

Initial Electronic Modeling Evaluation Workbook (EMEW) Review Response

Purpose: This form is used by the Air Dispersion Modeling Team (ADMT) to document ADMT's review of initial submittal of the EMEW and any attachments.

Date: October 9, 2024

Permit Application Number: 1768

New Source Review Project Number: 380577

ADMT Project Number: 9464

County: Harris

Assigned Modeling Staff: Sara Hill

Modeling Staff Contact Information: Sara.Hill@tceq.texas.gov and (512) 239-5606

Review Summary

ADMT has conducted a review of the initial Electronic Modeling Evaluation Workbook (EMEW) for Equistar Chemicals, LP provided on September 25, 2024. Based on the review, ADMT has the following comments that should be addressed in the final modeling submittal. Note: if ADMT did not comment on a section of the workbook, then the applicant's approach is considered reasonable.

1. General

Administrative Information:

Include NSR Project Number 380577 for the Facility Information's Project Number and update the Modeling Date with the final submittal.

Plot Plan:

Provide a plot plan that is created independent of the model software platform and label sources by their model IDs so ADMT can verify the modeled location of each source.

Area Map:

The EMEW indicates non-industrial receptors were identified on the area map; however, this is not the case for the provided area map. If non-industrial receptors are not identified and are not applicable for these analyses, remove this selection from the EMEW.

2. Additional Attachments

Other Attachments:

List the supplemental AQA memorandum in this section. Additionally, this document notes that the preliminary modeling evaluation was conducted in accordance with the November 2019 TCEQ Air Quality Modeling Guidelines (AQMG), APDG 6232. However, be aware that the most recent version of the AQMG is dated June 2024.

3. Model Options

F. Determination of Surface Roughness:

The AERSURFACE analysis uses NLCD from 2016. However, 2021 NLCD are available and should be used in the final modeling analysis.

G. Meteorological Data:

Note that the TCEQ's pre-processed meteorological data were processed using AERMET version 22112. Update the EMEW documentation with the final submittal.

4. Building Downwash

Note that it is not necessary to include all sitewide buildings in the project modeling if they do not affect the project-source downwash.

5. Area Source Parameters

In the final submittal, justify the large footprint of the area source (model ID F34E00). Clarify whether emissions are expected to be released throughout the entire footprint in a 1-hr period.

6. Area Source Emissions

Report the pollutant-specific emission rates for the CO analysis on this sheet to be consistent with how emissions are reported on the Point + Flare Emissions and Volume Source Emissions sheets.

7. Speciated Emissions

Pollutants that are not applicable to the modeling analyses (i.e., meet criteria of steps before Step 3 of the MERA guidance) do not need to be reported in the EMEW.

8. Health Effect Modeling Results

Remove the entry under Step 6 since the result for the listed pollutant met the criteria of Step 3, and Step 6 was not relied on.

9. Modeling File Names

Include the supplemental AQA document on this sheet with the final submittal.

The "UIM Analysis and MERA Step 3 2024-0830" is listed with the pollutant of "Speciated Organics." However, the CO analysis is also contained in this document. Ensure the documentation is complete and descriptive to facilitate the review.

Please be aware that federal and state standards can change over the life of a project, therefore, the facility may be asked to update EMEW to reflect applicable changes. Any deviations or information not submitted with the initial modeling workbook could cause delay in

the final modeling review. ADMT highly recommends submitting an updated initial EMEW if significant changes are made to the modeling methodologies previously reviewed.