

Texas Commission on Environmental Quality Initial Modeling Summary for Minor New Source Review Projects

The purpose of the modeling summary is to provide proposed modeling approaches for projects at the beginning of the minor New Source Review (NSR) permit process. By addressing potential air quality analysis (AQA) issues early in the NSR permit application review process, many difficulties that tend to delay the technical review can be minimized or avoided.

Beginning October 1, 2018 an initial modeling summary for all minor NSR projects requiring an impacts review will be required with the permit application submittal. A separate tool, Electronic Modeling Evaluation Workbook (EMEW), has been developed and can be utilized to meet the modeling summary requirement. Follow the instructions included with EMEWs to complete the workbook, then submit it as the initial modeling summary. The EMEWs can be found at the following link:

www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsrapp-tools.html

If EMEW is not going to be used for the modeling summary, the following checklist contains the minimum items that must be included in the initial modeling summary:

- Relevant project information - Include applicant name, Regulated Entity number, nearest city and county, and all contact information.
- Project overview - Describe the facilities and pollutants that need to be evaluated and review types (e.g. NAAQS, etc.).
- Existing air quality - Provide the proposed monitor identifiers and locations used to develop representative background concentrations. Justification for representativeness of the proposed monitors must be provided.
- Model(s) - Provide the proposed models and version numbers.
- Source types or characterizations being used - Provide a copy of the Table 1(a) that was submitted with the permit application. Include the stack parameters for any sources that will be included in the modeling. Identify special source types such as covered stacks, horizontal exhausts, fugitive sources, area sources, open pit sources, volume sources, roads, stockpiles, and flares and how they will be modeled. Provide all assumptions and calculations used to determine as appropriate the size, sides, rotation angles, height of release, initial dispersion coefficients, effective stack diameter, gross heat release and weighted (by volume) average molecular weight of the mixture being burned.
- Operating scenarios being used – Discuss any operating scenarios that would be represented in the modeling analyses such as planned MSS activities that do not operate at the same time as routine production emissions or a source load analysis.
- Scalars being used – Discuss how emission scalars will be developed and used in the modeling demonstration. In addition, identify those scalars that should be included in an enforceable permit provision, such as restricted hours of operation. Indicate if a tier 2 ambient ratio method for NO_x will be used.

- Plot plan - Provide a plot plan with emission point locations and building information to identify downwash structures.
- Downwash - State whether the EPA's Building Profile Input Program (BPIP) - PRIME or a software package that employs the BPIP - PRIME algorithms will be used. For structures not included in the downwash analysis or for air quality analyses conducted without consideration of downwash, please provide technical justification for supporting this approach.
- Dispersion options – The selection of urban or rural dispersion in ISCPRIME must be accompanied by technical justification supported by the surrounding land use. The use of the urban option (URBANOPT or URBANSRC) in AERMOD must be accompanied by technical justification supporting the use of this option, including sufficient documentation on the inputs required for use of the urban option.
- Receptor grid - Provide the proposed design of the receptor grid. The receptor grid modeled should capture an appropriate maximum ground level concentration and exceedances for all pollutants, operating scenarios, and review types.
- Meteorological data - Document the pre-processed meteorological data files that will be used. The ADMT recommends using AERSURFACE to determine the appropriate surface roughness dataset (high, medium, or low) to use.

If the applicant proposes to process the meteorological data, provide a modeling protocol documenting the proposed approach. The protocol should include all AERMET, AERMINUTE, and AERSURFACE input and output files associated with the processing of the meteorological data. This includes the surface, upper air, and ASOS 1-minute/5-minute station data. Be sure to include full documentation and the supporting technical justification for the processing of the meteorological data.

- Modeling approaches - Provide any proposed specialized modeling techniques and non-default modeling options.
- Intermittent Source information – provide justification for why a source should be considered intermittent including the following:
 - How many units are there;
 - How often will the unit operate per year;
 - What is the duration of operation once the unit is operating;
 - Will the unit be operated on a known schedule or will it operate randomly;
 - What are the magnitude of the emissions for the source(s);
 - Does the unit operate simultaneously with other sources?
- Project files and report - Include how the files will be identified and transmitted.
- Preliminary modeling results –
 - This is a new requirement to show that the project being submitted has been reviewed for modeling and is expected to meet standards/thresholds.

- Provide how the results will be displayed, including proposed GLCni locations, evaluation of predicted exceedances, and any other relevant items.

If the project is a Prevention of Significant Deterioration (PSD) review, the applicant must submit a protocol to both the TCEQ and EPA Region 6. A protocol checklist can be found on the ADMT homepage.