of operation = hours of asphalt production

lbs per ton = 2,000

$$((\text{EF} * \text{hp}) * \text{hrs}) / 2,000 = \text{tons per year}$$

**Equation 3**

$$\text{Emissions} = ((\text{EF} \times \text{MMBtu}) * \text{Hours of operation}) / \text{lbs per ton}$$

Where:

EF = emission factor

MMBtu = Manufacturer’s rated capacity

Hours of operation = hours of asphalt production

lbs per ton = 2,000

$$\text{Emissions} = ((\text{EF} \times \text{MMBtu}) * \text{hrs}) / 2,000 = \text{tons per year}$$

**Emission Factors for Diesel Engines less than or equal to 600 hp**

Pollutant	CO	NO <sub>x</sub>	SO <sub>2</sub>	PM-10	VOC
Emission factor (lb/hp-hr) power output	6.68 E -03	0.031	2.05 E -03	2.20 E -03	2.47 E-05
Emission factor (lb/MMBtu) fuel input	0.95	4.41	0.29	0.31	0.35

*The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Table 3.3-1*

<sup>10</sup> Uncontrolled emissions. Note: uncontrolled emission factors are provided as a reference only. At no times are facilities allowed to operate the hot mix asphalt plant without a control device i.e. baghouse or wet scrubber.

<sup>11</sup> Emissions controlled with a fabric filter (baghouse)

<sup>12</sup> Emissions controlled with a wet scrubber (ND indicates there was no data for a PM10 emission factor. Facilities may use the PM emission factor of 0.045 for total PM or use data from the manufacturer or source test data when computing PTE for plants using a wet scrubber.)

**Emission Factors for Large Diesel Engines more than 600 hp Diesel Fuel, Uncontrolled Emissions**

Pollutant	CO	NO <sub>x</sub>	SO <sub>2</sub> <sup>13</sup>	PM-10	VOC
Emission factor (lb/hp-hr) power output	5.5 E-03	0.024	8.09 E-03S <sub>1</sub>	0.0007	7.05 E-04
Emission factor (lb/MMBtu) fuel input	0.85	3.2	1.01S <sub>1</sub>	0.1	0.09

*The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Table 3.4-1*

**Emission Factors for Large Diesel Engines more than 600 hp Diesel Fuel, Controlled Emissions<sup>14</sup>**

Pollutant	CO	NO <sub>x</sub>	SO <sub>2</sub> <sup>15</sup>	PM-10	VOC
Emission factor (lb/hp-hr) power output	5.5 E-03	0.013	8.09 E-03S <sub>1</sub>	0.0007	7.05 E-04
Emission factor (lb/MMBtu) fuel input	0.85	1.9	1.01S <sub>1</sub>	0.1	0.09

*The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Table 3.4-1*

**Emission Factors for Large Diesel Engines more than 600 hp Dual Fuel, Uncontrolled**

Pollutant	CO	NO <sub>x</sub>	SO <sub>2</sub> <sup>16</sup>	PM-10	VOC
Emission factor (lb/hp-hr) power output	7.5 E-03	0.018	4.06 E-04S <sub>1</sub> +9.57	ND	5.29 E-03
Emission factor (lb/MMBtu) fuel input	1.16	2.7	0.05S <sub>1</sub> + 0.895S <sub>2</sub>	ND	0.8

*The preceding emission factors were compiled from AP42, 5<sup>th</sup> addition, Table 3.4-1*

Note: AP-42 did not list an emission factor for controlled NO<sub>x</sub> emissions for Dual-Fired Large Diesel Engine.

<sup>13</sup> Assumes that all sulfur in the fuel is converted to SO<sub>2</sub>. S<sub>1</sub> = % sulfur in fuel oil. For example, if sulfur content is 1.5%, S = 1.5.

<sup>14</sup> References 8-26. Controlled NO<sub>x</sub> is by ignition timing retard.

<sup>15</sup> Assumes that all sulfur in the fuel is converted to SO<sub>2</sub>. S<sub>1</sub> = % sulfur in fuel oil; S<sub>2</sub> = % sulfur in natural gas. For example, if sulfur content is 1.5%, S = 1.5.

<sup>16</sup> Assumes that all sulfur in the fuel is converted to SO<sub>2</sub>. S<sub>1</sub> = % sulfur in fuel oil; S<sub>2</sub> = % sulfur in natural gas. For example, if sulfur content is 1.5%, S = 1.5.

## Section 13: Visibility and Particulate Matter Charts

### *Asphalt Plant Visibility and Particulate Monitoring Chart*

#### Visibility (Method 9)

Within two days of startup at a new location

Once every 30-day operating period at the same location

Within 24-hours of startup after a shutdown period of more than 5 days

Once per each one hour run during Method 5 source testing

Conduct Method 9 observations at 15-second intervals for a minimum of 18-consecutive minutes.

Conduct VE readings at loads typical of normal operations

Record the production rate at the time of the Method 9 observation

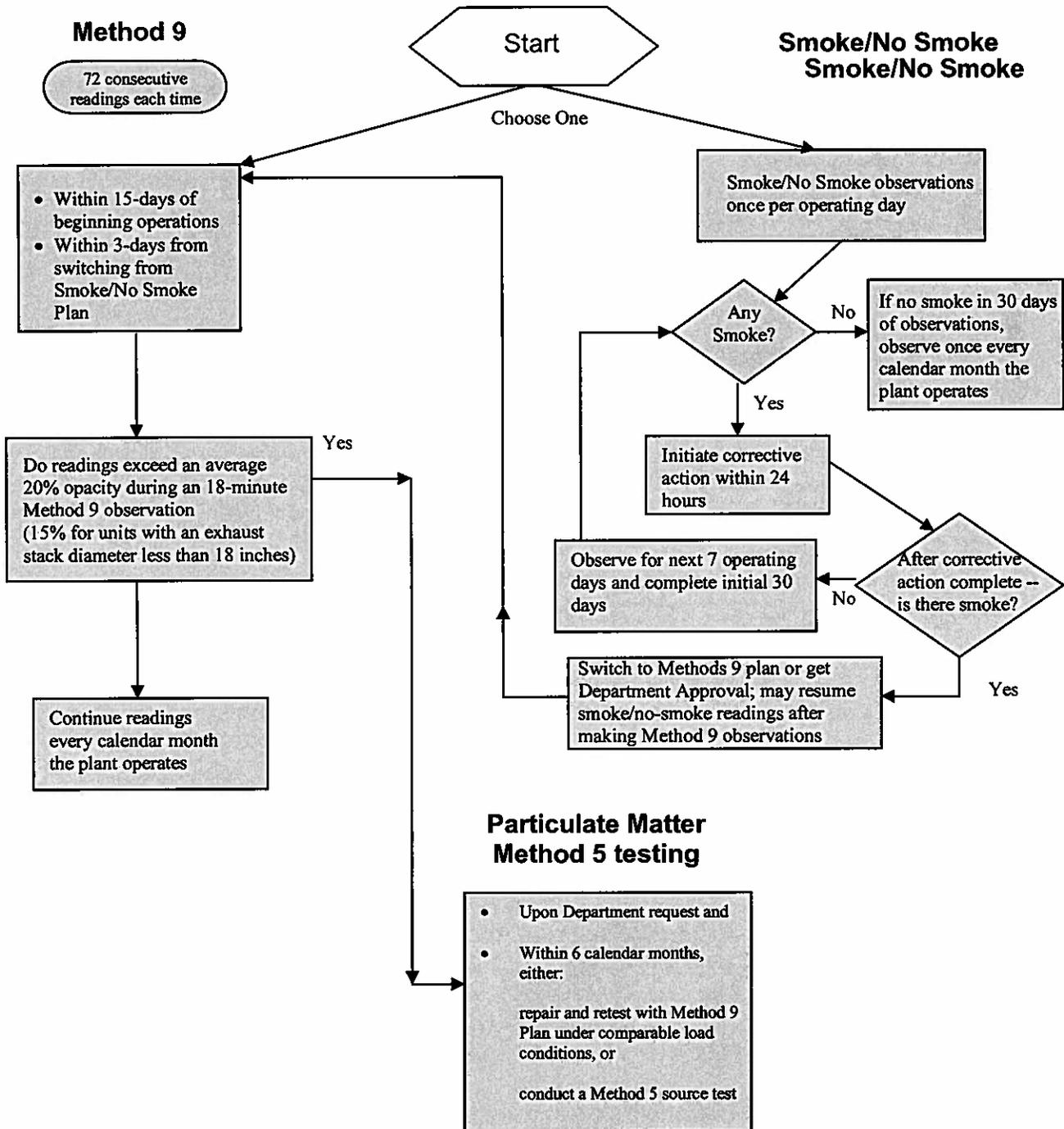
#### Particulate Matter (PM, Method 5)

