DEQ
Montana Department
of Environmental Quality

June 12, 2015

Sam Weyers
Nelcon Inc.
P.O. Box 5370
Kalispell, MT 59903

Dear Mr. Weyers:

Montana Air Quality Permit #5133-00 is deemed final as of June 12, 2015, by the Department of Environmental Quality (Department). This permit is for a portable drum mix asphalt plant. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Julie A. Merkel
Air Permitting Supervisor
Air Quality Bureau
(406) 444-3626

John P. Proulx
Environmental Science Specialist
Air Quality Bureau
(406) 444-1277

JM:JP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

# Montana Air Quality Permit #5133-00

Nelcon Inc.
P.O. Box 5370
Kalispell, MT 59903

June 12, 2015

# MONTANA AIR QUALITY PERMIT

Issued To: Nelcon Inc.
P.O. Box 5370
Kalispell, MT 59903

MAQP: #5133-00
Application Complete: 4/20/2015
Preliminary Determination Issued: 4/23/2015
Department's Decision Issued: 5/27/2015
Permit Final: 6/12/2015
AFS #: 777-5133

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Nelcon Inc. (Nelcon) pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

## SECTION I: Permitted Facilities

### A. Permitted Equipment

Nelcon proposes to install and operate a portable drum mix-asphalt plant burning #2 Reclaimed Fuel Oil and associated equipment with up to 600 ton per hour (TPH) maximum production capacity, up to three diesel generator/engine sets with a maximum combined capacity of 1529 horsepower (hp), and associated equipment. A complete list of permitted equipment is contained in Section I.A of the permit analysis.

### B. Plant Location

The portable asphalt plant will initially be located at Section 36, Township 30 North Range 21 West, Flathead County, Montana. However, MAQP 5133-00 applies while operating at any location in Montana, except those areas having a Department of Environmental Quality (Department)-approved permitting program, areas considered tribal lands, or areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$) nonattainment areas. *A Missoula County air quality permit will be required for locations within Missoula County, Montana.*

Addendum #1 will apply to the Nelcon facility while operating at locations in or within 10 km of certain $PM_{10}$ nonattainment areas.

## SECTION II: Conditions and Limitations

### A. Emission Limitations

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) from the asphalt drum mix dryer exhaust (ARM 17.8.340, ARM 17.8.752, and 40 Code of Federal Regulations (CFR) 60, Subpart I).

2. A device to measure the pressure drop (magnehelic gauge, manometer, etc.) on the control device (baghouse) must be installed and maintained. Pressure drop must be measured in inches of water. Temperature indicators at the control device inlet and outlet must be installed and maintained (ARM 17.8.752).

3. Nelcon shall not cause or authorize to be discharged into the atmosphere from the asphalt plant stack emissions that exhibit 20% opacity or greater averaged over 6 consecutive minutes (ARM 17.8.304; ARM 17.8.340 and 40 CFR 60, Subpart I).

4. Nelcon shall not cause or authorize the use of any street, road or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).

5. Nelcon shall treat all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary, to maintain compliance with the reasonable precautions limitation in Section II.A.4 (ARM 17.8.749).

6. Asphalt production is limited to 1,260,000 tons during any rolling 12-month time period (ARM 17.8.1204).

7. Nelcon shall not operate or have on-site more than 3 diesel engine(s)/generator(s). The maximum combined capacity of the engine*(s)* that drives the generator*(s)* shall not exceed 1529 hp (ARM 17.8.749).

8. Hours of operation of the asphalt plant (including the diesel engine(s) driving the generator(s)) shall not exceed 2100 hours each during any rolling 12-month time period (ARM 17.8.1204).

9. If the permitted equipment is used in conjunction with any other equipment owned or operated by Nelcon, at the same site, production shall be limited to correspond with an emission level that does not exceed 250 tons during any rolling 12-month period. Any calculations used to establish production levels shall be approved by the Department (ARM 17.8.749).

10. Nelcon shall comply with all applicable standards and limitations, monitoring, reporting, recordkeeping, testing, and notification requirements contained in 40 CFR 60, Subpart I, *Standards of Performance for Hot Mix Asphalt Facilities* (ARM 17.8.340 and 40 CFR 60, Subpart I).

11. Nelcon shall comply with all applicable standards and limitations, and the reporting, recordkeeping, and notification requirements contained in 40 CFR 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63, Subpart ZZZZ, *National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, for any applicable diesel engine (ARM 17.8.340; 40 CFR 60, Subpart IIII; ARM 17.8.342 and 40 CFR 63, Subpart ZZZZ).

B. Testing Requirements

1. Within 60 days after achieving maximum production, but no later than 180 days after initial start-up, an Environmental Protection Agency (EPA) Methods 1-5 particulate matter source test must be performed on the asphalt plant baghouse exhaust to demonstrate compliance with the emission limitations contained in Section II.A.1. An EPA Method 9 opacity test shall be performed in conjunction

with all particulate tests to demonstrate compliance with the emission limitation contained in Section II.A.3. Testing shall continue on an every-four-year basis or according to another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105, ARM 17.8.340, ARM 17.8.749, and 40 CFR 60, Subpart I).

2. Since asphalt production will be limited to the average production rate during the compliance source test, it is suggested that the test be performed at the highest practical production rate (ARM 17.8.749).

3. Temperature and pressure drop across the drier baghouse must be recorded daily and kept on site according to Section II.C.4 (ARM 17.8.749).

4. Nelcon may retest at any time in order to test at a higher production rate (ARM 17.8.749).

5. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

6. The Department may require further testing (ARM 17.8.105).

C. Operational Reporting Requirements

1. If this portable asphalt plant is moved to another location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Nelcon shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but not be limited to, all sources of emissions identified in the emission inventory contained in the permit analysis.

   Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used for calculating operating fees, and/or to verify compliance with permit limitations (ARM 17.8.505).

3. Nelcon shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include ***the addition of a new emissions unit,*** change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation. The notice must be submitted to the Department, in writing, 10 days prior to startup or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(l)(d) (ARM 17.8.745).

4. Nelcon shall maintain on-site records showing daily hours of operation, daily production rates, and daily pressure drop and temperature readings for the last 12 months. The records compiled in accordance with this permit shall be maintained by Nelcon as a permanent business record for at least 5 years following the date of the measurement, must be available at the plant site for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

5. Nelcon shall document, by month, the asphalt production from the facility. By the 25th day of each month, Nelcon shall calculate the asphalt production for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.6. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

6. Nelcon shall document, by month, the hours of operation of the facility and each associated diesel generator. By the 25th day of each month, Nelcon shall total the hours of operation from each piece of equipment for the previous month. The monthly information will be used to demonstrate compliance with the rolling 12-month limitation in Section II.A.8. The information for each of the previous months shall be submitted along with the annual emission inventory (ARM 17.8.749).

7. Nelcon shall annually certify that its emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emissions inventory information (ARM 17.8.749 and ARM 17.8.1204).

D. Notification

1. Within 30 days of commencement of construction of any NSPS-affected equipment, Nelcon shall notify the Department of the date of commencement of construction of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).

2. Within 15 days of the actual start-up date of any NSPS-affected equipment, Nelcon shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.340 and 40 CFR 60, Subpart A and Subpart I).

3. Within 15 days of the actual start-up date of any non-NSPS-affected equipment, Nelcon shall submit written notification to the Department of the initial start-up date of the affected equipment (ARM 17.8.749).

SECTION III: Addendum

Nelcon shall comply with all conditions in Addendum #1 to MAQP #5133-00, as applicable (ARM 17.8.749).

SECTION IV: General Conditions

A. Inspection – Nelcon shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (continuous emissions monitoring system (CEMS) or continuous emissions rate monitoring system (CERMS)) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.

B. Waiver – The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Nelcon fails to appeal as indicated below.

C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Nelcon of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided for in ARM 17.8.740, *et seq*. (ARM 17.8.756)

D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq*., MCA.

E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefor, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.

F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by the Department at the location of the permitted source.

G. Air Quality Operation Fees – Pursuant to Section 75-2-220, MCA, failure to pay the annual operation fee by Nelcon may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

H. Duration of Permit – Construction or installation must begin or contractual obligations entered into that would constitute substantial loss within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall expire (ARM 17.8.762).

I. The Department may modify the conditions of this permit based on local conditions of any future site. These factors may include, but are not limited to, local terrain, meteorological conditions, proximity to residences, etc.

J. Nelcon shall comply with the conditions contained in this permit while operating in any location in Montana, except within those areas that have a Department-approved permitting program or areas considered tribal lands.

Montana Air Quality Permit (MAQP) Analysis
Nelcon Inc.
MAQP #5133-00

## I. Introduction/Process Description

Nelcon Inc. (Nelcon) owns and operates a portable drum mix-asphalt plant and associated equipment with up to 600 ton per hour (TPH) maximum asphalt production capacity, three diesel fired engines with a combined maximum capacity of 1,529 brake horsepower (bhp), and associated equipment.

### A. Permitted Equipment

The following list of permitted equipment is provided for reference, as portions of MAQP #5133-00 are written de minimis friendly, whereby operational flexibility is provided so that alternate equipment may be utilized as long as maximum permitted capacities are not exceeded. See Section II of the MAQP for specific equipment limitations and/or conditions. Equipment permitted under this action includes, but is not limited to the following:

- 2011 CAT XQ 1000 1371 bhp diesel-fired generator.
- 2011 CAT XQ 80, 120 bhp diesel-fired generator.
- 2011 Wacker G25 38 bhp diesel-fired generator
- 2015 Astec PCF-1014-5, 5 bin Cold Feed System
- 2015 Astec PSS-412-60, Portable Conveyer/Screen set
- 2015 Astec PDB-9638, Double Barrel Portable Drum Mixer with RFO Asphalt Cement heater
- 2015 Astec PEBG-77-21W Bag House
- 2015 Astec SEB-7530, Portable Drag Conveyor & Surge Bin
- 2015 Astec PRB-1014-2, Portable Recycle Feed System
- 2015 Astec PSS-48-50, Portable Conveyer/Screen set
- 2015 Astec DA-500, Portable Dry Additive System
- Asphalt Storage Soli and Load-out System Aggregate handling equipment, RAP Bin, etc.

