

Environmental Review Unit Environmental Assessment Worksheet

Air assessment practices

Applicability

The practices described in this document apply to projects ([Minn. R. 4410.0200, subp. 65](#)) that require the preparation of an Environmental Assessment Worksheet (EAW) ([Minn. R. 4410.1000](#)), where the Minnesota Pollution Control Agency (MPCA) is the Responsible Governmental Unit (RGU). An exception to this are feedlot EAWs, which have their own air assessment process.

This document also does not apply to projects that require the preparation of an Environmental Impact Statement (EIS). Air assessments for projects requiring an EIS are developed on a case-by-case basis through the scoping process.

The air assessment practices described in this document are an addition to, not a replacement of any other applicable air assessment requirements that may apply as part of the MPCA's air emission permitting process.

Disclaimer

This document is guidance, it does not replace provisions or regulations of the Clean Air Act or any state statute or rule, nor is it a regulation itself. It does not impose binding, enforceable requirements on any party. The provisions in this document may not apply to situations based upon unique or unusual circumstances.

Purpose

The MPCA's Environmental Review Unit (ERU) uses the air assessment process to help determine if the project's air emissions have the potential for significant environmental effects.

Air assessment administrative process

The ERU's air assessment process generally follows the approach presented below:

- Project proposer determines that the project will require preparation of an EAW.
- Project proposer determines if the project will result in air emissions described in this document and if so, project proposer prepares and submits a proposed air modeling protocol to the MPCA (via MPCA e-Services) for review and approval in order to conduct a pollutant dependent screening SIL analysis and an AERA. If the SIL analysis shows that refined dispersion modeling is not needed, then project proposer documents those results in the initial EAW data submittal.
- MPCA receives, reviews, and approves air modeling protocol.
- Following MPCA approval of the modeling protocol, Project proposer conducts the air assessment (e.g., screening SIL analysis, refined air dispersion modeling, and AERA), and includes the modeling and AERA results in the initial EAW data submittal.
- Project proposer also determines if the project will require an air quality permit. If so, project proposer prepares and submits an air quality permit application. If project proposer determines that an air

quality permit is not required, it submits this determination to the MPCA ERU included in the EAW data submittal.

- The MPCA ERU may require the project proposer submit an [Air Quality Permit Applicability Determination](#) to the MPCA air quality permitting program to confirm whether an air permit is required and if so, the appropriate type of air quality permit for the proposed project, as well as verify emission sources, anticipated emissions, and required permit conditions. A discussion of the emission sources and air permit needed for the proposed project shall be included in the initial EAW data submittal.
- ERU reviews the project proposer’s initial EAW data submittal and begins preparation of the EAW.

If you have any questions regarding this process, please call 651-296-6300 or 800-657-3864 and ask for the ERU Air Assessments Coordinator.

How to evaluate a project’s potential air quality impacts for an EAW

The EAW air assessment process takes into consideration both the project’s potential direct impact to air quality as well as its potential cumulative impact. Direct impacts mean the air quality impacts of the project alone.

Cumulative impacts include the project’s direct air quality impacts as well as a representative ambient air quality background conditions (i.e., applicable air quality design value for the project area) and nearby sources air impacts. Minn. R. 4410.1200(E) require EAWs to identify cumulative potential effects.

The EAW air assessment is done for two separate sets of air pollutants listed in Parts 1 and 2 of this document. Part 1 pollutants are contained in Tables 1 and 2 below and are derived from the National Ambient Air Quality Standards (NAAQS) and Minnesota Ambient Air Quality Standards (MAAQS). Part 2 pollutants are air toxic pollutants (see Air Assessment Part 2 below for how to find the list of air toxic pollutants).

Air assessment Part 1 – This part describes the recommended steps involved in assessing the project’s impact on air quality from emissions of the NAAQS and MAAQS air pollutants listed in Tables 1 and 2 below. Note: The values in Tables 1 and 2 are accurate as of the date of this document. Be sure to verify the current values by consulting Section 1.0 of the [MPCA Air Dispersion Modeling Practices Manual](#).

Part 1 process steps are numbered to correspond to the Part 1 flow chart below.