Upon Department request  
Within 30 operating days for new asphalt plants

Every five years or 7,200 operating hours, whichever occurs first, for old asphalt plants

Within one year of the date of the most recent source test if the results

*Diesel Engine Visibility and Particulate Monitoring Flow Chart*



**Section 14: Fugitive Emission Inspection Form**

FUGITIVE OR SMOKE EMISSION INSPECTION OUTDOOR LOCATION			
Company _____	Observer _____		
Location _____	Affiliation _____		
Company Rep. _____	Date _____		
Sky Conditions _____	Wind Direction _____		
Precipitation _____	Wind Speed _____		
Sketch process unit: indicate observer position relative to source; indicate potential emission points and/or actual emission points.			
<b>Observations</b>			
	Clock Time	Observation period duration, min:sec	Accumulated emission time, min:sec
Begin Observation			
End Observation			

**Alaska Department of Environmental Conservation  
Air Permits Program**

**TECHNICAL ANALYSIS REPORT**

for

**Air Quality Control  
Minor General Permit 3**

for

**Asphalt Plants**

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Preparer: Matt Wilkinson  
Supervisor: Sally A. Ryan, P.E.

## INTRODUCTION

This permit is intended for asphalt plants that are required to have a permit because they are classified as needing a minor permit under 18 AAC 50.502(b)(1) (i.e. they have a rated capacity of at least five tons per hour of product).

Asphalt plants often include rock crushers to break down the oversize material to be fed into the process, or to recycle asphalt pavement. An applicant must apply for Minor General Permit 9 for Rock Crushers to operate the rock crusher.

The Department deleted the Coastal Management provisions in condition 36 in the prior GP3 because it is solely ACMP related and cites Aleutians West CRSA enforceable polices that are no longer in effect. The Department added ACMP condition 23 to this MG3 permit as a response to a public comment from the same coastal district. This response was part of the ACMP final consistency determination.

The Department deleted condition 38c since this is not applicable to this permit. Unlike the prior GP3 and the new GP3 permits, this MG3 permit does not allow rock crushers to be located with the asphalt plant.

The Department deleted the 40 C.F.R. 60, Subpart I, Subpart OOO, and Subpart Kb provisions in conditions 20 and 27 – 30 in the prior GP3 because the Department does not have authority under 18 AAC 50 to include federal standards in minor permits. Likewise, the Department deleted Operation and Maintenance Plan provisions in condition 33 in the prior GP3 since the purpose of this condition was to support the deleted 40 C.F.R. 60 requirements. Also, the Good Air Pollution Control Practice condition in Section 4 of the new MG3 permit provides operation and maintenance requirements specific to minor permits than condition 33 of the prior GP3.

The Department deleted the Annual Compliance Certification Requirements in the prior GP3 since GP3 was issued as a Title V permit, which includes this requirement while the new MG3 is issued as a minor permit, which does not include this requirement. The Department deleted the used-oil provisions in conditions 24 and 25.5 of the prior GP3 since these are general conditions in Title V, but not in minor permits; the Department retained these conditions in the renewed Title V GP3. The Department included all other conditions in the prior GP3 in this minor permit.

The Department included a public comment period from 2 June – 2 July 2008 for this permit, as required by 18 AAC 50.542(d). The Department received one comment for this permit from Charles Wilkes, Wilder Construction Company. The Department's response to this comment is in the Response to Comments document. The discussion for the Alaska Coastal Management Program (ACMP) public comment period is in Condition 23 of this TAR.

## Excluded Facilities

A stationary source is excluded from using this general minor permit if the following applies.

- ▶ The stationary source is subject to a fuel consumption limit or other stationary source-specific requirement established in a construction permit, or air quality control permit under the 18 AAC 50.400 (effective prior to 1/18/97). (This does not include a limit established because a source test was conducted at less than full rated capacity.) This exclusion is not applicable if the owner or operator obtains an owner requested limit under 18 AAC 50.225, or another general or source-specific permit that covers these requirements.
  
- ▶ The stationary source contains
  - a boiler subject to any New Source Performance Standard (NSPS) 40 C.F.R. 60, Subpart D, Da, Db or Dc;
  - a fuel storage tank subject to NSPS 40 C.F.R. 60, subparts K, Ka, or Kb;
  - a source other than an asphalt plant, crushing and grinding equipment, fuel storage tank, or boiler subject to NSPS 40 C.F.R. 60, 61, or 63;
  - a gas turbine;
  - an incinerator;
  - a source subject to any standard in 18 AAC 50.055(a) – (f) other than standards for fuel burning equipment in (a)(1), (a)(4), (b)(1), (b)(5) and (c);
  - open burning at the source any time during the permit term;
  - renovation and demolition activities at the source that would need to comply with the provision of 40 C.F.R., Part 61, Subpart M, Section 145, National Emission Standard for Asbestos, Standard for Demolition and Renovation; or
  - recycling and emissions reduction of Class I and Class II refrigerants at the stationary source (these activities are subject to 40 C.F.R. 82, Subpart F, Section 82.150).
  
- ▶ The stationary source emits more than 100 tons per year of a regulated air pollutant (i.e. is subject to Title V permitting requirements).

However, if there is a general permit for the activities listed above, the stationary source may operate under both permits.

## TECHNICAL ANALYSIS FOR THE PERMIT CONDITIONS

### Conditions 1 - 7 - Visible Emissions Standard Requirements

**Applicability:** Under 18 AAC 50.544(b), for a minor permit classified under 18 AAC 502(b), the Department will include terms and conditions as necessary

to ensure the proposed stationary source will meet the requirements of AS 46.14 and 18 AAC 50. This includes terms and conditions for

- installation, use and maintenance of monitoring equipment;
- sampling emissions according to the methods prescribed by the Department, and at locations, intervals and by procedure specified by the Department;
- providing source test reports, monitoring data, emissions data, and information from analyses of any test samples;
- keeping records; and
- making periodic reports on process operations and emissions.

An asphalt plant<sup>17</sup> constructed or modified after June 11, 1973, may not reduce visibility through the exhaust effluent by 20 percent or greater averaged over any six consecutive minutes, as specified in 18 AAC 50.055(a)(4). All other industrial processes and fuel burning equipment at this source may not reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes, as specified in 18 AAC 50.055(a)(1). Asphalt plants are industrial processes while the asphalt drum/dryer and diesel engines are fuel-burning equipment. Therefore the same standard applies to the diesel engines used for power generation for an asphalt plant and to asphalt plants built on or before June 11, 1973.