### B. Source Description

For a typical operational set-up, aggregate material and recycled asphalt pavement (RAP) are taken from the on-site aggregate stockpiles and dumped via a front end loader into the cold aggregate feed bins. The cold aggregate is then transferred from the cold aggregate feed bins via conveyor to the rotary drum. The cold aggregate is dried and heated within the drum mixer. The plant is also set-up to utilize RAP material, which is feed directly into the drum via a designated RAP bin. Liquid asphalt cement is introduced into the aggregate within the drum mixer. The material is dried and heated within the drum mixer which is fired with No. 2 fuel oil. Exhaust from the dryer vents to the atmosphere through the primary baghouse.

After heating and mixing is completed, the asphalt product is transferred from the drum mixer to the asphalt product silo via a conveyor. The asphalt remains in the asphalt silo until it is loaded into trucks for transport to a given job location. A primary diesel-fired generator set powers the production equipment, while a secondary diesel-fired generator set is utilized for supplemental power for recirculation pumps in the asphalt oil heater during night, and for supplying power to the Quality Control Laboratory during operating hours.

Nelcon's initial location is the home pit located at Section 36 Township 30 North Range 21 West, in Flathead County, Montana.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including, but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.

3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq*., Montana Code Annotated (MCA).

   Nelcon shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.

5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for $PM_{10}$
11. ARM 17.8.230 Fluoride in Forage

Nelcon must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.

2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Nelcon shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.

3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this section

4. ARM 17.8.310 Particulate Matter, Industrial Processes. This rule requires that no person shall cause or authorize to be discharged into the atmosphere particulate matter in excess of the amount set forth in this section.

5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this section.

6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank tuck or trailer is equipped with a vapor loss control device as described in (1) of this rule.

7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). Based on the information submitted by Nelcon, the portable drum mix-asphalt plant and associated equipment are subject to NSPS (40 CFR 60) as follows;

   a. 40 CFR 60, Subpart A – General Provisions apply to all equipment or facilities subject to an NSPS Subpart as listed below:

   b. 40 CFR 60, Subpart I – Standards of Performance of Hot Mix Asphalt Facilities. In order for an asphalt plant to be subject to this subpart, the facility must meet the definition of an affected facility and, the affected equipment must have been constructed, reconstructed, or modified after August 31, 1983. Based on the information submitted by Nelcon, the asphalt plant equipment to be used under MAQP #5133-00 is subject to this subpart because the facility is a hot mix asphalt facility.

   c. 40 CFR 60, Subpart IIII - Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE). Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are manufactured after April 1, 2006, and are not fire pump engines, and owners and operators of stationary CI ICE that modify or reconstruct their stationary CI ICE after July 11, 2005, are subject to this subpart. Since the CI ICE to be used under MAQP #5133-00 are intended to be portable, Nelcon is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 60, Subpart IIII. However, this subpart would become applicable if Nelcon operated them at a single location for more than 12 months.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. This rule incorporates, by reference, 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories. Nelcon is considered a NESHAP-affected facility under 40 CFR Part 63 and is potentially subject to the requirements of the following subparts.

   a. 40 CFR 63, Subpart A – General Provisions apply to all equipment or facilities subject to a NESHAPs Subpart as listed below.

   b. 40 CFR 63, Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants (HAPs) for Stationary Reciprocating Internal Combustion Engines (RICE). An owner or operator of a stationary reciprocating internal combustion engine (RICE) at a major or area source of HAP emissions is subject to this rule except if the stationary RICE is being tested at a stationary RICE test cell/stand. An area source of HAP emissions is a

source that is not a major source. A RICE is considered stationary if it remains or will remain at the permitted location for more than 12 months, or a shorter period of time for an engine located at a seasonal source. A seasonal source remains at a single location on a permanent basis (at least 2 years) and operates 3 months or more each year. Nelcon is an area source of HAP emissions. Since the RICE to be used under MAQP #5133-00 are intended to be portable, Nelcon is not required to comply with the applicable emission limitations and operating limitations of 40 CFR 63, Subpart ZZZZ. However, this subpart would become applicable if Nelcon operated them at a single location for more than 12 months.

D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Nelcon submitted the appropriate permit application fee for the current permit action.

2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open burning permit, issued by the Department.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that pro-rate the required fee amount.

E. ARM 17.8, Subchapter 7 – Permit, Construction, and Operation of Air Contaminant Sources, including, but not limited to:

1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.

2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit modification to construct, modify, or use any asphalt plant, crusher or screen that has the potential to emit (PTE) greater than 15 tons per year of any pollutant. Nelcon has a PTE greater than 15 tons per year of oxides of nitrogen ($NO_X$) Particulate Matter (PM), $PM_{10}$, PM with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), Carbon Monoxide (CO), Sulfur Dioxide ($SO_2$), and volatile organic compounds (VOC); therefore, an MAQP is required.

3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.

4. ARM 17.8.745 Montana Air Quality Permits--Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.

5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, modification, or use of a source. Nelcon submitted the required permit application for the current permit action (7). This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Nelcon submitted an affidavit of publication of public notice for the April 7, 2015, issue of the *Daily Inter Lake*, a newspaper of general circulation in the Town of Kalispell in Flathead County, as proof of compliance with the public notice requirements.

6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.

8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.

9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Nelcon of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq*.

10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.760 Additional Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those applications that require an environmental impact statement.

12. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or modified source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.

13. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).

14. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.

15. ARM 17.8.765 Transfer of Permit. (1) This rule states that an MAQP may be transferred from one location to another if the Department receives a complete notice of intent to transfer location, the facility will operate in the new location for less than 1 year, the facility will comply with the FCAA and the Clean Air Act of Montana, and the facility complies with other applicable rules. (2) This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.

F. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:

1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.

2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

**This facility is not a major stationary source because it is not a listed source band the facility's PTE is less than 250 tons per year of any pollutant (excluding fugitive emissions).**

G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any stationary source having:

   a. PTE > 100 tons/year of any pollutant;

b. PTE > 10 tons/year of any one hazardous air pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

c. PTE > 70 tons/year of particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$) in a serious $PM_{10}$ nonattainment area.

d. This facility is subject to NSPS (A and I, potentially IIII).

e. This facility is potentially subject to NESHAP (A and ZZZZ).

2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. Nelcon requested federally-enforceable permit limitations to remain a minor source of emissions with respect to Title V. Based on these limitations; the Department determined that this facility is not subject to the Title V Operating Permit Program. However, in the event that the EPA makes minor sources that are subject to NSPS obtain a Title V Operating Permit; this source will be subject to the Title V Operating Permit Program.

   a. ARM 17.8.1204(3). The Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.

      i. In applying for an exemption under this section the owner or operator of the facility shall certify to the Department that the source's PTE does not require the source to obtain an air quality operating permit.

      ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness. The compliance certification submittal required by ARM 17.8.1204(3)(a) shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this subchapter shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

## III. BACT Determination

A BACT determination is required for each new or modified source. Nelcon shall install on the new or modified source the maximum air pollution control capability which is technologically practicable and economically feasible, except that BACT shall be utilized.

A. Asphalt Drum Mixer

The Department reviewed relevant control options, as well as previous BACT determinations. The following control options were reviewed by the Department in order to make the following BACT determinations:

- Fabric Filter Baghouse
- Electrostatic Precipitator
- Cyclone
- Wet Scrubber

All of the listed technologies are deemed technically feasible for this application. Technical feasible control options, in order the highest control efficiency to the lowest control efficiency base on PM control are as follows:

1. Fabric Filter Baghouse (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-025, 07/15/03)
2. Electrostatic Precipitator (99 – 99.9% efficient) (EPA Fact Sheet EPA-452/F-03-028, 07/15/03)
3. Cyclone (up to 99% efficient) (EPA Fact Sheet EPA-452/F-03-005, 07/15/03)
4. Wet Scrubber (70 – greater than 99% efficient) (EPA Fact Sheet EPA-452/F-03-0017, 07/15/03)

Nelcon has proposed to use a baghouse for the control of PM from the exhaust of the asphalt drum mixer. Because Nelcon proposes to use the highest rated control device (baghouse), no further economic analysis is needed. The control option selected has control technology and a control cost comparable to other recently permitted similar sources and is capable of achieving the appropriate emissions standards. Operating and maintaining a baghouse will constitute BACT for the asphalt drum mixer. All asphalt drum mixer emissions are limited to 0.04 grains per dry standard cubic foot (gr/dscf) for particulate and 20 percent opacity in accordance with 40 CFR 60, Subpart I. Nelcon shall install and operate a device to measure the pressure drop (magnehelic gauge, manometer, etc.) and temperature differential across the baghouse.

B. Diesel Generators

Due to the limited amount of emissions produced by the diesel-fired engines used in association with MAQP #5133-00 and the lack of cost effective add-on controls, such add-on controls would be cost prohibitive. Therefore, the Department determined that proper operation and maintenance with no add-on controls would constitute BACT for the diesel-fired engine.

In addition, any existing and new diesel-fired engine would likely be required to comply with the federal engine emission limitations including, EPA Tiered emission standards for non-road engines (40 CFR Parts 89 and 1039), NSPS emission limitations for stationary compression ignition engines (40 CFR 60, Subpart IIII), or National Emissions Standards for Hazardous Air Pollutant Sources for Reciprocating Internal Combustion Engines (40 CFR 63, Subpart ZZZZ). Therefore, the Department has determined that compliance with applicable federal standards and proper operation and maintenance of the engines constitutes BACT for this engine.

C. Fugitive Emissions

Nelcon must take reasonable precautions to limit the fugitive emissions of airborne particulate matter on haul roads, access roads, parking lots, and the general plant area. Reasonable precautions include treating all unpaved portions of the haul roads, access roads, parking lots, or the general plant area with water and/or chemical dust suppressant, as necessary. Using water and/or chemical dust suppressant to comply with the reasonable precautions limitation will be considered BACT.

The control options selected contain control equipment and control costs comparable to other recently permitted similar sources and are capable of achieving the appropriate emission standards.

