



Minnesota Pollution Control Agency

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

AQDMPRF-01

**AQDM Protocol Review Form
for Criteria Pollutant Modeling**
Air Quality Dispersion Modeling (AQDM)

Doc Type: Air Dispersion Modeling

Publication document #**NONE**

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

Protocol Information

Today's date (mm/dd/yyyy): 12/8/2011 Today's date (mm/dd/yyyy): 12/12/2011
MPCA Air Dispersion Modeler: Melissa Sheffer MPCA Air Permit Engineer: Marshall Cole
Air quality file number: 4274 Air quality ID number: 13700320
Three-letter modeling facility ID (ex., ACE, XAK, MEC, NUP, etc.): MSE
Facility name: Mesaba Energy
Date protocol was received at the MPCA (mm/dd/yyyy): 10/19/2011
Project name: Mesaba Energy Project

Approval of Modeling Protocol by Sections - Completed by Air Dispersion Modeler

Section and section name	Acceptable/ Unacceptable	Deficiencies and/or comments
Files to accompany Protocol	Unacceptable	BPIP input file is in an incorrect format (the first four lines are missing). Please see the BPIP user's guide and update. Also, please provide descriptions on naming conventions of modeling files, especially for those with "rec##" included. .
Section A: Purpose for air dispersion modeling and related information	Acceptable	No comments
Section B: EPA Pre-processors and EPA Post-processors	Unacceptable	Question 1.a indicated that AERMAP version 09040 will be used - if using AERMOD version 11103, please use AERMAP version 11103. Files for NAAQS PM10 run, however, indicate that AERMAP version 06341 was used, as well as some of the "West*.dat" files in the AERMAP folder. Please update. Also, question 5 indicates that AERMOD version 11103 will be used as a post-processor. Please provide more detail on how and what it will be used for.
Section C: Model selection and options (Key CO pathway inputs)	Unacceptable	AERMOD version 11103 used (Feb. 2011 approved protocol did not mention which AERMOD version would be used). Pollutant ID's set to "OTHER" in PM10 NAAQS files. Please use the correct pollutant ID (PM10 or PM-10).
Section D: Emission source characterizations and parameters (Key SO pathway inputs)	Acceptable	Since a Tier 3 NO2 analysis is not being conducted (just a Tier 2), questions 6 and 7 should have been answered as "N/A".
Section E: Paved roads fugitive dust	Unacceptable	No modeling input and out put files received for PM10 and PM2.5, or else could not discern which files these were.
Section F: Receptors (RE pathway)	Acceptable	No comments
Section G: Meteorological data	Acceptable	Please provide explanation behind the use of wind speed scalars and

(ME pathway)		what sources they will be applied to (see question 5.b).
Section H: SIL analysis and results	Acceptable	No comments
Section I: Background values	Acceptable	1.a should have had checked both "Yes" and "Uniform background concentrations"
Section J: Nearby sources	Unacceptable	Please provide original FAR data files.
Section K: Anticipated outputs (OU pathway)	[select from list]	Section not included in this version of protocol
AQDMPS-01 Form	Unacceptable	See comments below under section for air permit engineer
Modeling Protocol is:	Not approved; see comments and revise accordingly	

Approval of Modeling Protocol by Sections - Completed by Air Permit Engineer

Section and section name	Acceptable/ Unacceptable	Deficiencies and/or comments
Section D: Emission source characterizations and parameters (Key SO pathway inputs)	Acceptable	
Section E: Paved roads fugitive dust	Acceptable	No PR fugitives modeled
		This is based on the data provided in the AQDMPS-01 spreadsheet: 1. CTG 1-hr NOx (51.0 lb/hr) is not based on startup/shutdown, but should be because SUSD 1-hr NOx is the worst case for NOx. The correct value based on the criteria pollutant emissions calculation spreadsheet is 121 lb/hr (cold startup of the CTG). 2. Flares – it appears that short term (24-hr or less) lb/hr emission rates for PM10, PM2.5, SO2, and NOx are not based on worse case flare operation when flaring syngas. It appears that only the CO emission rates are based on worse case. 3. No 1-hr NOx value for the 1-hr NAAQS is provided for the engines (2 MW, 350 kw, and fire pump). This will be needed if these engines are included in the model.
AQDMPS-01 Form	Unacceptable	
Comments on other sections:		
Modeling Protocol is:	Not approved; see comments and revise accordingly	