Condition 1 requires the Permittee to comply with the visible emission standard for asphalt plants and diesel engines, including fugitive emissions from asphalt plants. Conditions 2 – 4 and 5 – 7 address the visible emissions (VE) monitoring, recordkeeping, and reporting (MR&R) for asphalt plants and (liquid-fired) diesel engines, respectively. The dust control plan, condition 28.2, also addresses VE MR&R for fugitive emissions.

**Factual basis:** The visible emission monitoring, recordkeeping and reporting (MR&R) requirements for the Asphalt Plant are different from those for diesel engines because asphalt plants may produce visible emissions without smoke, which is typically associated with incomplete combustion. In the case of asphalt plants, visible emissions may also result from loose particulate from the aggregate fed into the mixing drum.

Thus, the MR&R requirements for diesel engines includes the Method 9 and the Smoke/no Smoke plans which are standard permit conditions required under 18 AAC 50 346(c). MR&R requirements for the asphalt plant deviate from those under 18 AAC 50.346(c) by excluding the possibility to monitor visible emissions using the Smoke/no Smoke plan because particulate matter emissions from the aggregate are not considered “smoke.”

The visible emissions standard applies to stationary diesel engines and does not apply to nonroad engines. A nonroad engine has the meaning given in 40 C.F.R. 89.2. An engine will not be considered a nonroad engine if it remains at or will remain at a

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<sup>17</sup> In this permit, “asphalt plant” means all asphalt plant equipment (including the aggregate dryer and drum mixer), except the diesel engine and vehicles.

location for more than 12 consecutive months. An engine used at a single specific location for 12 months or longer ceased to be a nonroad engine when it was placed in that location.

**Conditions 2 – 4** were adopted from Standard Permit Condition IX – Visible Emissions and Particulate Matter Monitoring Plan for Liquid-Fired Sources. The conditions were modified to reflect the mobility of asphalt plants and the seasonal nature of their operations. The condition requires VE readings after startup from periods of shut down and after relocating the plant. The conditions were further modified to exclude the Smoke/No Smoke plan since the emissions from the asphalt plant include particulate matter from the aggregate during the drying process and not a product of combustion. Condition 3.1b(ii) was added to provide a reference to the operating level during the Method 9 observations.

**Conditions 5 - 7** MR&R conditions for diesel engines are standard conditions adopted into regulation pursuant to AS 46.14.010(e).

The frequency of monitoring of visible emissions in condition 5.1 was changed from the Standard Operating Condition to reflect the seasonal nature of asphalt plant operation. Not requiring the first VE reading for six months could allow the diesel engine to operate without a VE reading for the year. The condition was also changed to reflect that a diesel generator at an asphalt plant does not operate on a continuous basis. The new requirement to conduct the first VE reading for the diesel engine within 15 days attempts to ensure the engine's visible emissions are recorded during the operational period of asphalt production. The Department realizes that there is a potential for the asphalt plant to operate less than 15 days, but believes this requirement will protect the public.

Reoccurring monitoring for the diesel engine is kept at once per month as asphalt plants generally do not operate long enough to warrant the need for reduced monitoring. This also helps to alleviate missing VE readings by keeping the monitoring requirement simple.

The Smoke/No Smoke requirement in condition 5.2 was revised from the Standard Permit Condition to clarify the requirement that **anytime** smoke is observed they are to begin Method 9 observations or take corrective action to alleviate the smoke.

**Liquid-Fired Fuel Burning Equipment:**

Monitoring – The visible emissions may be observed by either Method-9 or the Smoke/No Smoke plans as detailed in condition 5.2. Corrective actions such as maintenance procedures and either more frequent 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 visible emissions standards and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the stationary source operating report.

**Gas-Fired Fuel Burning Equipment:**

Monitoring, Recordkeeping, and Reporting – The monitoring of gas fired sources 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.

**Conditions 8 – 12 - Particulate Matter (PM) Standard**

**Applicability:** Under 18 AAC 50.544(b), for a minor permit classified under 18 AAC 502(b), the Department will include terms and conditions as necessary to ensure the proposed stationary source will meet the requirements of AS 46.14 and 18 AAC 50. This includes terms and conditions for

- installation, use and maintenance of monitoring equipment;
- sampling emissions according to the methods prescribed by the Department, and at locations, intervals and by procedure specified by the Department;
- providing source test reports, monitoring data, emissions data, and information from analyses of any test samples;
- keeping records; and
- making periodic reports on process operations and emissions.

Under 18 AAC 50.990(12), an "Asphalt Plant" means a stationary source that manufactures asphalt concrete by heating and drying aggregate and mixing asphalt cements; "Asphalt Plant" includes any combination of dryers, systems for screening, handling, storing, and weighing dried aggregate, systems for loading, transferring, and storing mineral filler, systems for mixing, transferring, and storing asphalt concrete, and emission control systems within the stationary source.

Under 18 AAC 50.055(b)(5), an asphalt plant constructed or modified after June 11, 1973 may not emit PM in excess of 0.04 grains per dry standard cubic foot of exhaust gas (gr/dscf). Under 18 AAC 50.055(b)(1), all other industrial processes and fuel burning equipment at the asphalt plant may not emit PM in excess of 0.05 gr/dscf. Asphalt plants are both industrial processes and fuel-burning equipment while diesel engines are fuel-burning equipment. Therefore the same standard applies to the diesel engines used for power generation for an asphalt plant and to asphalt plants built on or before June 11, 1973.

Asphalt plants are industrial processes while the asphalt drum/dryers are fuel-burning equipment. Conditions 8.1a and 8.1b establish the applicable PM standard for asphalt plants, depending on the date it was constructed, reconstructed, or modified. This permit does not include MR&R to demonstrate compliance with this particulate matter standard for fugitive emissions since Reference Method 5 of 40 C.F.R. 60, which is used to determine compliance with this standard, is not applicable to fugitive emissions.

Conditions 8.2 – 8.6 are the monitoring, recordkeeping, and reporting requirements to demonstrate compliance with the applicable PM standard for the asphalt drum/dryer. The Department recognizes that some asphalt plants operate less than thirty days in a year, which makes it difficult to schedule and complete a source test. Condition 8.2d

and allows the asphalt plants that operate for few days and hours to defer this thirty-day, automatic PM source test requirement if the Permittee complies with operating time restrictions. The Department added condition 8.2f to clarify that the one-year PM source test requirement is delayed one year for each calendar year that the Permittee did not operate. (For example, if a Permittee triggered the PM source test requirement on July 1, 2009, then the PM source test would be due by July 1, 2010. However, if the Permittee did not operate in calendar years 2010 and 2011, and operated in 2012, then the PM source test will be due by July 1, 2012.) Condition 8.2f does not add any extra years to the five-year trigger in condition 8.2c if the calendar year that the Permittee did not operate was before the due date. (For example, if the Permittee did not operate in the third and fourth calendar years after getting the permit, but does operate more than thirty days per year thereafter, then the PM source test requirement within five years is not changed. However, if the Permittee does not operate during the calendar year that the PM source test is due, then the source test due date is delayed one year.) This avoidance does not change the Department's authority to request a source test under condition 31—e.g., a response to complaints or high opacity from the asphalt plant.

Diesel engines are fuel burning equipment. Condition 9 requires the Permittee to comply with the applicable PM standard(s) for diesel engines, including fugitive emissions from asphalt plants. Conditions 10 - 12 establish MR&R requirements to demonstrate compliance with the PM standard for (liquid-fired) diesel engines.

**Factual basis:** The particulate matter standard applies to stationary diesel engines and does not apply to nonroad engines. A nonroad engine has the meaning given in 40 C.F.R. 89.2. An engine will not be considered a nonroad engine if it remains at or will remain at a location for more than 12 consecutive months. An engine used at a single specific location for 12 months or longer ceased to be a nonroad engine when it was placed in that location.