## IV. Emission Inventory**

**Emission Inventory**

| | TPY | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Emission Source** | **PM** | **$PM_{10}$** | **$PM_{2.5}$** | **$NO_x$** | **CO** | **VOC** | **$SO_2$** | **$CO_2e$** | **Total HAPs** |
| Cold Aggregate Storage Piles | 2.08 | 0.98 | 0.15 | -- | -- | -- | -- | | |
| Cold Aggregate Handling/Conveyors | 1.89 | 0.69 | 0.01 | -- | -- | -- | -- | | |
| Cold Aggregate Screens | 1.39 | 0.47 | 0.03 | -- | -- | -- | -- | | |
| Diesel-Fired Asphalt Oil Heater | 0.00 | 0.00 | 0.00 | -- | 0.00 | -- | -- | | |
| 600 TPH Drum Mix Asphalt Plant Dryer | 36.50 | 24.36 | 17.32 | 34.65 | 81.90 | 20.16 | 36.54 | 20949 | 6.30 |
| Asphalt Product Silo Filling | 0.37 | 0.37 | 0.37 | -- | 0.74 | 7.68 | -- | 0.14 | |
| Plant Load-Out | 0.33 | 0.33 | 0.33 | -- | 0.85 | 2.46 | -- | 3.58 | |
| Lime Silo (PM routed to baghouse) | 0.00 | 0.00 | 0.00 | -- | -- | -- | -- | | |
| Haul Roads / Vehicle Traffic | 1.36 | 0.38 | 0.04 | -- | -- | -- | -- | | |
| 1499 hp Diesel Engine Main Generator | 3.46 | 3.46 | 3.46 | 48.79 | 10.51 | 3.96 | 3.23 | 1810 | |
| 0 hp Diesel Engine: Asphalt Oil Heater | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| **Total Emissions** | **47.38** | **31.04** | **21.71** | **83.44** | **94.01** | **34.26** | **39.77** | **22763** | **6.30** |

**Notes:**
1. All PM values include filterable and condensable fractions. Filterable fractions are based on NSPS limit of 0.04 gr/dscf. Condensable fractions are based on AP-42 data.
3. Inventory reflects enforceable limits on production or hours of operation to keep emissions below the Title V threshold of 100 tpy of any pollutant

Footnotes:
a.

** **CO = carbon monoxide**
HAPs = hazardous air pollutants
hp = horsepower
lb = pound
N/A = not applicable
ND = no data available
$NO_X$ = oxides of nitrogen
PM = particulate matter
$PM_{10}$ = particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$ = particulate matter with an aerodynamic diameter of 2.5 microns or less
$SO_2$ = sulfur dioxide
TPH = tons per hour
TPY = tons per year
VOC = volatile organic compounds
yr = year

Calculations:

**Cold Aggregate Storage Piles**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 2,100 hrs/yr
Number of Piles = 1 piles

**Filterable PM Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00331 lb/ton
Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00331 lb/ton) * (ton/2000 lb) * (1 piles) = 2.08 ton/yr

**Filterable $PM_{10}$ Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00156 lb/ton
Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Control Efficiency = % (Water or chemical spray)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (1 piles) = 0.98 ton/yr

Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00156 lb/ton) * (ton/2000 lb) * (1 piles) * (1 - /100) = 0.98 ton/yr

**Filterable $PM_{2.5}$ Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00024 lb/ton
Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00024 lb/ton) * (ton/2000 lb) * (1 piles) = 0.15 ton/yr

**Condensable $PM_{2.5}$ Emissions:**

Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00000 lb/ton
Where: k = particle size multiplier = 0 (non-combustion source; therefore, no CPM)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00000 lb/ton) * (ton/2000 lb) * (1 piles) = 0.00 ton/yr

**Conveyor Transfer Point (SCC 3-05-02006)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Process Rate = 2,100 hrs/yr
Number of Transfers = 1 transfer (Company Information, Excludes RAP transfers)

**Filterable PM Emissions:**
Emission Factor = 0.003 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.003 lb/ton) * (ton/2000 lb) * (1 transfer) = 1.89 ton/yr

**Filterable $PM_{10}$ Emissions:**
Emission Factor = 0.0011 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.0011 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.69 ton/yr

**Filterable $PM_{2.5}$ Emissions:**
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.000013 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.01 ton/yr

**Condensable $PM_{2.5}$ Emissions:**
Emission Factor = 0 lb/ton (non-combustion source; therefore, no CPM)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0 lb/ton) * (ton/2000 lb) * (1 transfer) = 0.00 ton/yr

**Fines Screening (SCC 3-05-020-21)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 2,100 hrs/yr
Number of Screens = 1 screen(s) (Company Information, Excludes RAP screen)

**Total PM Emissions:**
Emission Factor = 0.0022 lb/ton (0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.0022 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 1.39 ton/yr

**Total $PM_{10}$ Emissions:**
Emission Factor = 0.00074 lb/ton (0.0087 uncontrolled, 0.00074 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00074 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.47 ton/yr

**Total $PM_{2.5}$ Emissions:**
Emission Factor = 0.00005 lb/ton (0.000050 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00005 lb/ton) * (ton/2000 lb) * (1 screen(s)) = 0.03 ton/yr

**Hot Oil Heater**

Production Rate = 1.25 gal/hr (Company information)
Maximum Hours of Operation = 2,100 hrs/yr

**CO Emissions:**
Emission Factor = 0.0012 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)
Calculation: (2100 hrs/yr) * (1.25 gal/hr) * (0.0012 lb/gal) * (ton/2000 lb) = 0.00 ton/yr

**$CO_2$ Emissions:**
Emission Factor = 28 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)
Calculation: (2100 hrs/yr) * (1.25 gal/hr) * (28 lb/gal) * (ton/2000 lb) = 36.75 ton/yr

**Dryer, fabric filter (SCC 3-05-002-05, -55 to -63)**

Maximum Process Rate = 600 ton/hr (Application information)
Maximum Hours of Operation = 2,100 hrs/yr

**Filterable PM Emissions:**
*Based on Emission Limit*
Emission Factor = 0.04 gr/dscf (permit limit)
Calculation: (0.04 gr/dscf) * (67,441 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 23.12 lb/hr
Calculation: (23.12 lb/hr) * (2100 hrs/yr) * (0.0005 ton/lb) = 24.28 ton/yr

**Filterable $PM_{10}$ Emissions:**
*Based on Emission Limit*
Emission Factor = 0.02 gr/dscf (permit limit, assume 50% of TSP is PM10, Department policy)
Calculation: (0.02 gr/dscf) * (67,441 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 11.56 lb/hr
Calculation: (11.56 lb/hr) * (2100 hrs/yr) * (0.0005 ton/lb) = 12.14 ton/yr

**Filterable $PM_{2.5}$ Emissions:**
*Based on Emission Limit*
Emission Factor = 0.0084 gr/dscf (permit limit, assume 21% of TSP is PM2.5, AP 42, Table 11.1-4, 3/04)
Calculation: (0.0084 gr/dscf) * (67,441 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 4.86 lb/hr
Calculation: (4.86 lb/hr) * (2100 hrs/yr) * (0.0005 ton/lb) = 5.10 ton/yr

**Condensable $PM_{2.5}$ Emissions:**
Emission Factor = 0.0194 lb/ton (fabric filter, AP 42, Table 11.1-3, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.0194 lb/ton) * (ton/2000 lb) = 12.22 ton/yr

**CO Emissions:**
Emission Factor = 0.13 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.13 lb/ton) * (ton/2000 lb) = 81.90 ton/yr

**NOx Emissions:**
Emission Factor = 0.055 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.055 lb/ton) * (ton/2000 lb) = 34.65 ton/yr

**SO2 Emissions:**
Emission Factor = 0.058 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.058 lb/ton) * (ton/2000 lb) = 36.54 ton/yr

**TOC Emissions:**
Emission Factor = 0.044 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-8, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.044 lb/ton) * (ton/2000 lb) = 27.72 ton/yr

**$CH_4$ Emissions:**
Emission Factor = 0.012 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-8, 3/04)
Control Efficiency = 0%
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.012 lb/ton) * (ton/2000 lb) = 7.56 ton/yr
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.012 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 7.56 ton/yr
CO2e = 7.56 * 21 = 158.76 ton/yr

**VOC Emissions:**
Emission Factor = 0.032 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-8, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.032 lb/ton) * (ton/2000 lb) = 20.16 ton/yr

**Total HAPs Emissions:**
Emission Factor = 0.01 lb/ton (Waste oil-fired dryer with fabric filter, AP 42, Table 11.1-10, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.01 lb/ton) * (ton/2000 lb) = 6.30 ton/yr

**$CO_2$ Emissions:**
Emission Factor = 33 lb/ton (Waste oil-fired dryer, AP 42, Table 11.1-7, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (33 lb/ton) * (ton/2000 lb) = 20,790.00 ton/yr

**Silo Filling (SCC 3-05-002-13)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 2,100 hrs/yr

**Filterable $PM_{2.5}$ Emissions:**
Assume all PM is CPM, AP 42, Table 11.1-14, footnote b, 3/04.

**Condensable $PM_{2.5}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.000332 + 0.00105(-V)e^((0.0251)(T + 460) - 20.43) = 0.00059 lb/ton (Total PM, AP-42, Table 11.1-14, footnote b, 3/04)
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Control Efficiency = 0%
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00059 lb/ton) * (ton/2000 lb) = 0.37 ton/yr
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00059 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.37 ton/yr

**VOC Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0504(-V)e^((0.0251)(T + 460) - 20.43) = 0.01219 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.01219 lb/ton) * (ton/2000 lb) = 7.68 ton/yr

**CO Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00488(-V)e^((0.0251)(T + 460) - 20.43) = 0.00118 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00118 lb/ton) * (ton/2000 lb) = 0.74 ton/yr

**$CH_4$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 0.26% = 0.00001 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Control Efficiency = 0%
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00001 lb/ton) * (ton/2000 lb) = 0.01 ton/yr
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00001 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.01 ton/yr
CO2e = 0.01 * 21 = 0.14 ton/yr

**Plant Load-Out (SCC 3-05-002-14)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate)
Maximum Hours of Operation = 2,100 hrs/yr

**Filterable $PM_{2.5}$ Emissions:**
Assume all PM is CPM, AP 42, Table 11.1-14, footnote b, 3/04.

**Condensable $PM_{2.5}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.000181 + 0.00141(-V)e^((0.0251)(T + 460) - 20.43) = 0.00052 lb/ton (Total PM, AP-42, Table 11.1-14, footnote b, 3/04)
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00052 lb/ton) * (ton/2000 lb) = 0.33 ton/yr

**VOC Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 94% = 0.00391 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00391 lb/ton) * (ton/2000 lb) = 2.46 ton/yr

**$CH_4$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 6.5% = 0.00027 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Control Efficiency = 0%
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00027 lb/ton) * (ton/2000 lb) = 0.17 ton/yr
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00027 lb/ton) * (ton/2000 lb) * (1 - 0/100) = 0.17 ton/yr
CO2e = 0.17 * 21 = 3.58 ton/yr