Table 1. (NAAQS pollutants)

Pollutant	Averaging period	Significant impact level (SIL) (µg/m ³)	NAAQS (µg/m ³)
Carbon Monoxide (CO)	1-hour	2000	40,071.5
	8-hour	500	10,304.1
Particulate Matter ≤10 microns (PM10)	24-hour	5	150
Particulate Matter ≤2.5 microns (PM2.5)	24-hour	1.2	35
	Annual	0.3	12.0
Nitrogen Dioxide (NO2)	1-hour	7.52	188.0
	Annual	1	99.7
Sulfur Dioxide (SO2)	1-hour	7.52	196.4
	3-hour	25	1309.3
	24-hour	5	366.6
	Annual	1	78.6

Table 2. (MAAQS pollutants)

Pollutant	Averaging period	Screening value (SV) ($\mu\text{g}/\text{m}^3$)	MAAQS ($\mu\text{g}/\text{m}^3$)
Hydrogen Sulfide (H ₂ S)	30-minutes ¹	10	70.0
	30-minutes ²	10	42.0

¹ 30-minute average not to be exceeded more than two times in a year

² 30-minute average not to be exceeded more than two times in five consecutive days

The following are the steps for completing air assessment Part 1:

- **Step 1** – Will the project result in the emission of air pollutants?
 - If “yes”, go to Step 2.
 - If “no”, go to Step 11.
- **Step 2** – Are project emissions exempt from air dispersion modeling?
 - If “yes”, go to Step 11. Note: MPCA ERU may request submittal of an AQPAD for an air quality permit engineer to verify emission sources, quantity of emissions, and whether criteria pollutant air dispersion modeling and an air toxics/HAPs AERA are needed.
 - If “no”, go to Step 3.
- **Step 3** – Develop air dispersion modeling protocol following the [MPCA Air Dispersion Modeling Practices Manual](#).

Air modeling protocols and modeling information requests should be submitted to the MPCA’s Risk Evaluation and Air Modeling (REAM) unit using the Air Modeling e-Service. For more information on setting up an e-Service account, getting access to a facility in e-Services, and the forms and data required for an Air Modeling e-Service submission, visit the following webpages:

- [Preparing for and submitting an Air Modeling e-Service submittal](#)
- [Air Quality Dispersion Modeling Forms](#)

Any questions about the Air Modeling e-Service should be sent to airmodeling.pca@state.mn.us

The MPCA ERU will not accept any air dispersion modeling results or an EAW data submittal until the MPCA’s REAM unit has approved the air modeling protocol for the project.

- **Step 4** – Is the representative ambient air quality background concentration (i.e., applicable ambient air quality design value for the project area) plus the pollutant’s significant impact level (SIL) or screening value (SV) less than or equal to 90% of the pollutant’s NAAQS or MAAQS? Be sure to use the SIL, SV, NAAQS, and MAAQS values and units listed in Tables 1 and 2 of this document.
 - If “yes”, go to Step 5.
 - If “no”, go to Step 6.
- **Step 5** – Is the project’s (not the total facility’s) modeled direct impact (i.e., without ambient background and nearby sources) at the project site less than or equal to the pollutant’s applicable SIL or SV? For the NAAQS pollutants listed in Table 1, the project site means at the project’s fence line or related Ambient Boundary Control Line. For the MAAQS pollutants listed in Table 2, the project site means at the project’s property line.
 - If “yes”, go to Step 11.
 - If “no”, go to Step 6.

Please refer to [Appendix D of the MPCA Air Dispersion Modeling Practices Manual](#) for more detail on where to place modeling receptors at the project site.