**Liquid-Fired Fuel Burning Equipment:**

For liquid-fired units the MR&R conditions are Standard Operating Permit Condition IX under 18 AAC 50.346(c), adopted into regulation pursuant to AS 46.14.010(e).

**Gas-Fired Fuel Burning Equipment:**

Although periodic PM monitoring of gas-fired units is waived, the Department has the discretion to request a source test for PM emissions from any fuel burning equipment under 18 AAC 50.220(a) and 18 AAC 50.345(k).

**Conditions 13 – 17 - Sulfur Compound Emissions Standard Requirements**

**Applicability:** Under 18 AAC 50.544(b), for a minor permit classified under 18 AAC 50.502(b), the Department will include terms and conditions as necessary to ensure the proposed stationary source will meet the requirements of AS 46.14 and 18 AAC 50. This includes terms and conditions for

- installation, use and maintenance of monitoring equipment;
- sampling emissions according to the methods prescribed by the Department, and at locations, intervals and by procedure specified by the Department;

## MG3 – Asphalt Plant Minor General Permit

- providing source test reports, monitoring data, emissions data, and information from analyses of any test samples;
- keeping records; and
- making periodic reports on process operations and emissions.

Under 18 AAC 50.055(c) industrial processes and fuel burning equipment may not emit sulfur-compound emissions exceeding 500 parts per million (ppm) averaged over a period of three hours. Asphalt plants are industrial processes while the asphalt drum/dryer and diesel engines are fuel-burning equipment. Condition 13 requires the Permittee to comply with this standard for the asphalt drum/dryer and diesel engines. This does not apply to the other, nonfuel-burning parts of asphalt plants since they don't produce sulfur-compound emissions. Conditions 14 – 17 establish MR&R requirements to demonstrate compliance with this standard for (liquid and gas-fired) diesel engines.

**Factual Basis:** The sulfur-compound emissions standard applies to stationary diesel engines and does not apply to nonroad engines. A nonroad engine has the meaning given in 40 C.F.R. 89.2. An engine will not be considered a nonroad engine if it remains at or will remain at a location for more than 12 consecutive months. An engine used at a single specific location for 12 months or longer ceased to be a nonroad engine when it was placed in that location.

### **Liquid-Fired Fuel Burning Equipment:**

For liquid-fired fuel burning equipment the MR&R conditions are Standard Operating Permit Conditions XI and XII under 18 AAC 50.346(c), adopted into regulation pursuant to AS 46.14.010(e).

### **Gas-Fired Fuel Burning Equipment:**

Fuel gas sulfur is measured as hydrogen sulfide (H<sub>2</sub>S) concentration in ppm by volume (ppmv). The Department performed calculations<sup>18</sup> that show that fuel gas containing no more than 4,000 ppm of H<sub>2</sub>S will comply with this emission standard at stoichiometric (or zero excess air) combustion conditions. Given the case that excess air is normally greater than zero, the value of 4,000 ppm is conservative.

Equations to calculate the exhaust gas SO<sub>2</sub> concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H<sub>2</sub>S concentration of even 10 percent of 4,000 ppm is currently not available in Alaska and is not projected to be available in the foreseeable future.

In any case, the Permittee is required to record the fuel gas H<sub>2</sub>S concentration of the fuel gas. The Permittee is required to report as excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition. The Permittee is required to include copies of the records mentioned in the previous paragraph with the stationary source operating report.

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<sup>18</sup> See ADEC Air Permits Web Site at <http://www.dec.state.ak.us/air/ap/docs/sulfgas.pdf>, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO<sub>2</sub> Concentration."

### **Condition 18 - Ambient Air Quality Protection – General Requirements**

**Applicability:** This condition applies to all asphalt plants unless a stricter condition exists in this permit, State Statutes, or Federal Guidelines. 18 AAC 50.010 establishes the ambient air quality standards in the State of Alaska. The Permittee is required to comply with these requirements.

**Factual Basis:** The Department incorporated the same setback distance requirements as previously established in the 2003 General Permit for Asphalt Plants (GP3). The Department established the distances based on a generic air quality modeling (see Attachment 2) analysis it conducted to address public complaints regarding alleged impacts.<sup>19</sup> The Department used the U.S. Environmental Protection Agency's (EPA's) ISCST3 dispersion modeling software to conduct the air dispersion modeling in 2003. The Department also created a screening meteorological data set, in order to make the analysis applicable for the entire State.

The Department established the setback distance requirement in condition 18.1 in order to protect the three hour SO<sub>2</sub> ambient air quality standard. The requirement for a dust control plan in condition 28.2 for operations within one mile of the nearest off site inhabited structure is based on predicted 24 hour impacts of the ambient standard for PM-10.

As previously noted in the 2003 GP3, the setback distance requirements are based on the best information available to the Department. They do not guarantee that an operation cannot violate the ambient air quality standards or increments, or create a public air quality nuisance. Therefore, the Department included a note that if the operation results in complaints, the complaints are subject to investigation. The note lists some of the possible outcomes of the investigation.

### **Condition 19 – Ambient Air Quality Protection – Additional Restrictions for SO<sub>2</sub> Special Protection Areas**

**Applicability:** This condition only applies to asphalt plants located in the SO<sub>2</sub> Special Protection Areas (Unalaska and Saint Paul Island areas) established in 18 AAC 50.025(c).

**Factual Basis:** The Department established the SO<sub>2</sub> Special Protection Areas due to past demonstrations that the ambient SO<sub>2</sub> air quality standards and increments are threatened. While developing the 2003 GP3, the Department conducted a modeling analysis to determine whether additional restrictions were needed to protect the standards and increments in these special protection areas. The analysis showed that the Asphalt Plant would need to operate with a fuel-sulfur content not greater than 0.075 percent sulfur by weight and that the plant would need to operate on highline power rather than from its own diesel-generator. It also showed that if diesel engines are used for another purpose other than electrical power generation then they could not burn fuel with a sulfur content greater than 0.075 percent, by weight. The Department incorporated these restrictions into the 2003 GP3, and is now incorporating them into this Minor General Permit. If a Permittee would like less

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<sup>19</sup> It is important to note that most asphalt plants operating under the general permits did so without public complaints to the department.

stringent restrictions when operating in an SO<sub>2</sub> Special Protection Area, they will need to obtain a source-specific permit. The application for a source-specific permit would need to include a case-specific ambient air quality modeling demonstration.

**Condition 20 - Ambient Air Quality Protection – Additional Restrictions for Bells Flats (Kodiak)**

**Applicability:** 18 AAC 50.010 establishes the ambient air quality standards in the State of Alaska. This condition only applies to Asphalt Plants that operate at the Bells Flats area of Kodiak Island.

**Factual Basis:** In response to complaints received from the Bells Flat area of Kodiak in circa-2003, the Department conducted a modeling analysis under 18 AAC 50.201 of Asphalt Plant operations in this area. The analysis showed that Asphalt Plant emissions should not violate the State's air quality standards/increments as long as the sulfur content of the liquid fuel did not exceed 0.4 percent (by weight) and the plant operated no more than 13 hours per day. The Department incorporated these limits in the 2003 GP3, and is now incorporating these same limits into this minor general permit. MR&R requirements are established under this condition.

**Condition 21 – Pollution Control Equipment Breakdown Reporting**

**Applicability:** This condition applies to all emission units at the stationary source to help ensure compliance with 18 AAC 50.544(b)(2), for a minor permit classified under 18 AAC 502(b). This carries over condition 39 of the prior 2003 GP3.