**CO Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00558(-V)e^((0.0251)(T + 460) - 20.43) = 0.00135 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Calculation: (600 ton/hr) * (2100 hrs/yr) * (0.00135 lb/ton) * (ton/2000 lb) = 0.85 ton/yr

**Lime Silo**

Flow Capacity = 8 cfm (silo emissions routed to primary baghouse)
Maximum Hours of Operation = 2,100 hrs/yr

**Filterable PM Emissions:**
Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)
Control Efficiency = 0%
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.04 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) = 0.00 ton/yr
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.04 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) * (1 - 0/100) = 0.00 ton/yr

**Filterable $PM_{10}$ Emissions:**
Emission Factor = 0.02 gr/dscf (Department Policy)
Control Efficiency = 0%
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.02 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) = 0.00 ton/yr
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.02 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) * (1 - 0/100) = 0.00 ton/yr

**Filterable $PM_{2.5}$ Emissions:**
Emission Factor = 0.012 gr/dscf (Assume PM2.5 = 30% of PM, AP-42, Appendix B-2, Category 4)
Control Efficiency = 0%
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.012 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) = 0.00 ton/yr
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0.012 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) * (1 - 0/100) = 0.00 ton/yr

**Condensable $PM_{2.5}$ Emissions:**
Emission Factor = 0 gr/dscf (non-combustion source; therefore, no CPM)
Control Efficiency = 0%
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) = 0.00 ton/yr
Calculation: (8.36 cfm) * (2100 hrs/yr) * (0 gr/dscf) * (lb/7000 gr) * (ton/2000 lb) * (60 min/hr) * (1 - 0/100) = 0.00 ton/yr

**Haul Roads**
Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr
Hours of Operation = 2,100 hrs/yr

**PM Emissions:**
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)
Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) = 2.73 tons/yr (Uncontrolled Emissions)
Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (12.46 lb/VMT) * (ton/2000 lb) * (1-50/100) = 1.36 tons/yr (Apply 50% control efficiency)

**$PM_{10}$ Emissions:**
Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT
Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)
Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) = 0.75 tons/yr (Uncontrolled Emissions)

Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (3.43 lb/VMT) * (ton/2000 lb) * (1-50/100) = 0.38 tons/yr (Apply 50% control efficiency)

**$PM_{2.5}$ Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 lb/VMT
Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)
Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) = 0.08 tons/yr (Uncontrolled Emissions)
Calculation: (2100 hrs/yr) * (0.21 VMT/hr) * (0.34 lb/VMT) * (ton/2000 lb) * (1-50/100) = 0.04 tons/yr (Apply 50% control efficiency)

**Diesel Engine Generator**

Note: Emissions are based on the power output of the engine (1523 hp).
Operational Capacity of Engine = 1,523 hp
Hours of Operation = 2,100 hours

**Total $PM/PM_{10}/PM_{2.5}$ Emissions:**

Emission Factor = 0.0022 lbs/hp-hr (All PM < 1 mm, AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (0.0022 lbs/hp-hr) * (ton/2000 lb) = 3.52 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (0.0022 lbs/hp-hr) = 7,036.26 lbs/yr

**NOx Emissions:**

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (0.031 lbs/hp-hr) * (ton/2000 lb) = 49.57 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (0.031 lbs/hp-hr) = 99,147.30 lbs/yr

**CO Emissions:**

Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (0.00668 lbs/hp-hr) * (ton/2000 lb) = 10.68 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (0.00668 lbs/hp-hr) = 21,364.64 lbs/yr

**VOC Emissions:**

Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (0.0025141 lbs/hp-hr) * (ton/2000 lb) = 4.02 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (0.0025141 lbs/hp-hr) = 8,040.85 lbs/yr

**SOx Emissions:**

Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (0.00205 lbs/hp-hr) * (ton/2000 lb) = 3.278 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (0.00205 lbs/hp-hr) = 6,556.52 lbs/yr

**$CO_2$ Emissions:**

Emission Factor = 1.15 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)
Calculation: (2,100 hours) * (1,523 hp) * (1.15 lbs/hp-hr) * (ton/2000 lb) = 1,839.02 ton/yr
Calculation: (2,100 hours) * (1,523 hp) * (1.15 lbs/hp-hr) = 3,678,045.00 lbs/yr

V. Existing Air Quality

MAQP #5133-00 covers operation of this portable drum mix asphalt plant while operating in areas within Montana that are classified as being in attainment with federal ambient air quality standards and areas not yet classified, excluding counties that have a Department-approved permitting program and areas that are tribal lands. This permit contains conditions and limitations that would protect air quality for the site and surrounding area, and that would limit the facility's emissions below the major source threshold.

MAQP #5133-00 and Addendum #1 apply to this facility while it is located at sites in or within 10 kilometers (km) of certain $PM_{10}$ nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would be expected to operate on an intermittent and temporary basis and any effects on air quality would be expected to be minor and short-lived.

VI. Air Quality Impacts

This permit contains conditions and limitations that would protect air quality for the site and surrounding area. Furthermore, this facility is a portable source that would operate on an intermittent and temporary basis, so any effects to air quality will be minor and of limited duration.

VII. Ambient Air Impact Analysis

Based on the information provided and the conditions established in MAQP #5133-00 and Addendum #1, the Department determined that the impact from this permitting action will be minor. Based on the information provided, the amount of controlled emissions generated by this facility will not be expected to exceed any ambient air quality standard.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

| YES | NO | |
|---|---|---|
| X | | 1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights? |
| | X | 3. Does the action result in either a permanent or indefinite physical occupation of private prope<br>4. rty? |
| | X | 3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property) |
| | X | 4. Does the action deprive the owner of all economically viable uses of the property? |
| | X | 5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)]. |
| | | 5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests? |
| | | 5b. Is the government requirement roughly proportional to the impact of the proposed use of the property? |
| | X | 6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action) |
| | X | 7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally? |
| | X | 7a. Is the impact of government action direct, peculiar, and significant? |
| | X | 7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded? |
| | X | 7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question? |
| | X | Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas) |

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

Analysis Prepared By: John P. Proulx
Date: April 14, 2015

Addendum #1
Nelcon Inc.
Montana Air Quality Permit (MAQP) #5133-00

An addendum to MAQP #5133-00 is issued to Nelcon Inc. (Nelcon), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq*., as amended, for the following:

## I. Permitted Equipment

Nelcon operates a portable drum mix-asphalt plant and associated equipment with up to 600 ton per hour (TPH) maximum asphalt production capacity, three diesel fired engines with a combined maximum capacity of 1,529 brake horsepower (bhp), and associated equipment.

## II. Seasonal and Site Restrictions

Addendum #1 applies to the Nelcon facility while operating at any location in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$) nonattainment areas. Additionally, seasonal and site restrictions apply to the facility as follows:

A. During the winter season (October 1 – March 31) and in accordance with Section III.A – The only location in or within 10 km of a $PM_{10}$ nonattainment area where Nelcon may operate is:

1. Kalispell home pit – Section 36, Township 30 North, Range 21 West; and
2. Any other site that may be approved, in writing, by the Department of Environmental Quality (Department).

B. During the summer season (April 1 – September 30) and in accordance with Section III.B – Nelcon may operation at any locations in or within 10 km of the Butte, Columbia Falls, Kalispell, Libby, Thompson Falls, and Whitefish $PM_{10}$ nonattainment areas.

C. Nelcon shall comply with the limitations and conditions contained in Addendum #1 to MAQP #5133-00 while operating in or within 10 km of any of the previously identified $PM_{10}$ nonattainment areas. Addendum #1 shall be valid until revoked or modified. The Department reserves the authority to modify Addendum #1 at any time based on local conditions of any future site. These conditions may include, but are not limited to, local terrain, meteorological conditions, proximity to residences or other businesses, etc.

## III. Limitations and Conditions

A. Operational Limitations and Conditions – **Winter Season** (October 1 – March 31)

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.752 and 40 Code of Federal Regulations (CFR) 60, Subpart I).

2. All visible emissions from the asphalt plant stack shall not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

3. Nelcon shall not cause or authorize to be discharged into the atmosphere from any equipment, such as systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

4. Nelcon shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant area, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

5. Nelcon shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant, as necessary to maintain compliance with the 10% opacity limitation contained in Section III.A.4 (ARM 17.8.749).

6. Hot-mix asphalt production shall not exceed 1800 tons during any rolling 24-hour time period (ARM 17.8.749).

7. Operation of the hot-mix asphalt plant, including the diesel-fired generator sets, shall not exceed 3 hours per day (ARM 17.8.749).

B. Operational Limitations and Conditions – **Summer Season** (April 1 – September 30)

1. Asphalt plant particulate matter emissions shall be limited to 0.04 grains per dry standard cubic feet (gr/dscf) (ARM 17.8.752 and 40 Code of Federal Regulations (CFR) 60, Subpart I).

2. All visible emissions from the asphalt plant stack shall not exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

3. Nelcon shall not cause or authorize to be discharged into the atmosphere from any equipment, such as systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler; systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

4. Nelcon shall not cause or authorize to be discharged into the atmosphere from haul roads, access roads, parking lots, or the general plant area, any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.749).

5. Nelcon shall treat all unpaved portions of the haul roads, access roads, parking lots, and general plant area with water and/or chemical dust suppressant, as necessary to maintain compliance with the 10% opacity limitation contained in Section III.A.4 (ARM 17.8.749).

6. Hot-mix asphalt production shall not exceed 13,200 tons during any rolling 24-hour time period (ARM 17.8.749).

C. Operational Reporting Requirements

1. If this asphalt plant is moved to another nonattainment location, an Intent to Transfer form must be sent to the Department and a Public Notice Form for Change of Location must be published in a newspaper of general circulation in the area to which the transfer is to be made, at least 15 days prior to the move. The proof of publication (affidavit) of the Public Notice Form for Change of Location must be submitted to the Department prior to the move. These forms are available from the Department (ARM 17.8.749 and ARM 17.8.765).

2. Production information for the sites covered by this addendum must be maintained for five years and submitted to the Department upon request. The information must include (ARM 17.8.749):

   a. Daily tons of asphalt production at each site. Nelcon shall document, by day, the total asphalt production. Nelcon shall sum the total asphalt production for the previous day to demonstrate compliance with the limitations in Sections III.A.6 and III.B.6.

   b. Daily hours of operation of the hot-mix asphalt plant and the diesel-fired generator set(s) at each site. Nelcon shall document, by day, the hours operated. Nelcon shall sum the total operating hours for the previous day to demonstrate compliance with the limitations in Section III.A.7.

   c. Daily hours of operation at each site.

   d. Daily hours of operation and the hp for each engine at each site.

   e. Daily tons of bulk material loaded at each site (production).

   f. Fugitive dust information consisting of the daily total miles driven on unpaved roads within the operating site for all plant vehicles.

