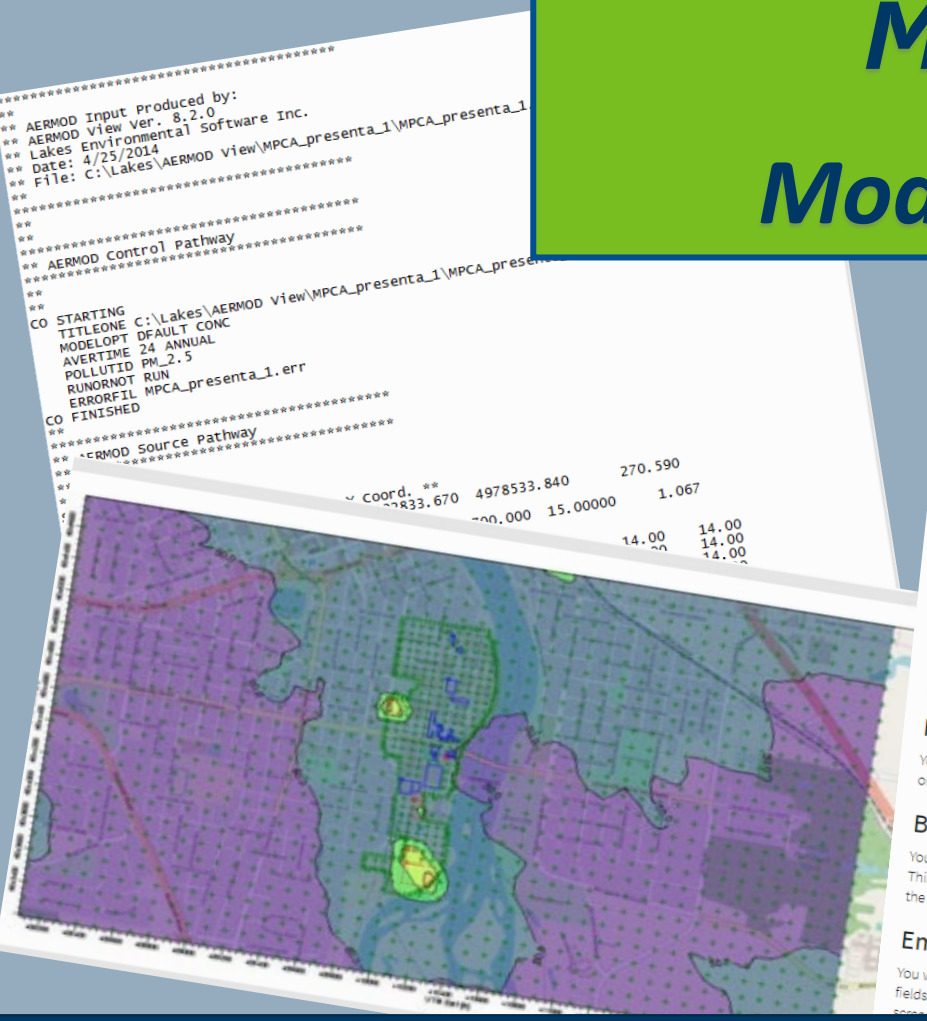
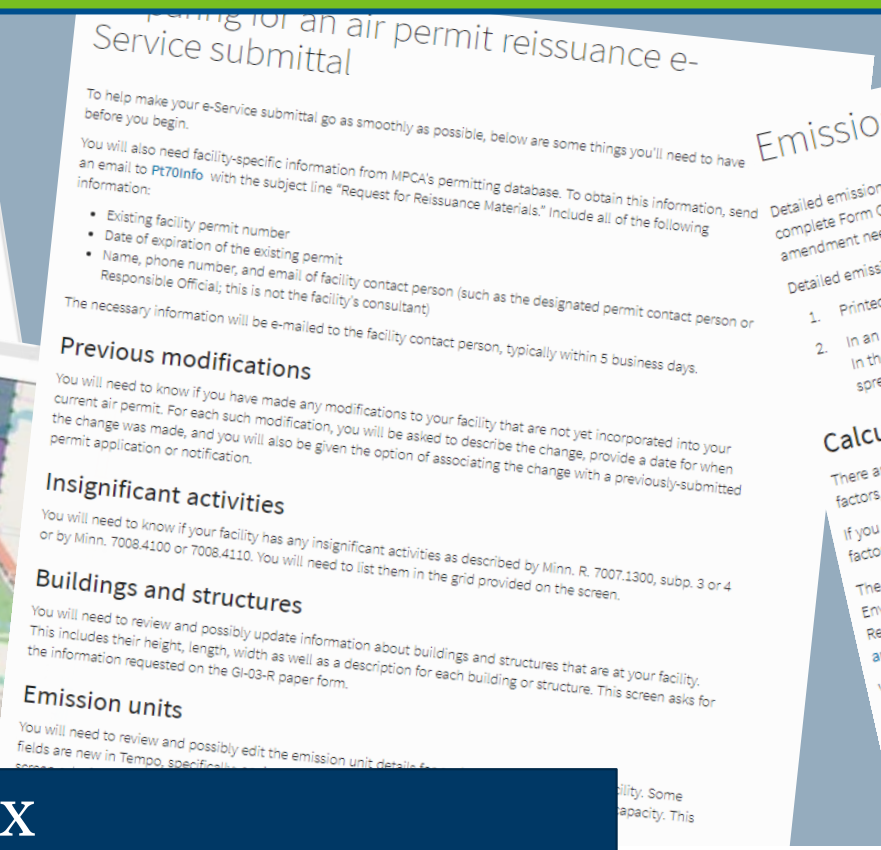
MPCA Review Process Leaning

