

TECHNICAL SUPPORT DOCUMENT
For
DRAFT AIR EMISSION PERMIT NO. 99000208-002

This technical support document (TSD) is intended for all parties interested in the draft permit and to meet the requirements that have been set forth by the federal and state regulations (40 CFR § 70.7(a)(5) and Minn. R. 7007.0850, subp. 1). The purpose of this document is to provide the legal and factual justification for each applicable requirement or policy decision considered in the preliminary determination to issue the draft permit.

1. General Information

1.1 Applicant and Stationary Source Location

Table 1. Applicant and Source Address

Applicant/Address	Stationary Source/Address (SIC Code: 1442)
Intex Corporation – Portable	Box 260 Albertville, MN 55301
Contact: Wade VanVooren	Phone: 763-428-8222

1.2 Facility Description

The Intex Corporation - Portable facility processes crushed stone and sand for use in various construction applications. The facility processes include crushing, screening, and transport of crushed stone and sand. Diesel generators are used to power the equipment. Emissions are primarily dust from the processing and hauling of the material, and combustion byproducts from the generators. Pollution control measures include monitoring of material moisture content and the addition of water sprays to reduce the occurrence of fugitive dust.

1.3 Description of the Activities Allowed by this Permit Action

This permitting action is a major amendment to allow additional equipment and increased production capacity, to revise permit language to establish procedures for equipment replacement, and to eliminate the requirement for computer dispersion as it has been completed.

This permitting action defines the term Crushing Spread, which is the group of units that are used for nonmetallic mineral processing (and subject to 40 CFR part 60, subpart OOO). The permit further limits the types and maximum quantities of each type of emission unit contained within a Crushing Spread, based on the results of the modeling.

This permitting action also corrects the annual throughput limits for the facility and increases the number of Crushing Spreads allowed; the original permit incorrectly limited the throughput and hours of operation of the facility by not having those limits apply separately to each spread.

Facility Emissions

Table2. Total Facility Potential to Emit (PTE) Summary (tpy)

	PM*	PM ₁₀ *	PM _{2.5} *	SO ₂	NO _x	CO	VOC	Single HAP	All HAPs
Total Facility Limited Potential Emissions	300/32	93/16	17/8.3	12.3	94.6	20.4	7.7	0.03	0.08
Total Facility Actual Emissions (2009)	14.8	7.67	7.67	1.47	22.4	4.82	1.83	HAPs not reported in emission inventory	

*Fugitive emissions included/excluded. Fugitive emissions are excluded from permitting thresholds for this facility per 40 CFR § 52.21(b)(1)(iii) and the definition of “major source” under 40 CFR § 70.2.

Table 3. Facility Classification

Classification	Major/Affected Source	Synthetic Minor	Minor
PSD		NO _x	PM, PM ₁₀ , SO ₂ , CO, VOC
Part 70 Permit Program		X	
Part 63 NESHAP			X

2. Regulatory and/or Statutory Basis

New Source Review (NSR) / Prevention of Significant Deterioration (PSD)

The facility has accepted throughput limits to avoid classification as a major source for purposes of NSR/PSD.

Part 70 Permit Program

The facility is a synthetic minor source under the Part 70 permit program.

New Source Performance Standards (NSPS)

The facility is subject to NSPS, Subpart OOO, Standards of Performance for Nonmetallic Mineral Processing Plants.

Although the facility has diesel generators, they are not subject to 40 CFR pt. 63, subp. ZZZZ because the generators are non-road (portable) engines and therefore, don't qualify as stationary engines under the NESHAP definition of 40 CFR Section 63.6675.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

There are no National Emission Standards for Hazardous Air Pollutants applicable to the operations at this facility.

Minnesota State Rules

Portions of the facility are subject to the following Minnesota Standards of Performance:

- Minn. R. 7011.2300 Standards of Performance for Stationary Internal Combustion Engines (While the generators are defined as non-road engines under federal rule, MN rules do not define stationary vs. non-road generators, therefore this rule applies in lieu of an applicable MN standard for non-road engines.)
- Minn. R 7011.3350 Standards of Performance for New Nonmetallic Mineral Processing Plants

Table 4. Regulatory Overview of Units Affected by the Modification/Permit Amendment

Level	Applicable Regulations	Comments
GP001	Title I Condition: Limit to avoid classification as major source and modification under 40 CFR § 52.21 and Minn. R. 7007.3000, and under 40 CFR § 70.2 and Minn. R. 7007.0200 40 CFR pt. 60, subp. 000; Minn. R. 7011.3350	Annual throughput limits to avoid classification as a major source. New Source Performance Standards (NSPS) for Nonmetallic Mineral Processing Plants. State Standards of Performance for New Nonmetallic Mineral Processing Plants (limits on opacity). Opacity compliance demonstration is required for new units, with an exception provided for by rule. The permit contains a requirement which states when an opacity compliance demonstration is needed.
	Minn. R. 7009.0020	Hourly throughput limits, operating hours, and location limits as a result of modeling.