Addendum #1 Analysis
Nelcon Inc.
Montana Air Quality Permit (MAQP) #5133-00

I. Permitted Equipment

Nelcon Inc. (Nelcon) owns and operates a portable rotary drum-mix asphalt plant and baghouse with a maximum rated design capacity of 600 tons per hour (TPH) of asphalt production, three diesel fired engines with a combined maximum capacity of 1,529 brake horsepower (bhp), and associated equipment.

II. Source Description

Nelcon proposes to use this asphalt plant in the production of hot-mix asphalt. For a typical operational set-up, aggregate materials are fed via conveyor to the drum mixer, where the aggregate is dried and heated. Subsequently, mineral filler and asphalt oil are introduced into the drum mixer. Mineral filler is delivered from a storage silo to the drum via an enclosed feed auger system. Particulate emissions from the mineral filler storage and feeder system, as well as drum mixer, are routed to a baghouse for control. The raw materials are introduced into the drum mixer and continuously mixed and heated by the drum mixer until desired properties are obtained.

After heating and mixing is complete, the asphalt product is transferred from the drum mixer to the asphalt product silo, where the asphalt remains until it is loaded into trucks for transport. The operation is powered through the use of on-site diesel-fired engine generators.

III. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the Administrative Rules of Montana (ARM) and are available, upon request, from the Montana Department of Environmental Quality (Department). Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:

A. ARM 17.8.749 Conditions for Issuance of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.

B. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. A source may not increase its emissions beyond those found in its permit unless the source applies for and receives another permit.

C. ARM 17.8.765 Transfer of Permit. An air quality permit may be transferred from one location to another if:

1. Written notice of Intent to Transfer location and proof of public notice are sent to the Department;

2. The source will operate in the new location for a period of less than 1 year; and

3. The source will not have any significant impact on any nonattainment area or any Class I area.

IV. Emission Inventory

| **CONTROLLED, Summer time** | **pounds/day** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Emission Source** | **PM** | **$PM_{10}$** | **$PM_{2.5}$** | **$NO_x$** | **CO** | **VOC** | **$SO_2$** | **$CO_2e$** | **Total HAPs** |
| Cold Aggregate Storage Piles | 43.63 | 20.63 | 3.12 | -- | -- | -- | -- | -- | -- |
| Cold Aggregate Handling/Conveyors | 1.85 | 0.61 | 0.17 | -- | -- | -- | -- | -- | -- |
| Cold Aggregate Screens | 0.02 | 0.01 | | -- | -- | -- | -- | | |
| RFO Asphalt Oil Heater | -- | -- | | -- | 0.03 | -- | -- | | |
| 600 TPH Drum Mix Asphalt Plant Dryer | 602.13 | 429.11 | 328.75 | 726.00 | 1716.00 | 422.40 | 145.20 | 435600 | 114.84 |
| Asphalt Product Silo Filling | 4.38 | 4.38 | 4.38 | -- | 15.58 | 160.86 | -- | -- | -- |
| Batch Mix Plant Load-Out | 4.50 | 4.50 | 4.50 | -- | 17.81 | 51.60 | -- | 21 | -- |
| Lime Silo (PM routed to baghouse) | 0.06 | 0.06 | | -- | -- | -- | -- | -- | -- |
| Haul Roads / Vehicle Traffic | 28.55 | 7.87 | 0.79 | -- | -- | -- | -- | -- | -- |
| 1523 hp Diesel Engine Main Generator | 73.71 | 73.71 | 73.71 | 1038.69 | 223.82 | 84.24 | 68.69 | 38532 | -- |
| 0 hp Diesel Engine: Asphalt Oil Heater | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | -- |
| **Total Emissions** | **758.8** | **540.9** | **415.4** | **1764.7** | **1973.2** | **719.1** | **213.9** | **474153.3** | **114.8** |

<547 lb/day

| **CONTROLLED, Winter time** | **pounds/day** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Emission Source** | **PM** | **$PM_{10}$** | **$PM_{2.5}$** | **$NO_x$** | **CO** | **VOC** | **$SO_2$** | **$CO_2e$** | **Total HAPs** |
| Cold Aggregate Storage Piles | 5.95 | 2.81 | 0.43 | -- | -- | -- | -- | -- | -- |
| Cold Aggregate Handling/Conveyors | 0.16 | 0.08 | 0.02 | -- | -- | -- | -- | -- | -- |
| Cold Aggregate Screens | 0.16 | 0.10 | | -- | -- | -- | -- | | |
| RFO Asphalt Oil Heater | -- | -- | | -- | 0.00 | -- | -- | | |
| 600 TPH Drum Mix Asphalt Plant Dryer | 82.11 | 58.51 | 44.83 | 99.00 | 234.00 | 57.60 | 19.80 | 59400 | 15.66 |
| Asphalt Product Silo Filling | 0.60 | 0.60 | 0.60 | -- | 2.12 | 21.94 | -- | | |
| Batch Mix Plant Load-Out | 0.33 | 0.33 | 0.33 | -- | 2.43 | 21.94 | -- | 3 | |
| Lime Silo (PM routed to baghouse) | 0.01 | 0.01 | | -- | -- | -- | -- | | |
| Haul Roads / Vehicle Traffic | 3.89 | 1.07 | 0.11 | -- | -- | -- | -- | | |
| 1523 hp Diesel Engine Main Generator | 10.05 | 10.05 | 10.05 | 141.64 | 30.52 | 11.49 | 9.37 | 5254 | |
| 0 hp Diesel Engine: Asphalt Oil Heater | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | |
| **Total Emissions** | **103.25** | **73.56** | **56.36** | **240.64** | **269.08** | **112.96** | **29.17** | **64657** | **15.66** |

<82 lb/day

Calculations:

**Cold Aggregate Storage Piles**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate, summer)
Maximum Process Rate = 600 ton/hr (Maximum plant process rate, winter)
Maximum Hours of Operation = 22 hrs/day (summer hours)
Maximum Hours of Operation = 3 hrs/day (winter hours)
Number of Piles = 1 piles

**Filterable PM Emissions:**
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00331 lb/ton
Where: k = particle size multiplier = 0.74 (Value for PM < 30 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00331 lb/ton) * (1 piles) = 43.63 lb/day (Summer hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00331 lb/ton) * (1 piles) = 5.95 lb/day (Winter hours)

**Filterable $PM_{10}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00156 lb/ton
Where: k = particle size multiplier = 0.35 (Value for PM < 10 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00156 lb/ton) * (1 piles) = 20.63 lb/day (Summer hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00156 lb/ton) * (1 piles) = 2.81 lb/day (Winter hours)

**Filterable $PM_{2.5}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Sec. 13.2.4.3, 11/06.
Emission Factor = k (0.0032) * (U/5)^1.3 * (M / 2)^-1.4 = 0.00024 lb/ton
Where: k = particle size multiplier = 0.053 (Value for PM < 2.5 microns per AP 42, Sec. 13.2.4.3, 11/06)
U = mean wind speed = 10 mph (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)
M = material moisture content = 3% (Estimate based on values provided in AP 42, Sec. 13.2.4.3, 11/06)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00024 lb/ton) * (1 piles) = 3.12 lb/day (Summer hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00024 lb/ton) * (1 piles) = 0.43 lb/day (Winter hours)

**Conveyor Transfer Point (SCC 3-05-02006)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate, summer)
Maximum Process Rate = 600 ton/hr (Maximum plant process rate, winter)
Maximum Hours of Operation = 22 hrs/day
Maximum Hours of Operation = 3 hrs/day
Number of Transfers = 1 transfer (Company Information, Excludes RAP transfers)

**Filterable PM Emissions:**
Emission Factor = 0.00014 lb/ton (0.0030 uncontrolled, 0.00014 controlled, AP 42, Table 11.19.2-2, 8/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00014 lb/ton) * (1 transfer) = 1.85 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00014 lb/ton) * (1 transfer) = 0.25 lb/day (Winter Hours)

**Filterable $PM_{10}$ Emissions:**
Emission Factor = 0.000046 lb/ton (0.00110 uncontrolled, 0.000046 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (22 hrs/day) * (0.000046 lb/ton) * (1 transfer) = 0.61 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (3 hrs/day) * (0.000046 lb/ton) * (1 transfer) = 0.08 lb/day (Winter Hours)

**Filterable $PM_{2.5}$ Emissions:**
Emission Factor = 0.000013 lb/ton (0.000013 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (22 hrs/day) * (0.000013 lb/ton) * (1 transfer) = 0.17 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (3 hrs/day) * (0.000013 lb/ton) * (1 transfer) = 0.02 lb/day (Winter Hours)

**Fines Screening (SCC 3-05-020-21)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate, summer)
Maximum Process Rate = 600 ton/hr (Maximum plant process rate, winter)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)
Number of Screens = 1 screen(s) (Company Information, Excludes RAP screen)

**Total PM Emissions:**
Emission Factor = 0.0036 lb/ton (0.30 uncontrolled, 0.0036 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (22 hrs/day) * (0.0036 lb/ton) * (1 screen(s)) = 0.02 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (3 hrs/day) * (0.0036 lb/ton) * (1 screen(s)) = 0.16 lb/day (Summer Hours)

**Total PM10 Emissions:**
Emission Factor = 0.0022 lb/ton (0.072 uncontrolled, 0.0022 controlled, AP 42, Table 11.19.2-2, 8/04)
Calculation: (600 ton/hr) * (22 hrs/day) * (0.0022 lb/ton) * (1 screen(s)) = 0.01 lb/day (Summer Hours)
Calculation: (600 ton/hr) * (3 hrs/day) * (0.0022 lb/ton) * (1 screen(s)) = 0.10 lb/day (Summer Hours)

**Hot Oil Heater**

Production Rate = 1.25 gal/hr (Company information)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)

**CO Emissions:**
Emission Factor = 0.0012 lb/gal (AP-42, Section 11.1, Table 11.1-13, No. 2 Fuel Oil, 3/04)
Calculation: (22 hrs/day) * (1.25 gal/hr) * (0.0012 lb/gal) = 0.03 lb/day (Summer Hours)
Calculation: (3 hrs/day) * (1.25 gal/hr) * (0.0012 lb/gal) = 0.00 lb/day (Winter Hours)