**Factual Basis:** Because of public complaints, the Department included these conditions to better insure compliance with the conditions of this permit. Permittees will better assure compliance and minimize noncompliance by ensuring that the emission units are well maintained and pollution control equipment, if used, functions properly. This is an extension of Good Air Pollution Control Practices, condition 27.

**Condition 22 – Relocation and Reporting Site Selection**

**Applicability:** This relocation condition applies to all Asphalts Plants because Alaska Statute (AS) 46.14.210 authorizes the Department to issue a General Permit that is applicable to more than one stationary source similar in emission unit structure. The permit also contains siting requirements that limit the Asphalt Plant from operating within specified distances to occupied structures, and has monitoring requirements based upon startups at new locations.

This site selection condition applies to all Asphalts Plants because 18 AAC 50.110 prohibits pollution that is injurious to human health or welfare, animal or plant life or property, or which would unreasonably interferes with the enjoyment of life or property. This condition applies unless a stricter condition exists in this permit, State Statutes, or Federal Guidelines.

**Factual Basis:** Because of public complaints, the Department conducted air dispersion modeling to predict the impacts of Asphalt Plants on ambient air. Sources modeled were the stack emissions and fugitive dust emissions modeled as volume sources. Sources modeled were the stack emissions (as horizontal or vertical point sources), and fugitive dust emissions, modeled as volume sources. See Attachment 2 for a description of modeling performed. The new locations must comply with the distance requirements in conditions 18.1 – 18.2, give adequate consideration to the siting issues described in condition 18.3, comply with Coastal District Plan Designated Area Enforceable Policies in condition 23, and provide a dust control plan per condition 28.2 if within one mile of the nearest off site inhabited structure.

This location requirement is based on the best information available to the Department. It does not guarantee that an operation cannot violate ambient standards or cause violations against the prohibition of air pollution if the equipment is not properly run, or fugitive emissions are not controlled. Therefore, the condition also advises the Permittee that if the operation results in complaints, the complaints will be investigated. The condition lists some of the possible outcomes of the investigation.

### **Condition 23 – Alaska Coastal Management Program (ACMP)**

**Applicability:** This condition applies to all Asphalt Plants because AS 46.14.120(d) requires permits comply with all applicable federal, state, and local requirements. The ACMP District Enforceable Policies are state requirements. The authority for ACMP is in 11 AAC 110, 11 AAC 112, and 11 AAC 114.

**Factual Basis:** The Department followed protocol for ACMP reviews and received one comment. This condition requires the Permittee to comply with local coastal policies and to report compliance with any policies that affect the stationary source. This condition only applies to stationary sources that are operating within an Alaska Coastal District. Conditions 22 and 45 address the reporting for this condition 23.

The milestones for the ACMP review are listed below.

On April 25 through May 5, 2008, the Department conducted a 10-day ACMP project scope request to solicit applicable enforceable policies from all Coastal District Coordinators in Alaska with enforceable policies for ACMP Consistency Review.

On May 5, 2008, the Department received responses from two coastal districts: the Aleutians West Coastal District and the City of Bethel. The Title-I Supervisor sent these to the Department's Deputy Commissioner on the same day.

On May 6, 2008, the Deputy Commissioner determined that the scope of the project potentially includes activities subject to the following local district enforceable policies: Bethel (CD-1 and CA-1); and Aleutians West CRSA (D, G-1, H (including H-1 and H-2), I (including I-1 and I-2)).

On June 9 through July 8, 2008, the Department conducted a 30-day ACMP public comment review for ACMP Consistency Review Packet (simultaneously with the public comment period for the minor permit under 18 AAC 50.542(d)).

On July 8, 2008, the Department received comments from Karol Kolehmainen, Program Director for Aleutians West Coastal Resource Service Area (AWCRSA)

Board of Directors. The Department's responses to these comments are in the Response to Comments document.

On July 18, 2008, the Department issued a proposed consistency determination.

On July 24, 2008, the Department issued the final ACMP consistency determination.

#### **Conditions 24 - Administration Fees**

**Applicability:** This condition requires the Permittee, owner, or operator to pay administration fees as set out in regulation. Paying administration fees is required as part of obtaining and holding a permit with the department or as a fee for a department action.

**Factual Basis:** The owner or operator of a stationary source who is required to apply for a permit under AS 46.14.130 shall pay to the department all assessed permit administration fees. The regulations in 18 AAC 50.400-405 specify the amount, payment period, and the frequency of fees applicable to a permit action.

#### **Conditions 25 and 26 - Emission Fees**

**Applicability:** The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions. This is Standard Permit Condition I under 18 AAC 50.346(b)(1), adopted into regulation pursuant to AS 46.14.010(e).

**Factual Basis:** These standard conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air pollutant authorized by the permit (AS 46.14.250(h)(1)(A)). Air pollutant means any regulated air pollutant and any hazardous air pollutant. Therefore, assessable emissions under AS 46.14.250(h)(1)(A) means the **potential** to emit any air pollutant identified in the permit, including those not specifically limited by the permit. For example, hydrogen chloride (HCl) emissions from an incinerator are assessable emissions because they are a hazardous air pollutant, even if there is currently no emission limit on HCl for that class of incinerator.

The conditions also describe how the Permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air pollutant. Therefore, fees based on actual emissions must also be paid on any pollutant emitted whether or not the permit contains any limitation of that pollutant.

This standard condition specifies that, unless otherwise approved by the department, calculations of assessable emission based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emission are based on the previous year, the department will **not** give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match. The Permittee will normally pay for actual emissions - just with a one-year time lag.

Projected actual emissions may differ from the previous year's actual emissions if there is a change at the stationary source, such as changes in equipment or an emission rate from existing equipment.

The emission factors in the Asphalt Plant Emission Calculation Guide are taken from US EPA publication AP-42 *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition* as adopted by reference in 18 AAC 50.035.

The Permittee may use other emission factors as outlined in Asphalt Plant Emission Calculation Guide and Standard Permit Condition I provided those emission factors have been approved by the Department.

If the Permittee does not choose to annually calculate assessable emissions, emissions fees will be based on “potential to emit” (PTE).

The PTE set forth in the condition is based on liquid fuel with a sulfur content of 0.5 percent by weight or fuel gas with a sulfur content of 60 ppm H<sub>2</sub>S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content. The change in these values may result in SO<sub>2</sub> emissions that could trigger PSD.

The address to submit Emission Fee Estimates was changed from the Standard Permit Condition. This address was changed to reflect the processing center for Emission Fee Estimates.

#### **Condition 27 - Good Air Pollution Control Practices**

**Applicability:** This condition ensures compliance with the applicable requirements under 18 AAC 50.346(b)(5) *Standard Operating Permit Condition VI - Good Air Pollution Control Practices* and applies to all emission units, **except** those subject to federal emission standards. This condition replaces condition 33 in the prior GP3 but does not require the Permittee to submit a plan to the Department; the legal basis for condition 33 was based on 40 C.F.R. 60.11, which is not applicable for minor permits. Also, under 18 AAC 50.544(b)(2), for a minor permit classified under 18 AAC 502(b), the Department will include a condition requiring the owner to

- perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- keep records of any maintenance that would have a significant effect on emissions (the records may be kept in an electronic format); and
- keep a copy of either the manufacturer's or the operator's maintenance procedures.

**Factual basis:** The condition requires the Permittee to comply with good air pollution control practices for all emission units. The permit contains the provision exactly as required by regulation. This is the same as 18 AAC 50.346(b)(5) and requires that all permits issued by the State of Alaska contain the provisions of Standard Operating Permit Condition VI – Good Air Pollution Control Practices

unless more specific requirements adequately meet the requirements. In this case the Department has included in the permit more specific requirements as follows.