3. Technical Information

3.1 Calculations of Potential to Emit

Detailed calculations were completed in support of permit limits and for the determination of PTE. The detailed spreadsheets are stored in the MPCA's Delta database. The permit contains annual throughput limits on material handling and fuel use to avoid permitting thresholds for Part 70 and/or PSD.

3.2 NAAQS

This facility was identified as a facility that had the potential to violate National Ambient Air Quality Standards (NAAQS), and PER 001 contained a requirement to model to demonstrate compliance prior to receiving a permit amendment. The modeling was completed using AERMOD during the process for this permit. The results of the modeling included an hourly process throughput limit and a daily hours of operation limit. There is also a limit of 1 Crushing Spread at any location, and a separation distance of at least 0.5 km to avoid impacts that would affect the modeling. The summary report is included as Attachment 1 to this TSD.

3.3 Periodic Monitoring

In accordance with the Clean Air Act, it is the responsibility of the owner or operator of a facility to have sufficient knowledge of the facility to certify that the facility is in compliance with all applicable requirements.

In evaluating the monitoring included in the permit, the MPCA considers the following:

- The likelihood of violating the applicable requirements;
- Whether add-on controls are necessary to meet the emission limits;
- The variability of emissions over time;
- The type of monitoring, process, maintenance, or control equipment data already available for the emission unit;
- The technical and economic feasibility of possible periodic monitoring methods; and
- The kind of monitoring found on similar units elsewhere.

The table below summarizes the periodic monitoring requirements for those emission units for which the monitoring required by the applicable requirement is nonexistent or inadequate.

Table 5. Periodic Monitoring for Units Affected by the Modification/Permit Amendment

Level	Requirement (rule basis)	Additional Monitoring	Discussion
GP 001	40 CFR 60.670(d), 60.672, & 60.676; Minn. R. 7011.3350 & Minn. R. 7007.1150 Title I Condition: To avoid major source classification under 40 CFR 52.21 & 70.2 and Minn. R. 7007.3000	Recordkeeping Notifications	Equipment replacement is allowed without a permit amendment when the unit replaced meets the conditions defined in the permit, which includes evaluating whether a permit mod is needed.. Notifications of replacement are required to be submitted to the MPCA within 15 days of the date of replacement, and recordkeeping is required to verify continual compliance. Recordkeeping to document and verify compliance with Title I limits and limits from modeling.

3.4 Insignificant Activities

The only insignificant activity at the site is welding, which is insignificant per Minn. R. 7007.1300, Subp. 3(H)(4).

3.5 Permit Organization

In general, the permit meets the MPCA Delta Guidance for ordering and grouping of requirements, with the exception of GP 001 that has no units listed in the associated items because of the nature of the facility, subpart OOO, and the extensive list of units which are stored in Appendix C of the permit.

3.5 Comments Received

Public Notice Period: April 6, 2013 – May 6, 2013

EPA 30-day Review Period: April 6, 2013 – May 6, 2013

4. Permit Fee Assessment

There are no additional points for this amendment. The modeling performed is for screening purposes only and therefore is not subject to additional points fees.

5. Conclusion

Based on the information provided by Intex, the MPCA has reasonable assurance that the proposed operation of the emission facility, as described in the Air Emission Permit No. 99000208-002 and this TSD, will not cause or contribute to a violation of applicable federal regulations and Minnesota Rules.

Staff Members on Permit Team: Trevor Shearen (permit writer/engineer)
Brent Rohne (enforcement)
Jim Kolar (stack testing)
Kelsey Suddard (peer reviewer)

AQ File No. 2719A; DQ 1733

Attachments (available electronically):

1. Modeling Approval
2. Calculation Spreadsheets (in Delta)
3. Facility Description and CD-01 Forms (in Delta)

Attachment 1



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

AQDMRRF-01

Air Quality Dispersion Modeling
Report Review Form (AQDMRRF)
for Criteria Pollutant Modeling using AERMOD

Doc Type: Air Dispersion Modeling

Instructions: This form is used for Minnesota Pollution Control Agency (MPCA) internal use by Air Dispersion Modeler to review for Criteria Pollutant Modeling.

Facility Information

Project title: Intex Corporation - Portable Crushing Plants		Submittal date (mm/dd/yyyy): 1/20/2012	
AQ file no.: 2719A	AQ facility/permit ID no.: 99000208	AQ tracking number: 1733	
Three-letter modeling facility ID (ex., XEK = Xcel Energy Allen S. King, MEC = Mankato Energy Center, etc.): INX			
Facility name: Intex Corporation			
Facility street address: Portable Source (Mailing Address: 5548 Barthel Industrial Dr., Suite 600, P.O. Box 260)			
City: All (Mailing City: Albertville)		County: All (Mailing: Wright)	
State: Minnesota	Zip code: All (Maili	Elevation at facility: Various m m	
Facility contact: Wade Vanvooren		Report prepared by: Mike Westereng of Wenck Associates	
Facility contact phone: (763) 428-8222		Preparer phone: (651) 294-4597	
Facility contact e-mail: wade@intexcruiser.com		Preparer e-mail: mwestereng@wenck.com	
MPCA air modeler: Ruth Roberson		MPCA air permit engineer: Trevor Shearen	
Latitude, Longitude of facility (Decimal degrees to four decimal places): NA N, NA W			
UTM coordinates of facility (NAD83, zone 15 extended only): x = 0.00 m East, y = NA m North			