**Dryer, fabric filter (SCC 3-05-002-05, -55 to -63)**

Maximum Process Rate = 600 ton/hr (Application information)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)
Dry Standard Volumetric Flowrate: = 45,878 dscfm

**Filterable PM Emissions:**
*Based on Emission Limit*
Emission Factor = 0.04 gr/dscf (permit limit)
Calculation: (0.04 gr/dscf) * (45,878 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 15.73 lb/hr

| |
|---|
| Calculation: (15.73 lb/hr) * (22 hrs/day) = 346.05 lb/day (Summer Hours) |
| Calculation: (15.73 lb/hr) * (3 hrs/day) = 47.19 lb/day (Winter Hours) |
| |
| **Filterable $PM_{10}$ Emissions:**<br>*Based on Emission Limit*<br>Emission Factor = 0.02 gr/dscf (permit limit, assume 50% of TSP is PM10, Department policy)<br>Calculation: (0.02 gr/dscf) * (45,878 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 7.86 lb/hr |
| Calculation: (7.86 lb/hr) * (22 hrs/day) = 173.03 lb/day (Summer Hours) |
| Calculation: (7.86 lb/hr) * (3 hrs/day) = 23.59 lb/day (Winter Hours) |
| |
| **Filterable $PM_{2.5}$ Emissions:**<br>*Based on Emission Limit*<br>Emission Factor = 0.0084 gr/dscf (permit limit, assume 21% of TSP is PM2.5, AP 42, Table 11.1-4, 3/04)<br>Calculation: (0.0084 gr/dscf) * (45,878 dscfm) * (1 lb / 7000 gr) * (60 min/hr) = 3.30 lb/hr |
| Calculation: (3.30 lb/hr) * (22 hrs/day) = 72.67 lb/day (Summer Hours) |
| Calculation: (3.30 lb/hr) * (3 hrs/day) = 9.91 lb/day (Winter Hours) |
| |
| **Condensable $PM_{2.5}$ Emissions:**<br>Emission Factor = 0.0194 lb/ton (fabric filter, AP 42, Table 11.1-3, 3/04) |
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.0194 lb/ton) = 256.08 lb/day (Summer Hours)<br>Calculation: (600 ton/hr) * (3 hrs/day) * (0.0194 lb/ton) = 34.92 lb/day (Winter Hours) |
| **CO Emissions:**<br>Emission Factor = 0.13 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-7, 3/04) |
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.13 lb/ton) = 1,716.00 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.13 lb/ton) = 234.00 lb/day (Winter Hours) |
| **NOx Emissions:**<br>Emission Factor = 0.055 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-7, 3/04) |
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.055 lb/ton) = 726.00 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.055 lb/ton) = 99.00 lb/day (Winter Hours) |
| **SO2 Emissions:**<br>Emission Factor = 0.011 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-7, 3/04) |
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.011 lb/ton) * = 145.20 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.011 lb/ton) = 19.80 lb/day (Winter Hours) |
| **TOC Emissions:**<br>Emission Factor = 0.044 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-8, 3/04)<br>Calculation: (600 ton/hr) * (22 hrs/day) * (0.044 lb/ton) = 580.80 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.044 lb/ton) = 79.20 lb/day (Winter Hours) |
| **$CH_4$ Emissions:**<br>Emission Factor = 0.012 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-8, 3/04)<br>Control Efficiency = 0% |
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.012 lb/ton) = 158.40 lb/day (Summer Hours)<br>Calculation: (600 ton/hr) * (22 hrs/day) * (0.012 lb/ton) * (1 - 0/100) = 158.40 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.012 lb/ton) = 21.60 lb/day (Winter Hours)<br>Calculation: (600 ton/hr) * (3 hrs/day) * (0.012 lb/ton) * (1 - 0/100) = 21.60 lb/day (Winter Hours) |
| CO2e = 21.60 * 6 = 950.40 ton/yr [CO2e = CH4 * 6 (Summer Hours)]<br>CO2e = 950.40 * 6 = 129.60 ton/yr [CO2e = CH4 * 6 (Winter Hours)] |

**VOC Emissions:**
Emission Factor = 0.032 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-8, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.032 lb/ton) = 422.40 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.032 lb/ton) = 57.60 lb/day (Winter Hours)

**Total HAPs Emissions:**
Emission Factor = 0.0087 lb/ton (#2 fuel oil-fired dryer with fabric filter, AP 42, Table 11.1-10, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.0087 lb/ton) = 114.84 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.0087 lb/ton) = 15.66 lb/day (Winter Hours)

**$CO_2$ Emissions:**
Emission Factor = 33 lb/ton (#2 fuel oil-fired dryer, AP 42, Table 11.1-7, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (33 lb/ton) = 435,600.00 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (33 lb/ton) = 59,400.00 lb/day (Winter Hours)

**Silo Filling (SCC 3-05-002-13)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate, summer)
Maximum Process Rate = 600 ton/hr (Maximum plant process rate, winter)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)

**Filterable $PM_{2.5}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.000332 + 0.00105(-V)e^((0.0251)(T + 460) - 20.43) - 0.00025 = 0.00033 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00033 lb/ton) * = 4.38 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00033 lb/ton) * = 0.60 lb/day (Winter Hours)

**Condensable $PM_{2.5}$ Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00105(-V)e^((0.0251)(T + 460) - 20.43) = 0.00025 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.00025 lb/ton) = 3.35 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.00025 lb/ton) * = 0.46 lb/day (Winter Hours)

**VOC Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0504(-V)e^((0.0251)(T + 460) - 20.43) = 0.01219 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

Calculation: (600 ton/hr) * (22 hrs/day) * (0.01219 lb/ton) = 160.86 lb/day (Summer Hours)

Calculation: (600 ton/hr) * (3 hrs/day) * (0.01219 lb/ton) * = 21.94 lb/day (Winter Hours)

**CO Emissions:**
Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00488(-V)e^((0.0251)(T + 460) - 20.43) = 0.00118 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00118 lb/ton) = 15.58 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00118 lb/ton) * = 2.12 lb/day (Winter Hours) |

**Plant Load-Out (SCC 3-05-002-14)**

Maximum Process Rate = 600 ton/hr (Maximum plant process rate, summer)
Maximum Process Rate = 600 ton/hr (Maximum plant process rate, winter)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)

**Filterable $PM_{2.5}$ Emissions:**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.000181 + 0.00141(-V)e^((0.0251)(T + 460) - 20.43) - 0.00034 = 0.00018 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00018 lb/ton) = 2.39 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00018 lb/ton) = 0.33 lb/day (Winter Hours) |

**Condensable $PM_{2.5}$ Emissions:**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00141(-V)e^((0.0251)(T + 460) - 20.43) = 0.00034 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00034 lb/ton) = 4.50 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00034 lb/ton) = 0.61 lb/day (Winter Hours) |

**VOC Emissions:**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 94% = 0.00391 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00391 lb/ton) = 51.60 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00391 lb/ton) = 7.04 lb/day (Winter Hours) |

**$CH_4$ Emissions:**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.0172(-V)e^((0.0251)(T + 460) - 20.43) * 94% = 0.00027 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)
Control Efficiency = 0%

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00027 lb/ton) = 3.57 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00027 lb/ton) = 0.49 lb/day (Winter Hours) |
| CO2e = 0.49 * 6 = 21.41 lb/day CO2e = CH4 * 6 (Summer Hours) |
| CO2e = 21.41 * 6 = 2.92 lb/day CO2e = CH4 * 6 (Winter Hours) |

**CO Emissions:**

Predictive equation for emission factor provided per AP 42, Table 11.1-14, 3/04.
Emission Factor = 0.00558(-V)e^((0.0251)(T + 460) - 20.43) = 0.00135 lb/ton
Where: V = Asphalt volatility = -0.5 (Default value per AP 42, Table 11.1-14, 3/04)
T = HMA mix temperature = 325 F (Default value per AP 42, Table 11.1-14, 3/04)

| |
|---|
| Calculation: (600 ton/hr) * (22 hrs/day) * (0.00135 lb/ton) = 17.81 lb/day (Summer Hours) |
| Calculation: (600 ton/hr) * (3 hrs/day) * (0.00135 lb/ton) = 2.43 lb/day (Winter Hours) |

**Lime Silo**

Flow Capacity = 8 cfm (silo emissions routed to primary baghouse)
Maximum Hours of Operation = 22 hrs/day (Summer Hours)
Maximum Hours of Operation = 3 hrs/day (Winter Hours)

**Total PM Emissions:**
Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)
Control Efficiency = 0%

| |
|---|
| Calculation: (8.36 cfm) * (22 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) = 0.06 lb/day (Summer Hours)<br>Calculation: (8.36 cfm) * (22 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) * (1 - 0/100) = 0.06 lb/day (Summer Hours) |
| Calculation: (8.36 cfm) * (3 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) = 0.01 lb/day (Summer Hours)<br>Calculation: (8.36 cfm) * (3 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) * (1 - 0/100) = 0.01 lb/day (Summer Hours) |

**Total PM10 Emissions:**
Emission Factor = 0.04 gr/dscf (Permit limit per NSPS)
Control Efficiency = 0%

| |
|---|
| Calculation: (8.36 cfm) * (22 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) = 0.06 lb/day (Summer Hours)<br>Calculation: (8.36 cfm) * (22 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) * (1 - 0/100) = 0.06 lb/day (Summer Hours) |
| Calculation: (8.36 cfm) * (3 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) = 0.01 lb/day (Winter Hours)<br>Calculation: (8.36 cfm) * (3 hrs/day) * (0.04 gr/dscf) * (lb/7000 gr) * (60 min/hr) * (1 - 0/100) = 0.01 lb/day (Winter Hours) |

**Haul Roads**

Vehicle Miles Traveled (VMT) per Day = 5 VMT/day (Estimate)
VMT per hour = (5 VMT/day) * (day/24 hrs) = 0.21 VMT/hr
Hours of Operation = 22 hrs/day (Summer Hours)
Hours of Operation = 3 hrs/day (Winter Hours)

**PM Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 12.46 lb/VMT
Where: k = constant = 4.9 lbs/VMT (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.7 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM30/TSP, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)

| |
|---|
| Calculation: (22 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) = 57.11 lb/day (Uncontrolled Emissions, Summer Hours)<br>Calculation: (22 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) * (1-50/100) = 28.55 lb/day (50% control efficiency, Summer Hours) |
| Calculation: (3 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) = 7.79 lb/day (Uncontrolled Emissions, Winter Hours)<br>Calculation: (3 hrs/day) * (0.21 VMT/hr) * (12.46 lb/VMT) * (1-50/100) = 3.89 lb/day (50% control efficiency, Winter Hours) |