**Condition 27.2 - Facilities with a Baghouse**

**Applicability:** This condition expands the requirements under 18 AAC 50.346(b)(5) *Standard Operating Permit Condition VI - Good Air Pollution Control Practices* to provide a condition that more adequately meets the requirements under 18 AAC 50.346(b)(5) when the control device is a baghouse. This condition is the same monitoring as condition 18 of the prior GP3 general permit with added recordkeeping and reporting.

**Factual Basis:** The permit requires the Permittee to demonstrate compliance with the visible emissions and particulate matter standards in 18 AAC 50.055. Some Asphalt Plants may choose to control PM emission using a baghouse. This condition states the minimum frequencies for baghouse inspections, requires that the Permittee monitor the pressure drop across the baghouse, and baghouse outlet temperature, and maintain these parameters within limits recommended by the manufacturer.

After a run is completed, the baghouse temperature will drop through the range where acid gasses will condense. Corrosion will be minimized if the temperature passes through this range as quickly as possible. Therefore this requirement is to maintain fan operation per the manufacturer's recommendation until the baghouse has been purged. Reducing corrosion will lengthen the life of the baghouse and maintain the integrity of the fabric filter clamps and fasteners.

Ongoing monitoring of the parameters mentioned in this condition such as the pressure drop across the baghouse enables the operators to determine how the baghouse is functioning. For example, a baghouse differential pressure (DP) higher than the manufacturer's maximum recommended values may indicate that the cleaning system is not functioning adequately or a blocked hopper. A DP significantly lower than the manufacturer's specifications could indicate holes in the bags.

**Condition 27.3 - Facilities with a Wet Scrubber**

**Applicability:** This condition expands the requirements under 18 AAC 50.346(b)(5) *Standard Operating Permit Condition VI - Good Air Pollution Control Practices* to provide a condition that more adequately meets the requirements under 18 AAC 50.346(b)(5) when the control device used is a wet scrubber. This condition is the same monitoring as condition 19 of the prior GP3 general permit with added recordkeeping and reporting.

**Factual Basis:** The permit requires the Permittee to demonstrate compliance with the visible emissions and particulate matter standards in 18 AAC 50.055. Some Asphalt Plants may choose to control PM emission using a wet scrubber. This condition states the inspection requirements at the beginning of the operating season if the particulate matter control device is a scrubber.

The Permittee must maintain and operate the scrubber in accordance with the manufacturer's recommendations to include pressure drop, inlet and outlet water temperatures, water flow rate, and water pressure. These conditions are intended to

support compliance with opacity and particulate standards by encouraging proper scrubber maintenance and operation. Scrubber efficiency is related to proper operation.

### **Condition 28 – Reasonable Precautions to Prevent Fugitive Dust**

**Applicability:** This condition expands the requirements under 18 AAC 50.346(c) *Standard Operating Permit Condition X – Reasonable Precautions to Prevent Fugitive Dust* to provide a condition that more adequately meets these requirements given the significant sources of fugitive dust that may be generated by the Stationary Source. This condition applies to all Asphalt Plants.

**Factual Basis:** The condition requires the Permittee to comply with 18 AAC 50.045(d), and take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air. 18 AAC 50.045(d) requires an operator to take reasonable precautions to prevent fugitive dust when handling bulk materials. This condition lists examples of reasonable precautions.

This condition requires the Permittee to use reasonable precautions when handling, storing or transporting bulk materials or engineering in an industrial activity in accordance with the applicable requirement in 18 AAC 50.045(d). Bulk material handling requirements apply to the Permittee because the Permittee will engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the stationary source.

If the Asphalt Plant is to be located within one mile of a business, residence or other inhabited structure, the Permittee under this minor general permit must implement the plan under condition 28.2 or get the Department's approval to implement a different plan. The plan must be specific to any location named in the application.

The "one mile" distance requirement came from a circa-2003 dispersion modeling analysis conducted in support of the 2003 previous General Permit (GP3) for Asphalt Plants. Modeling predicted that during dry conditions, if precautions are not taken to control emissions from fugitive sources, the 24-hour PM-10 ambient air quality standard could be violated up to a mile away.

### **Conditions 29 and 30 - Air Pollution Prohibited**

**Applicability:** This condition ensures compliance with the applicable requirement in 18 AAC 50.110. The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. Air Pollution Prohibited requirements apply to the Asphalt Plant because activities at or associated with the stationary source may result in complaints from the public. The Department adopted this Standard Permit Condition II into 18 AAC 50.346(a) pursuant to AS 46.14.010(e).

**Factual Basis:** While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

Public complaints are normally an indication that a violation of 18 AAC 50.110 occurred. The Permittee is required to investigate and report any complaints. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the Department.

**Condition 31 - Requested Source Tests**

**Applicability:** Applies because this is a standard condition to be included in all permits.

**Factual Basis:** This condition ensures compliance with the applicable requirement in 18 AAC 50.220(a) and applies because this is a standard condition to be included in all operating permits under 18 AAC 50.345(k). Monitoring consists of conducting the requested source test.

**Conditions 32 – 34 - Operating Conditions, Reference Test Methods, Excess Air Requirements**

**Applicability:** These conditions apply because the Permittee is required to conduct source tests, and also ensures compliance with 18 AAC 50.220(b) – (c).

**Factual Basis:** These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with conditions 32 - 34 consist of the test reports required by condition 39.

**Condition 35 - Test Exemption**

**Applicability:** This condition ensures compliance with the applicable requirement in 18 AAC 50.345(a) and applies when the source exhaust is observed for visible emissions.

**Factual Basis:** As provided in 18 AAC 50.345(a), amended May 3, 2002, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

**Conditions 36 – 39 - Test Deadline Extension, Test Plans, Notifications, and Reports**

**Applicability:** These conditions ensure compliance with the applicable requirement in 18 AAC 50.345(l)-(o) and applies because the Permittee is required to conduct source test by this permit.

**Factual Basis:** Standard conditions 18 AAC 50.345(l) - (o) are incorporated through these conditions. These standard conditions supplement specific monitoring requirements stated elsewhere in this permit. The source test itself monitors compliance with these conditions.

**Condition 40 - Recordkeeping Requirements**

**Applicability:** Applies because the Permittee is required by the permit to keep records to demonstrate compliance with the terms and conditions of the permit and regulations.

**Factual Basis:** The condition restates the regulatory requirements for recordkeeping and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide an evidence of compliance with this requirement.

**Condition 41 - Information Requests**

**Applicability:** This condition requires the Permittee to submit requested information to the Department. This is a standard condition from 18 AAC 50.345(i) of the state approved operating permit program effective November 30, 2001.

**Factual Basis:** This condition requires the Permittee to submit information requested by the Department. Monitoring consists of receipt of the requested information.

**Condition 42 - Submittals**

**Applicability:** This condition requires the Permittee to comply with standardized reporting requirement in 18 AAC 50.326(j) and applies because the Permittee is required to send reports to the Department.

**Factual Basis:** This condition lists the Department's appropriate address for reports and written notices. Receipt of the submittal at the correct Department office is sufficient monitoring for this condition. This condition supplements the standard reporting and notification requirements of this permit.

**Condition 43 - Certification**

**Applicability:** This condition requires the Permittee to comply with the certification requirement in 18 AAC 50.205 and applies to all Permittees. This standard condition is required in all operating permits under 18 AAC 50.345(j).

**Factual Basis:** This condition requires the Permittee to certify all reports submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be **certified** with the stationary source report, even though it must still be **submitted** more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit.