List of Files with Names/Descriptions submitted with Modeling Report

- ☒ AERMOD input files (*.inp, *.adi, *.ami)
☒ AERMOD output files (*.out, *.ado, *.amo)
☒ AERMOD plot files (*.plt)
☐ AERMOD post files (*.pst) – If applicable
☐ AERMOD event files (*.evi, *.evo) – If applicable
☐ AERMOD miscellaneous/other files (MAXDCONT, SUMTABLE, etc.) – If applicable
- ☒ AERMOD meteorological surface files (*.sfc)
☒ AERMOD meteorological upper air/profile files (*.pfl)
- ☐ BPIP-PRIME input files (*.bpi, *.pip)
☐ BPIP-PRIME output files (*.bpo, *.sum)
- ☐ Terrain file(s) for AERMAP (*.dem, *.tif)
☐ AERMAP input files (*.ami)
☐ AERMAP output files (*.rou, *.sou, etc.)
- ☒ Background data files/background concentrations for applicable pollutants (seasonal, monthly, daily, hourly, etc.)
- ☒ Figures for modeling results (*.jpeg, *.bmp, *.pdf)

☐ GIS maps for modeling results (*.shp)

7. ☒ AQDMPS-01 form – if applicable

8. ☐ Other files and supporting documents (SMSv*.xls, FAR sources, hourly background, hourly ozone, README*.doc, etc.):

The purpose of this modeling is to satisfy a permit condition. Therefore the 30 day completeness and 150 Approval periods do not apply, nor do any permit fees related to modeling. However Section 2 will be used to Review the modeling report and files submitted by the facility.

Section 1. Modeling Review - 30-Day Substantial Completeness Determination

Review of modeling report by sections

Section and section name	Substantially complete/incomplete	Deficiencies and/or comments
Files to accompany modeling	[Select from list]	No comments on this section
Section 1: Modeling protocol	[Select from list]	No comments on this section
Section 2: Changes to modeling protocol	[Select from list]	No comments on this section
Section 3: Paved roads fugitive dust (optional)	[Select from list]	No comments on this section
Section 4: Modeling results	[Select from list]	No comments on this section
Section 5: Discussion	[Select from list]	No comments on this section
Section 6: Modeling results figures/maps	[Select from list]	No comments on this section
Modeling report substantially complete?	[Select from list]	Date (mm/dd/yyyy):

Section 2. Modeling Review - 150-Day Approval Determination/Permit Conditions

Technical review of final modeling report

Review items	Acceptable/ Unacceptable	Deficiencies and/or comments
Are all changes from the protocol adequately described and addressed?	Acceptable	Changes in the emission rate must be approved by Permit Engineer before Modeling is approved.
Are the model files consistent with the MPCA AQDMPS spreadsheet accompanying the permit application?	Acceptable	
Modeling demonstrates compliance with applicable NAAQS/MAAQS and PSD increments?	Acceptable	recommend modeling language, see Section 3.
Modeling report approved?	Acceptable	Date (mm/dd/yyyy): 10/12/2012
Recommended permit conditions or related items:	(See below)	

Section 3. Recommended Permitting Language

Modeling language tier table

Pollutant	Recommended tier
CO	Not modeled
NO ₂	Not modeled
Pb	Not modeled
PM _{2.5}	Not modeled
PM ₁₀	Tier 3
SO ₂	Not modeled

Tier language for each modeled pollutant will be based on the lowest growth level for all averaging times.

% of NAAQS/MAAQs:	> 90%	90% - 75%	< 75%
Allowable Growth Level:	Low	Medium	High
PSD – Limits	Tier 4	Tier 2**	Tier 1
PSD – No Limits	Tier 3	Tier 2**	Tier 1
Not PSD – Limits	Tier 3**	Tier 2**	Tier 1
Not PSD – No Limits	Tier 1	Tier 1	Tier 1

Acronyms

AERMAP	AERMOD Terrain Preprocessor
AERMOD	AMS/EPA Regulatory Model
AQ	Air Quality
AQDMPS-01	Air Quality Dispersion Modeling Protocol Spreadsheet
BPPI-PRIME	Building Profile Input Program for PRIME
CO	Carbon Monoxide
MAAQs	Minnesota State Ambient Air Quality Standard
MPCA	Minnesota Pollution Control Agency
NAAQS	National Ambient Air Quality Standard
NO ₂	Nitrogen Dioxide
Pb	Lead
PM ₁₀	Particulate Matter less than 10 um in size
PM _{2.5}	Particulate Matter less than 2.5 um in size
PSD	Prevention of Significant Deterioration Program
SO ₂	Sulfur Dioxide

Section 4. Separation Distance between Crushing Spreads

0.5 km distance