**$PM_{10}$ Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 3.43 lb/VMT
Where: k = constant = 1.5 lbs/VMT (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.9 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM10, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (22 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) = 15.74 lb/day (Uncontrolled Emissions, Summer Hours)
Calculation: (22 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) * (1-50/100) = 7.87 lb/day (50% control efficiency, Summer Hours)

Calculation: (3 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) = 2.15 lb/day (Uncontrolled Emissions, Winter Hours)
Calculation: (3 hrs/day) * (0.21 VMT/hr) * (3.43 lb/VMT) * (1-50/100) = 1.07 lb/day (50% control efficiency, Winter Hours)

**$PM_{2.5}$ Emissions:**

Predictive equation for emission factor for unpaved roads at industrial sites provided per AP 42, Ch. 13.2.2, 11/06.
Emission Factor = k * (s / 12)^a * (W / 3)^b = 0.34 lb/VMT
Where: k = constant = 0.15 lbs/VMT (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
s = surface silt content = 7.1 % (Mean value, sand/gravel processing, material storage area, AP 42, Table 13.2.2-1, 11/06)
W = mean vehicle weight = 54 tons (1994 average loaded/unloaded or a 40 ton truck)
a = constant = 0.9 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
b = constant = 0.45 (Value for PM2.5, AP 42, Table 13.2.2-2, 11/06)
Control Efficiency = 50% (Water spray or chemical dust suppressant)

Calculation: (22 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) = 1.57 lb/day (Uncontrolled Emissions, Summer Hours)
Calculation: (22 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) * (1-50/100) = 0.79 lb/day (50% control efficiency, Summer Hours)

Calculation: (3 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) = 0.21 lb/day (Uncontrolled Emissions, Winter Hours)
Calculation: (3 hrs/day) * (0.21 VMT/hr) * (0.34 lb/VMT) * (1-50/100) = 0.11 lb/day (50% control efficiency, Winter Hours)

**Diesel Engine Main Generator**

Note: Emissions are based on the power output of the engine (1523 hp).
Operational Capacity of Engine = 1,523 hp
Hours of Operation = 22.00 hrs/day (Summer Hours)
Hours of Operation = 3.00 hrs/day (Winter Hours)

**Total $PM/PM_{10}/PM_{2.5}$ Emissions:**

Emission Factor = 0.0022 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (22 hrs/day) * (1,523 hp) * (0.0022 lbs/hp-hr) = 73.71 lb/day (Summer Hours)

Calculation: (3 hrs/day) * (1,523 hp) * (0.0022 lbs/hp-hr) = 10.05 lb/day (Winter Hours)

**NOx Emissions:**

Emission Factor = 0.031 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96)

Calculation: (22 hrs/day) * (1,523 hp) * (0.031 lbs/hp-hr) = 1,038.69 lb/day (Summer Hours)

Calculation: (3 hrs/day) * (1,523 hp) * (0.031 lbs/hp-hr) = 141.64 lb/day (Winter Hours)

| |
|---|
| **CO Emissions:**<br>Emission Factor = 0.00668 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) |
| Calculation: (22 hrs/day) * (1,523 hp) * (0.00668 lbs/hp-hr) = 223.82 lb/day (Summer Hours) |
| Calculation: (3 hrs/day) * (1,523 hp) * (0.00668 lbs/hp-hr) = 30.52 lb/day (Winter Hours) |
| **VOC Emissions:**<br>Emission Factor = 0.0025141 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, TOC, Exhaust & Crankcase, 10/96) |
| Calculation: (22 hrs/day) * (1,523 hp) * (0.0025141 lbs/hp-hr) = 84.24 lb/day (Summer Hours) |
| Calculation: (3 hrs/day) * (1,523 hp) * (0.0025141 lbs/hp-hr) = 11.49 lb/day (Winter Hours) |
| **SOx Emissions:**<br>Emission Factor = 0.00205 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) |
| Calculation: (22 hrs/day) * (1,523 hp) * (0.00205 lbs/hp-hr) = 68.69 lb/day (Summer Hours) |
| Calculation: (3 hrs/day) * (1,523 hp) * (0.00205 lbs/hp-hr) = 9.37 lb/day (Winter Hours) |
| **$CO_2$ Emissions:**<br>Emission Factor = 1.15 lbs/hp-hr (AP-42, Sec. 3.3, Table 3.3-1, 10/96) |
| Calculation: (22 hrs/day) * (1,523 hp) * (1.15 lbs/hp-hr) = 38,531.90 lb/day (Summer Hours) |
| Calculation: (3 hrs/day) * (1,523 hp) * (1.15 lbs/hp-hr) = 5,254.35 lb/day (Winter Hours) |

V. Existing Air Quality

On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$). Due to exceedance of the national standards for $PM_{10}$, the cities of Kalispell (and the nearby Evergreen area), Columbia Falls, Butte, Whitefish, Libby, Missoula, and Thompson Falls were designated by EPA as nonattainment for $PM_{10}$. As a result of this designation, the EPA required the Department and the City-County Health Departments to submit $PM_{10}$ State Implementation Plans (SIP). The SIPs consisted of emission control plans that controlled fugitive dust emissions from roads, parking lots, construction, and demolition, since technical studies identified these sources to be the major contributors to $PM_{10}$ emissions.

MAQP #5133-00 and Addendum #1 are for a portable hot-mix asphalt plant that will potentially operate at sites in or within 10 kilometers (km) of certain $PM_{10}$ nonattainment areas. The more stringent operating conditions contained in the addendum will minimize any potential impact on the nonattainment areas and will protect the national ambient air quality standards. Also, this facility is a portable source that would operate on an intermittent and temporary basis and any effects on air quality will be minor and short-lived.

VI. Air Quality Impacts

MAQP #5133-00 and Addendum #1 will cover the operations of this portable hot-mix asphalt plant while operating at any location within Montana, excluding those counties that have a Department approved permitting program.

Addendum #1 will cover the operations of this portable hot-mix asphalt plant, while operating in or within 10 km of any nonattainment area.

VII. Taking or Damaging Analysis

As required by 2-10-101 through 105, MCA, the Department conducted a private property taking and damaging assessment (see Section VIII of the Permit Analysis for MAQP #5133-00) and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

**DEPARTMENT OF ENVIRONMENTAL QUALITY**
**Permitting and Compliance Division**
**Air Resources Management Bureau**
**P.O. Box 200901, Helena, MT 59620**
**(406) 444-3490**

# FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Nelcon Inc.
P.O. Box 5370
Kalispell, MT 59903

Montana Air Quality Permit number (MAQP): 5133-00

Preliminary Determination Issued: April 23, 2015
Department Decision Issued: May 27, 2015
Permit Final: June 12, 2015

1. Legal Description of Site: Nelcon Inc. (Nelcon) proposed to install and operate a portable drum mix asphalt plant which would be initially located in Section 30, Township 30 North, Range 21 West, in Flathead County, Montana, Montana Air Quality Permit (MAQP) #5133-00 would apply while operating at any location in Montana, except within those areas having a Department-approved permitting program, those areas considered to be tribal lands, or those areas in or within 10 kilometers (km) of certain particulate matter with an aerodynamic diameter of 10 microns or less ($PM_{10}$) nonattainment areas. Addendum #1 to this air quality permit applies to Nelcon if they locate in or within 10 km of certain $PM_{10}$ nonattainment areas. The initial plant location is within the Kalispell $PM_{10}$ nonattainment area; therefore, Addendum #1 would apply for operations there. A Missoula County air quality permit would be required for locations within Missoula County, Montana.

2. Description of Project: Nelcon would operate a portable drum mix asphalt plant and associated equipment with a 600 ton per hour (TPH) maximum production capacity and three diesel fired generators with a combined capacity of up to 1529 brake horsepower (bhp) at various locations throughout Montana.

3. Objectives of Project: the objective of this project would be to produce revenue for Nelcon through the sale and use of asphalt. The issuance of the permit would allow Nelcon to operate the permitted equipment at various locations throughout Montana, including the initial site location.

4. Alternatives Considered: In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Nelcon has demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.

5. A Listing of Mitigation, Stipulations, and Other Controls: A list of enforceable conditions, including a BACT analysis, would be included in MAQP #5133-00 and Addendum #1.

6. Regulatory Effects on Private Property: The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|---|---|---|---|---|---|---|
| A | Terrestrial and Aquatic Life and Habitats | | | X | | | Yes |
| B | Water Quality, Quantity, and Distribution | | | X | | | Yes |
| C | Geology and Soil Quality, Stability and Moisture | | | X | | | Yes |
| D | Vegetation Cover, Quantity, and Quality | | | X | | | Yes |
| E | Aesthetics | | | X | | | Yes |
| F | Air Quality | | | X | | | Yes |
| G | Unique Endangered, Fragile, or Limited Environmental Resources | | | | X | | Yes |
| H | Demands on Environmental Resource of Water, Air and Energy | | | X | | | Yes |
| I | Historical and Archaeological Sites | | | | X | | Yes |
| J | Cumulative and Secondary Impacts | | | X | | | Yes |

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

This permitting action would be expected to have a minor effect on terrestrial and aquatic life and habitats, as the proposed initial location is within an existing gravel pit. Furthermore, the air emissions would likely have only minor effects on terrestrial and aquatic life because facility emissions would be well dispersed in the area of the operations (see Section 7.F of this EA) and would have intermittent and seasonal operations. Therefore, only minor and temporary effects to terrestrial and aquatic life and habitat would be expected from the proposed project.

B. Water Quality, Quantity and Distribution

Water would be required for dust suppression on the surrounding roadways and the area of operation. Typical application of water spray for dust suppression typically results in the water being evaporated to the atmosphere shortly after its application. Due to evaporation, water's dust suppression effects are temporary. Heavy applications of water

can create soft mud or penetrate a road to the sub-base which can cause major road failure; therefore, heavy applications are typically not utilized. Consequently, several light applications are preferable to one heavy application. Pollutant deposition and water use would cause minor impacts to water resources because the facility is relatively small with seasonal and intermittent operations. The benefits of using water to control emissions outweigh the potential minor impacts to the surroundings.