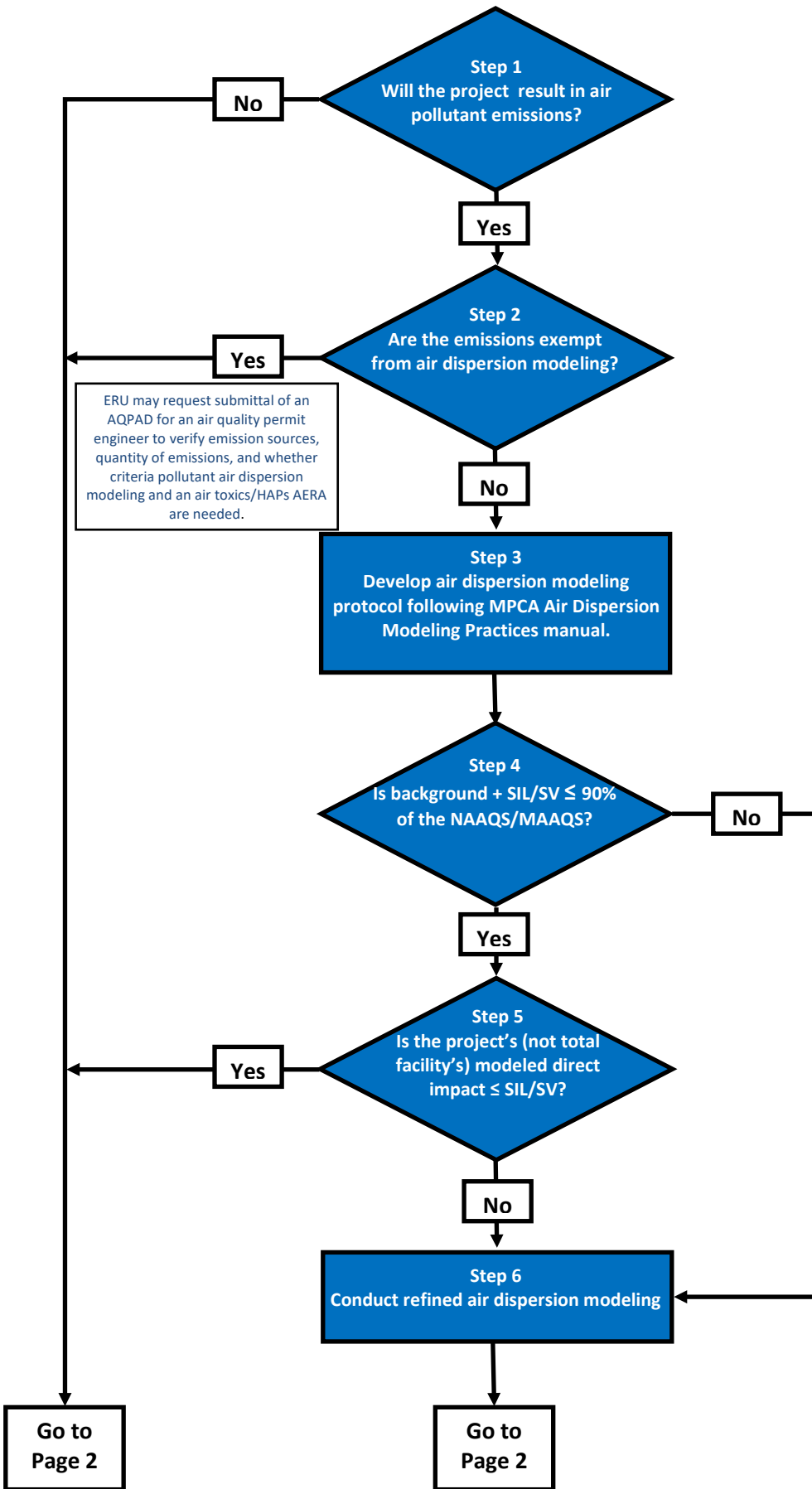
The ERU strongly prefers AERMOD for screening level analysis as it looks at both the direct project impacts and the cumulative impacts. In limited circumstances, the MPCA will consider the use of AERSCREEN as an alternative to AERMOD, if the project proposer can demonstrate that its use is appropriate for the project and will give a more conservative analysis. However, the MPCA would have to agree that the use of AERSCREEN is appropriate before it can be used. **The MPCA will not approve the use of SCREEN3, as it is no longer supported or used by either EPA or MPCA.**