Modeling Process Review Team (MPRT)





Planning for an air permit reissuance e-Service submittal

To help make your e-Service submittal go as smoothly as possible, below are some things you'll need to have before you begin.

You will also need facility-specific information from MPCA's permitting database. To obtain this information, send an email to Pt70Info with the subject line "Request for Reissuance Materials." Include all of the following information:

- Existing facility permit number
- Date of expiration of the existing permit
- Name, phone number, and email of facility contact person (such as the designated permit contact person or Responsible Official; this is not the facility's consultant)

The necessary information will be e-mailed to the facility contact person, typically within 5 business days.

Previous modifications

You will need to know if you have made any modifications to your facility that are not yet incorporated into your current air permit. For each such modification, you will be asked to describe the change, provide a date for when the change was made, and you will also be given the option of associating the change with a previously-submitted permit application or notification.

Insignificant activities

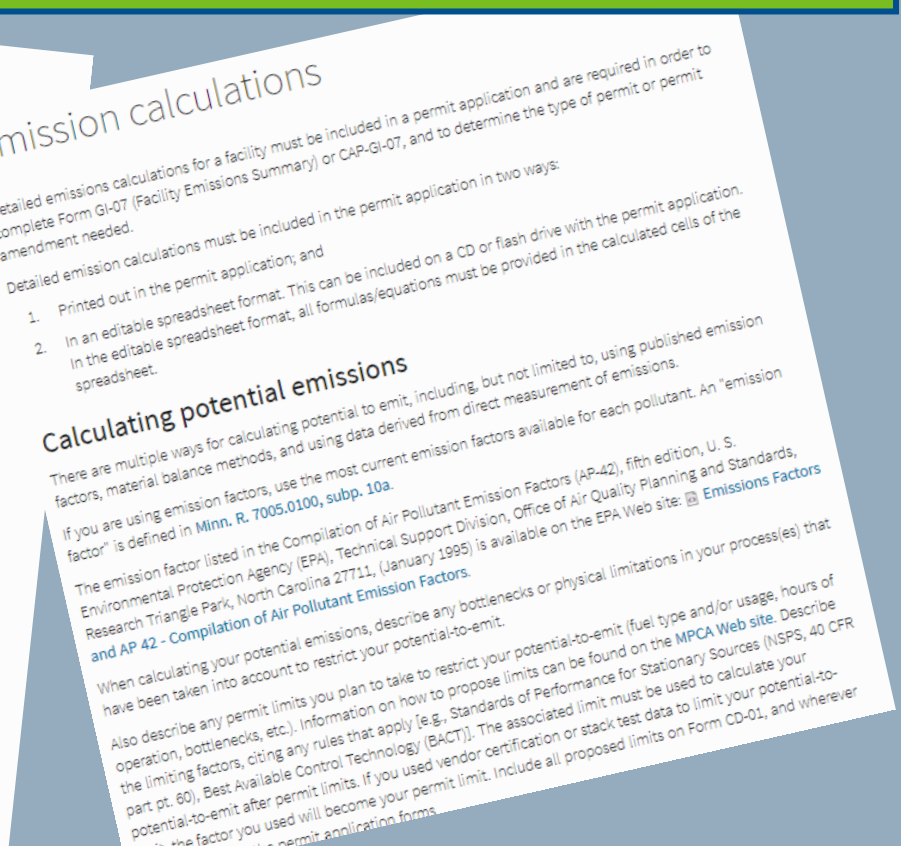
You will need to know if your facility has any insignificant activities as described by Minn. R. 7007.1300, subp. 3 or 4 or by Minn. 7008.4100 or 7008.4110. You will need to list them in the grid provided on the screen.

Buildings and structures

You will need to review and possibly update information about buildings and structures that are at your facility. This includes their height, length, width as well as a description for each building or structure. This screen asks for the information requested on the GI-03-R paper form.

Emission units

You will need to review and possibly edit the emission unit details fo... fields are new in Tempo, specifically ... ility. Some ...apacity. This



Emission calculations

Detailed emissions calculations for a facility must be included in a permit application and are required in order to complete Form GI-07 (Facility Emissions Summary) or CAP-GI-07, and to determine the type of permit or permit amendment needed.