**Condition 44 - Excess Emission and Permit Deviation Reports**

**Applicability:** This condition requires the Permittee to comply with the applicable requirement in 18 AAC 50.235(a)(2) and 18 AAC 50.240. The Department adopted this condition from Standard Permit Condition III under 18 AAC 50.346(b)(2) pursuant to AS 46.14.010(e). The Department copied **Section 10, ADEC Notification Form** Standard Permit Condition IV under 18 AAC 50.346(b)(3).

**Factual Basis:** This condition satisfies two State regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations,

the condition satisfies the requirements of each regulation. The Permittee is required to notify the Department when emissions or operations deviate from the requirements of the permit.

#### **Condition 45 - Operating Reports**

**Applicability:** This condition ensures compliance with the applicable requirement in 18 AAC 50.346(b)(6) and applies to all permits. The Department copied this condition from Standard Permit Condition VII. No format is specified.

**Factual Basis:** The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit. The reports themselves provide monitoring for compliance with this condition.

This condition allows the Permittee to submit one of the required two copies of the report electronically in lieu of paper. This meets the requirements of 18 AAC 50 and Department needs provided the electronic version is compatible with ADEC software, as the Department can more efficiently distribute the electronic copy to staff in other locations.

During the transition period from the previous 2003 GP9 General Permit (if applicable), the Permittee may provide one report accounting for each permit term or condition and the effective permit at that time. The Permittee may chose to provide two reports: the first report accounting for reporting elements of permit terms and conditions from the end date of the previous operating report until the date of expiration of the old permit, and a second operating report accounting for reporting elements of terms and conditions in effect from the effective date of the renewal permit until the end of the reporting period.

#### **Condition 46 - Nonroad Engines**

**Applicability:** Nonroad engines are not subject to the standards approved under the State Implementation Plan for the air pollution control for stationary sources. Furthermore, 18 AAC 50.100, states that the potential to emit from nonroad engines do not count towards classification of a stationary source or modification under AS 46.14.130.

**Factual Basis:** This condition requires the Permittee to keep records of location and specifications of nonroad engines at any location where they operate. A nonroad engine has the meaning given in 40 C.F.R. 89.2. An engine will not be considered a nonroad engine if it remains at or will remain at a location for more than 12 consecutive months. An engine used at a single specific location for 12 months or longer ceased to be a nonroad engine when it was placed in that location.

#### **Conditions 47 – 53 – Terms to Make Permit Enforceable**

**Applicability:** These are standard conditions required under 18 AAC 50.345(a) – (c)(2) and (d) – (h) for all minor permits.

**Factual Basis:** These are standard condition for compliance required for all minor permits.

## Attachment 1 Emission Reporting and Emission Fee Estimate

Submit the following information to the Department no later than March 31<sup>st</sup> of each year at:

ADEC Air Permits Program  
610 University Avenue  
Fairbanks, AK 99709-3643

Or

FAX to (907) 451-2187

Or

Email to: [DEC.AQ.Airreports@alaska.gov](mailto:DEC.AQ.Airreports@alaska.gov)  
*(If emailed, the report must be signed and certified in accordance with 18 AAC 50.345(j).)*

Or

Submit emissions online at the following website:  
<https://myalaska.state.ak.us/deca/air/airtoolsweb/>

Stationary Source Name \_\_\_\_\_

Permit Number \_\_\_\_\_ Date: \_\_\_\_\_

Emission Fee Estimate for \_\_\_\_\_  
(State fiscal year)

**Table 1 Total Emissions & Assessable Emission Fee Estimate**

Pollutant	Asphalt Plant	Diesel Generator	Assessable Emissions
NO <sub>x</sub>			
CO			
SO <sub>2</sub>			
PM-10			
VOC			

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.

\_\_\_\_\_  
Signature Printed Name Title

## **Attachment 2 Asphalt Plant Dispersion Modeling Summary**

### **Alaska Department of Environmental Conservation Dispersion Modeling Summary For Asphalt Plants**

Prepared by  
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This summary is to support the renewal of general air quality operating permits for Asphalt Plants. The Department specifically requests comment on the assumptions used to characterize these facilities, and on how we should use the information produced by the modeling analysis.

### **Background**

On May 1, 1998 the Department issued permits for transportable or stationary Asphalt Plants. The first round permits were issued under the authority of AS 46.14.215 which requires a demonstration that operations do not cause violations of ambient air quality standards or applicable increments. In support of that permit, the Department did air quality dispersion modeling using SCREEN3<sup>20</sup>.

During the life of that permit, the Department has received a substantial number of complaints about emissions from some of the Asphalt Plants using the General Permit. The complaints involve the potential for adverse impacts on human health and welfare.<sup>21</sup> The complaints were about dust and odors, and specifically questioned whether the Department has evaluated the effects of neighbors being on elevated terrain, and the operation of more than one industrial facility at the same location.

The modeling for the 1998 permits did not look at either elevated terrain or multiple industrial operations at one location. At that time, the Department also did not have a way to estimate emissions from any sources other than the stack emissions from aggregate dryers, drum mixers, or diesel engines used to provide electrical power. Therefore, several important sources of particulate matter were not part of the analysis.

The Department is issuing the renewal permits under the authority of AS 46.14.210, but not AS 46.14.215. However, because of public health concerns that arose during the life of the original permits, I have done additional dispersion modeling as provided by 18 AAC 50.201. This modeling serves as the basis for proposed permit conditions.

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<sup>20</sup> SCREEN3 AND ISCST3 are EPA computer models for predicting concentrations of pollutants in the air to which the public has access. They use data on weather and on the emission sources to make the calculations.

<sup>21</sup> It is important to note that most plants operating under the general permits did so without public complaints to the department.

### **Model and Methods Used**

For this modeling analysis I used ISCST3<sup>1</sup>. This allowed sources to be distributed over a three dimensional space. [SCREEN3 does not.] The modeling is intended to represent Asphalt Plants operating anywhere in the state. To make the modeling as representative as possible, I used emission rates and stack parameters from 28 Asphalt Plant source test reports. I estimated stack heights from photographs or visible emission inspection [Method 9] reports. Source test reports show operation at rates both above and below the standard of 0.04 gr/dscf. Emission rates for all stacks modeled were based on operation at that standard.

Fugitive particulate matter emissions were modeled as volume sources as this best approximates how they are released.

### **Meteorological Data**

The meteorological data set was a screening data set similar to the one used in SCREEN3. It was applied to ISCST3 by Pat Hanrahan of the State of Oregon Department of Environmental Quality. The model predicted one hour ambient concentrations. To get 24 hour concentrations, I multiplied the results by 0.4, and for three hour concentrations multiplied by 0.9. This is consistent with EPA guidelines.

### **Background Concentrations**

The background concentrations selected must be applied statewide. It would be far too unwieldy to develop separate conditions for each area of the state based on different background concentrations. I used the highest concentrations measured at Healy. The location of the Healy monitoring site intended to gather background concentrations, not to measure impacts from the Healy power plants. The background concentration were:

- SO<sub>2</sub> 24 hour – 26 µg/m<sup>3</sup>;
- SO<sub>2</sub> three hour – 44 µg/m<sup>3</sup>;
- PM-10 24 hour – 31 µg/m<sup>3</sup>.

### **Receptors**

Receptors were placed using a polar grid from a few meters from the center of the operation to a maximum of 2000 meters. Receptors were modeled assuming flat terrain, and terrain heights of 10, 15, and 20 meters.

### **Downwash**

Asphalt Plants have several structures that can cause downwash under some circumstances. The modeling used two structures common to any plant. The dryer or drum mixer was represented as a building 30 feet long and 12 feet high. Drum mix plants have a storage silo. Batch plants have a pug mill, and may also have a storage silo. To represent a silo or pug mill, I used a cylindrical structure 40 feet high and 14 feet in diameter.