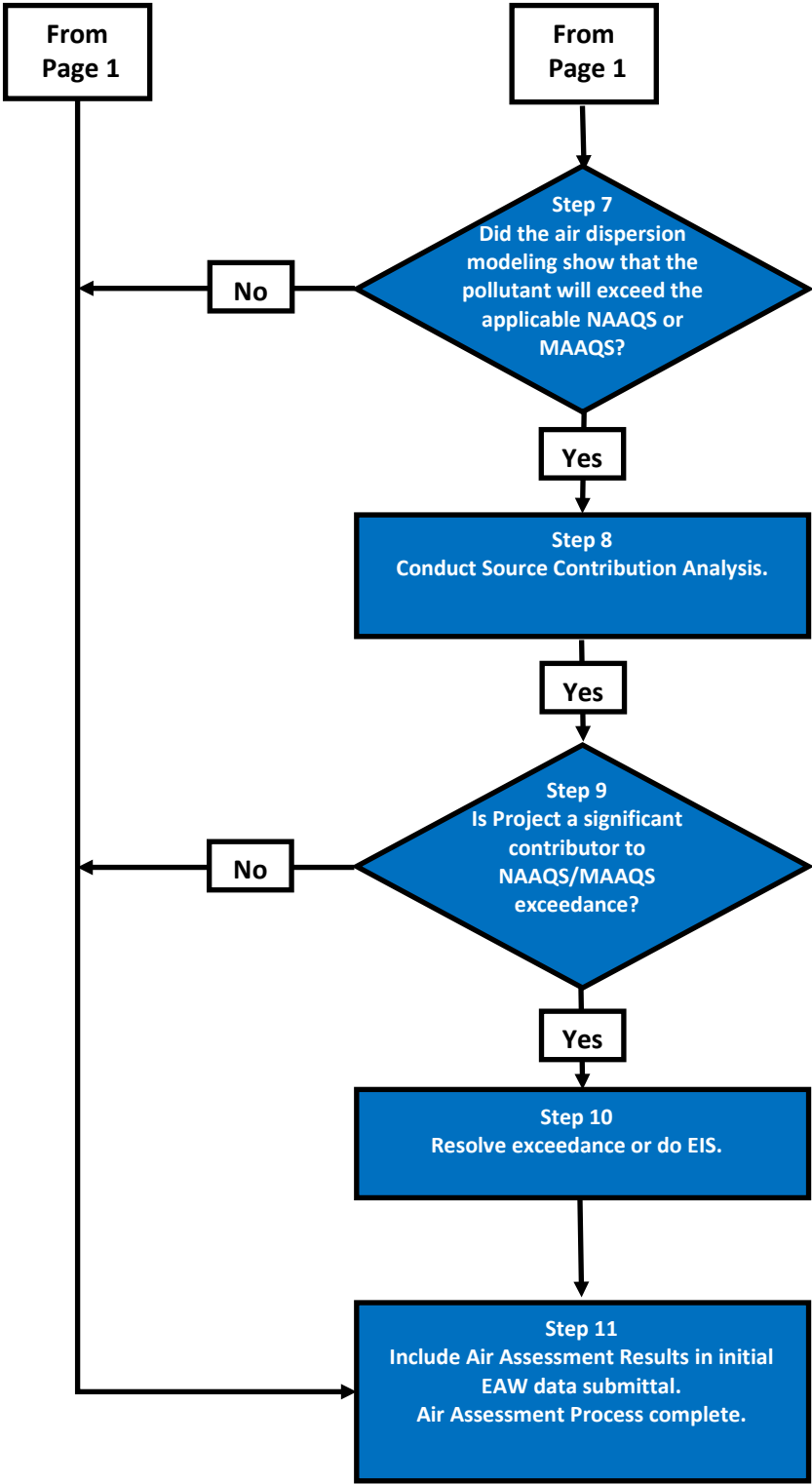
- **Step 6** – Conduct refined air dispersion modeling and then go to step 5.

The ERU requires all refined air dispersion modeling use AERMOD and follow the procedures in the [MPCA Air Dispersion Modeling Practices Manual](#). The modeling must consider the air impact of the project (and any associated facility), nearby sources, and a representative ambient air background concentration.

- **Step 7** – Did the air dispersion modeling show that the pollutant will exceed the applicable NAAQS or MAAQS?
 - If “yes”, go to Step 8.
 - If “no”, go to Step 11.
- **Step 8** – Conduct a source contribution analysis according to [Appendix A of the MPCA Air Dispersion Modeling Practices Manual](#) and then go to Step 7.
- **Step 9** – Did the source contribution analysis show that the project is a “significant contributor” to the modeled exceedance of the applicable NAAQS or MAAQS?
 - If “yes”, go to Step 10.
 - If “no”, go to Step 11.
- **Step 10** – The project will either need to resolve the modeled exceedance(s) by accepting air emission permit limits and/or air pollution controls or conduct an EIS. Decide approach to be taken and go to Step 9.
- **Step 11** – Part 1 of the air assessment is done. Submit air dispersion modeling results in the initial EAW data submittal to the MPCA’s ERU and complete Part 2 of the air assessment below.

The following is a flow chart for completing the air assessment for Part 1. This flow chart corresponds to the steps above and is provided as an alternative description of the steps in Part 1.





The following are the steps for completing air assessment Part 2 for air toxics:

Air assessment Part 2 – This part describes the recommended steps involved in assessing the project’s impact on air quality from its toxic pollutant emissions. Air Toxics are a group of pollutants that cause or may cause cancer or other serious health effects or adverse environmental and ecological effects. Air toxics include, but are not limited to, the [Hazardous Air Pollutants \(HAPs\)](#) specified in the Clean Air Act Amendments. For a full list of air toxics, see the MPCA Risk Analysis Screening Spreadsheet ([RASS](#)).

- **Step 1** – Will the project result in the emission of air pollutants?
 - If “no”, Part 2 of the air assessment is done. Submit results in the initial EAW data submittal to the MPCA’s ERU with the result from Part 1.
 - If “yes”, go to Step 2.
- **Step 2** - Complete an Air Emissions Risk Analysis (AERA) according to the process and guidance on the [MPCA’s AERA webpage](#) and submit results in the initial EAW data submittal to the MPCA’s ERU with the result from Part 1.