C. Geology and Soil Quality, Stability and Moisture

The proposed project would have minor impacts on geology, soil quality, stability, and moisture of soils. Minor impacts from deposition of air pollutants on soils would result (as described in Section 7.F of this EA) and minor amounts of water would be used for pollution control and only as necessary in controlling particulate emissions. Thus, minimal water runoff would occur. Since a small amount of pollution would be generated and corresponding emissions would be widely dispersed before settling upon vegetation and surrounding soils (as described in Section 7.D of this EA), impacts would be minor. Therefore, any effects upon geology and soil quality, stability, and moisture from air pollutant emissions from equipment and operation would be minor.

D. Vegetation Cover, Quantity, and Quality

The facility would be considered a minor source of emissions by industrial standards and would typically operate in areas previously designated and used for this type of operation. The overall footprint of the facility would be small, so the affect to quantity and quality of vegetative cover in the area would be minimal. There are no occurrence reports of plant species of concern within sections located near the proposed project section.

In addition, water use at the facility, soil disturbance from water application, and the associated runoff would also be minimal. Overall, impacts to vegetation from the project would be minor.

E. Aesthetics

The asphalt plant would be visible and would create noise in the areas where it would operate. MAQP #5133-00 and Addendum #1 would include conditions to control emissions (including visible emissions) from the equipment and the surrounding work area. The diesel-fired equipment would be moderately sized by industrial standards and would be used to power permitted equipment operated by Nelcon.

F. Air Quality

Air quality impacts from the proposed project would be minor because the facility would be relatively small and comparable in nature to other similar sources permitted by the Department. MAQP #5133-00 and Addendum #1 would include conditions limiting the facility's opacity and particulate matter emissions. The permit would also limit total emissions from the portable asphalt plant and any additional equipment operated at the site to 250 tons per year or less of any individual pollutant, excluding fugitive emissions.

Further, the Department determined that the portable asphalt plant would be a minor source of emissions as defined under the Title V Operating Permit Program because the source's potential emissions are below the major source threshold level of 100 tons per year for any regulated pollutant due to federally enforceable permit conditions which limit the total annual hours of operation and annual asphalt production. Pollutant deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would have minimal deposition on the surrounding area. Therefore, air quality impacts from the project in this area would be minor. The applicant has indicated that the source would operate on an intermittent and seasonal basis; therefore, actual emissions may be lower than accounted for in the potential emissions calculations.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The Department, in an effort to assess any potential impacts to any unique endangered, fragile, or limited environmental resources in the initial proposed area of operation (Section 36, Township 30 North, Range 21 West in Flathead County, Montana), contacted the Natural Resource Information System – Montana Natural Heritage Program. Search results concluded there are six species of concern within the area, identified species include; the Great Blue Heron, Bald Eagle, Westslope Cutthroat Trout, Pygmy Whitefish, Bull Trout, Little Brown Myotis, and Hoary Bat. The search area, in this case, is defined by the section, township, and range of the proposed site, with an additional one (1) mile buffer. Based on the conclusion presented, the Department determined that no impact to unique endangered, fragile, or limited environmental resources would be expected from this permit action as the initial proposed site is within an existing gravel pit.

H. Demands on Environmental Resource of Water, Air and Energy

The portable asphalt plant would provide its own energy for operation from the portable diesel generator engine. Water would be required for control of fugitive particulate matter emissions in the plant area and surrounding roads. Impacts to air resources would be minimal because the source would be considered a minor industrial source of emissions, with intermittent and seasonal operations. Because air pollutants generated by the plant would be widely dispersed (see Section 8.F of this EA), energy requirements would be provided by a portable generator, and water use would be minimal, any impacts to water, air, and energy resources would be minor.

I. Historical and Archaeological Sites

The Department contacted the Montana Historical Society - State Historical Preservation Office (SHPO) in an effort to identify any historical and/or archaeological sites that may be present in the location of the facility. According to correspondence from the Montana State Historic Preservation Office, several previously recorded sites within the designated search areas. As this plant will likely operate in an existing industrial site there is low likelihood of disturbance to any known archaeological or historic site given previous industrial disturbance in the area. Therefore, it is unlikely that the asphalt plant would have an effect on any known historic or archaeological sites.

J. Cumulative and Secondary Impacts

The proposed project would cause minor cumulative and secondary impacts to the physical and biological aspects of the human environment. Emissions and noise generated from the equipment would, at most, result in only minor impacts to the area of operation because it would be seasonal and temporary in nature. Additionally, this facility, in combination with other emissions from equipment operations would not be permitted to exceed 250 tons per year of non-fugitive emissions of an individual pollutant. Overall, cumulative and secondary impacts to the physical and biological aspects of the human environment would be minor.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The "no-action" alternative was discussed previously.

| | | Major | Moderate | Minor | None | Unknown | Comments Included |
|---|---|---|---|---|---|---|---|
| A | Social Structures and Mores | | | | X | | Yes |
| B | Cultural Uniqueness and Diversity | | | | X | | Yes |
| C | Local and State Tax Base and Tax Revenue | | | X | | | Yes |
| D | Agricultural or Industrial Production | | | X | | | Yes |
| E | Human Health | | | X | | | Yes |
| F | Access to and Quality of Recreational and Wilderness Activities | | | | X | | Yes |
| G | Quantity and Distribution of Employment | | | | X | | Yes |
| H | Distribution of Population | | | | X | | Yes |
| I | Demands for Government Services | | | X | | | Yes |
| J | Industrial and Commercial Activity | | | X | | | Yes |
| K | Locally Adopted Environmental Plans and Goals | | | X | | | Yes |
| L | Cumulative and Secondary Impacts | | | X | | | Yes |

SUMMARY OF COMMENTS ON POTENTIAL ECONOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The portable asphalt plant would cause only minor disruption to the social structures and mores of the area because the source would be considered a minor industrial source and emissions and would have temporary and intermittent operations. The proposed initial location is within an existing industrial site with no existing social structures or mores. The Department has determined that no impact to the social structure and mores would be expected.

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of this area would not be impacted by the operation of the portable asphalt plant because the facility would be a portable source, with seasonal and intermittent operations. The predominant use of this area would not change as a result of the proposed operation. Therefore, the cultural uniqueness and diversity of the area would not be impacted.

C. Local and State Tax Base and Tax Revenue

Only minor impacts to the local and state tax base and revenue could be expected from the employees and facility production. Because the facility would be portable and temporary, it is unlikely that people would move to the area as a result of this project. Impacts to local tax base and revenue would be minor and short-term because the source would be portable and the money generated for taxes would be widespread.

D. Agricultural or Industrial Production

The proposed project would have a minor impact on local industrial production since the facility would increase local asphalt production and air emissions slightly. The facility would be located in an existing gravel pit on private land. Because minimal deposition of air pollutants would occur on the surrounding land (as described above in Section 7.F), only minor effects on the surrounding vegetation or agricultural production would occur. In addition, the facility operations would be small and temporary in nature and would be permitted with operational conditions and limitations that would minimize impacts upon surrounding vegetation, as described in Section 7.D above. Pollutant deposition from the project would be minimal because the emissions would be well controlled, widely dispersed (from factors such as wind speed and wind direction), and would have minimal deposition on the surrounding area.

E. Human Health

Conditions would be incorporated into MAQP #5133-00 and Addendum #1 to ensure that the asphalt plant would operate in compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health. As described in Section 7.F of this EA, the air emissions from this project would be minimized by the use of a baghouse, water spray for fugitive emissions, and other process limits that would be required by MAQP #5133-00 and Addendum #1. Furthermore, the applicant has stated that they plan to operate on an intermittent and seasonal basis and therefore only minor impacts would be expected on human health from the proposed facility.

F. Access to and Quality of Recreational and Wilderness Activities

Access to recreational opportunities would not be limited or modified by this facility. The equipment would be located within an existing industrial site that has been established for similar use. All recreational opportunities, if available in the area, would still be accessible. Noise from the facility would be minimal to surroundings because of the facility size, expected hours of operation, and rural location. The applicant has stated that the facility would operate on a seasonal and intermittent basis. The pit is on private land and the

Department has determined that the project would be a minor industrial source of emissions. Therefore, any changes in the quality of recreational and wilderness activities created by operating the equipment at this site are expected to be minor.

G. Quantity and Distribution of Employment

The portable asphalt plant would be relatively small. Nelcon has stated that they plan to add some new employees to run the proposed asphalt plant. Because the operation would be seasonal, no individuals would be expected to permanently relocate as a result of operating the portable asphalt plant. Therefore, there would be minor effects on the quantity and distribution of employment in this area.

H. Distribution of Population

The proposed project would be considered a portable industrial facility and would require few employees to operate. No individuals would be expected to permanently relocate to this area. Therefore, the operation would not impact the normal population distribution in the initial area of operation or any future operating site.

I. Demands for Government Services

The operation of the portable asphalt plant would cause minimal demand for government services. This project would result in an increase in traffic on existing roadways. Government services would be required for acquiring the appropriate permits for the proposed project and to verify compliance with the permits that would be issued. However, any increase or demand for government services would be minor given the temporary and portable nature of the project.

J. Industrial and Commercial Activity

The proposed project would represent only a minor increase in the industrial activity in the proposed area of operation because the facility would be a small industrial source, portable and temporary in nature. Some additional industrial or commercial activity would be expected as a result of the proposed operation; however, these impacts to the industrial and commercial activity would be minor.

K. Locally Adopted Environmental Plans and Goals

The Department is unaware of any locally adopted environmental plans and goals in the proposed initial project location. MAQP #5133-00 and Addendum #1 contain conditions and limits for protecting air quality and to keep facility emissions in compliance with any applicable ambient air quality standards. Because the facility would have intermittent and seasonal operations any impacts from the facility would be minor and short-lived.

L. Cumulative and Secondary Impacts

Overall, the proposed project would cause minor cumulative and secondary impacts to the social and economic aspects of the human environment in the immediate area of operation because the source would be portable and the footprint of the facility would remain relatively small. Furthermore, no other industrial operations are expected to result from this permitting action. Any increase in traffic would have minor effects on local traffic in the immediate area.

This facility may be operated in conjunction with other equipment owned and operated by Nelcon, but any cumulative impacts or secondary impacts are expected to be minor and short-term. In conclusion, the source is relatively small, the facility emissions would be minimal, and the project would have only minor cumulative and secondary impacts.

Recommendation: No Environmental Impact Statement (EIS) is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the construction and operation of a portable hot-mix asphalt plant; MAQP #5133-00 and Addendum #1 include conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Quality Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: John P. Proulx
Date: April 13, 2015