Earlier modeling done before the public workshops held in January, 2003 relied on only one downwash structure – the drum mixer or dryer. A photograph the Department received of one Asphalt Plant in operation shows apparent downwash from larger

structures. Based on that information adding the silo was more realistic and produced changes in the modeling results.

**PM-10**

A recent EPA publication<sup>22</sup> provided estimates of fugitive emissions for:

- Dust from vehicle traffic, including dump trucks and loaders;
- Receiving new aggregate;
- RAP crushing;
- Screening;
- Load out; and
- For drum mix plants, silo filling.

I combined all modeled sources in three scenarios – high and low moisture for fugitive emissions, and assuming fugitive emissions from mobile sources was controlled well enough that emissions are negligible. Asphalt plant stack emissions were modeled at the NSPS emission limit of 0.04 gr/dscf for each scenario.

The estimated emissions from vehicle traffic, RAP crushing, and screening depend on whether there are emission controls, such as water sprays, and for vehicle traffic, whether the ground is wet or dry and dusty and the soil silt content. Emissions from these sources also depend on the production rates and other source specific factors. I used the emission factors and assumptions in the following table.

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<sup>22</sup> Hot Mix Asphalt Plant Emission Assessment Report, EPA-454/R-00-019, December, 2000.

<b>Table 1 Fugitive Particulate Matter Emission Factors and Assumptions</b>			
<b>Emission Source</b>	<b>PM-10 Emission Factor</b>	<b>Source of Emission Factor</b>	<b>Assumptions</b>
All Sources			12 hours of operation per day 150 tons of HMA per hour
Loaders	$E = 2.6 (s/12)^{0.8} \times (W/3)^{0.4} \times 1/(M/0.2)^{0.3}$ where s is ground silt content W is vehicle weight M is soil moisture E is pounds of PM-10 /vehicle mile traveled	AP-42 Table 13.2.2	Caterpillar 928g Loader 12 ¼ tons 3 yard bucket capacity 20 feet from aggregate pile to inlet hopper Soil Moisture - uncontrolled operation 0.7% <sup>4</sup> - controlled operation 20% 10% road silt <sup>23</sup>
Trucks	Same as loaders	Same as Loaders	10 ½ tons empty 12 ton capacity 200 meters from gravel source to dryer 50 meters to property boundary Soil Moisture - for uncontrolled operation - 0.7% <sup>4</sup> - no emissions when wet 10% road silt <sup>4</sup>
Screening	Controlled - 0.00084 Uncontrolled – 0.015 lb/ton	AP-42 11.19.2	
RAP Crushing	Controlled – 0.00059 Uncontrolled – 0.0024	AP-42 11.19.2	Factor for tertiary crushing <sup>4</sup>

**Results**

The model predicted ambient air quality standards violations for each terrain height. For each model run I found the distance from the center of the operation to the nearest receptor with predicted compliance with the ambient standards. For conclusions based on particulate matter emissions, I subtracted 50 meters, which was the distance from the center to the outer edge of the volume sources representing fugitive emissions.

<sup>23</sup> Hot Mix Asphalt Plant Emission Assessment Report, EPA-454/R-00-019, December, 2000, page 15

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The distances to compliance were much greater for the model runs with fugitive emission sources uncontrolled. Distances were 1400 - 1600 meters – about one mile.

[Modeling filenames: dwas00su, dwas30su]

For controlled fugitive sources, the model predicts ambient standards violations only at smaller distances from the operation (see Table 2 below). With the same assumptions, the model also predicts violations of PSD increments at distances closer than 800 feet for flat terrain, and 1100 feet for terrain that is elevated 15 meters above the ground level of the stationary equipment.

[Modeling filenames: dwas00mc, dwas20mc]

<b>Table 2 PM-10</b>	
	Distance to Compliance with ambient standard – all asphalt plants modeled comply at rated capacity [distance in meters, measured between an offsite inhabited structure and a stationary source or material piles or borrow source that is being actively worked.
<b>Worst Case</b> All sources – Fugitives uncontrolled, dry conditions 0 meters terrain height	1550 meters
<b>Best Case</b> Fugitive emissions negligible except for RAP crushing and load out emissions 0 meter terrain ht. 10 meter 15 meter 20 meter	26 49 64 84

**SO<sub>2</sub>**

All sulfur emissions are assumed for this modeling to originate from sulfur in the fuel. I used the actual fuel combustion rate during the source test from which I obtained the stack parameters, and assumed the sulfur content of the fuel was 0.5% sulfur (the ASTM specification for number 2 diesel or fuel oil.) I assumed the simultaneous use of a stationary 500 hp diesel engine.

SO<sub>2</sub> standards were predicted to violate the three hour ambient standard close to the facility. The greatest distance for any plant modeled (flat terrain) to a location where compliance with the standard was always predicted was 100 meters, or 110 yards from the combustion sources. [Combustion sources were modeled as point sources emitted at a single location.] Modeling for most other plants predicted distances to compliance between 50 and 100 yards.

[Modeling filename: soadas00]

### **Multiple Industrial Facilities at One Location**

I modeled the combined impacts of an asphalt plant and a crusher located 100 meters apart. I modeled all crusher sources using AP-42 emission factors for controlled sources, and an asphalt plant assuming that all fugitive emission sources except RAP crushing and load out emissions were controlled well enough to be negligible. Impacts did not exceed those when the same sources were modeled separately. Therefore no permit conditions are included in the proposed permit to address emissions from combined sources.

## **Conclusions and Recommendations**

Because the modeling that was performed relies on estimates of what is a “typical” facility, the conditions in the permit based on this modeling of the results are not as rigorous as would be done for modeling which more accurately represents an individual facility. A General Permit is necessary because of the nature of asphalt production operations in Alaska. Asphalt Plants may have to frequently relocate to be near enough to road or runway paving jobs. By the time a contract is awarded and a location identified, there is typically not enough time to obtain a facility specific permit and still be able to satisfy the contract.

Based on results for SO<sub>2</sub> the permit prohibits locating fuel burning equipment at an asphalt plant within 110 yards of a residence.

The worst case modeling for uncontrolled particulate matter sources predicts violations of the 24 hour ambient PM-10 standard up to a mile away. The permit condition to address this possibility relies on a fugitive dust control plan. It would not be possible to write conditions that adequately restrict emissions from all sources without being overly stringent in many cases.

Based on results for PSD increments, the permit allows up to two years of operation at a location that is closer than 800 feet to a residence or other occupied structure, or 1100 feet if the structure is on terrain higher than 10 meters above the ground level of the stationary equipment. Construction activities that are in one location for less than two years are considered temporary, and not subject to PSD increments.

## **Uncertainties**

Each of the assumptions described contributes uncertainty to the results of this analysis. Since there is no one set of assumptions that will fit all operations, the intent was to

describe a reasonable worst case—assumptions that would not unreasonably prevent the operation under this permit of asphalt plants that have been operating under the previous permit without problems or complaints.

Since the General Permits can be used anywhere in the state, there is no one set of meteorological data that would be appropriate for all operations. This is why I chose a “screening” data set that presents a wide variety of conditions to find the reasonable worst case one hour concentration. The predictions would be appropriate to the extent that these screening conditions fit any actual location for an extended number of hours, the wind direction is toward nearby structures such as businesses or residences, and operation occurs during these conditions for about 12 hours per day.

These uncertainties must be considered when applying the modeling results to any applicability criteria or permit conditions for the General Permit.

## **Odor**

The odor from asphalt plants is a common source of concern to nearby residents, especially those with special health problems. However, odor cannot be modeled, so it could not be included in this analysis.