Detailed emission calculations must be included in the permit application in two ways:

1. Printed out in the permit application; and
2. In an editable spreadsheet format. This can be included on a CD or flash drive with the permit application. In the editable spreadsheet format, all formulas/equations must be provided in the calculated cells of the spreadsheet.

Calculating potential emissions

There are multiple ways for calculating potential to emit, including, but not limited to, using published emission factors, material balance methods, and using data derived from direct measurement of emissions.

If you are using emission factors, use the most current emission factors available for each pollutant. An "emission factor" is defined in Minn. R. 7005.0100, subp. 10a.

The emission factor listed in the Compilation of Air Pollutant Emission Factors (AP-42), fifth edition, U. S. Environmental Protection Agency (EPA), Technical Support Division, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina 27711, (January 1995) is available on the EPA Web site: Emissions Factors and AP 42 - Compilation of Air Pollutant Emission Factors.

When calculating your potential emissions, describe any bottlenecks or physical limitations in your process(es) that have been taken into account to restrict your potential-to-emit.

Also describe any permit limits you plan to take to restrict your potential-to-emit (fuel type and/or usage, hours of operation, bottlenecks, etc.). Information on how to propose limits can be found on the MPCA Web site. Describe the limiting factors, citing any rules that apply (e.g., Standards of Performance for Stationary Sources (NSPS, 40 CFR part pt. 60), Best Available Control Technology (BACT)). The associated limit must be used to calculate your potential-to-emit after permit limits. If you used vendor certification or stack test data to limit your potential-to-emit, the factor you used will become your permit limit. Include all proposed limits on Form CD-01, and wherever ... permit application forms.

Daniel Dix

Risk Evaluation Air Modeling Unit

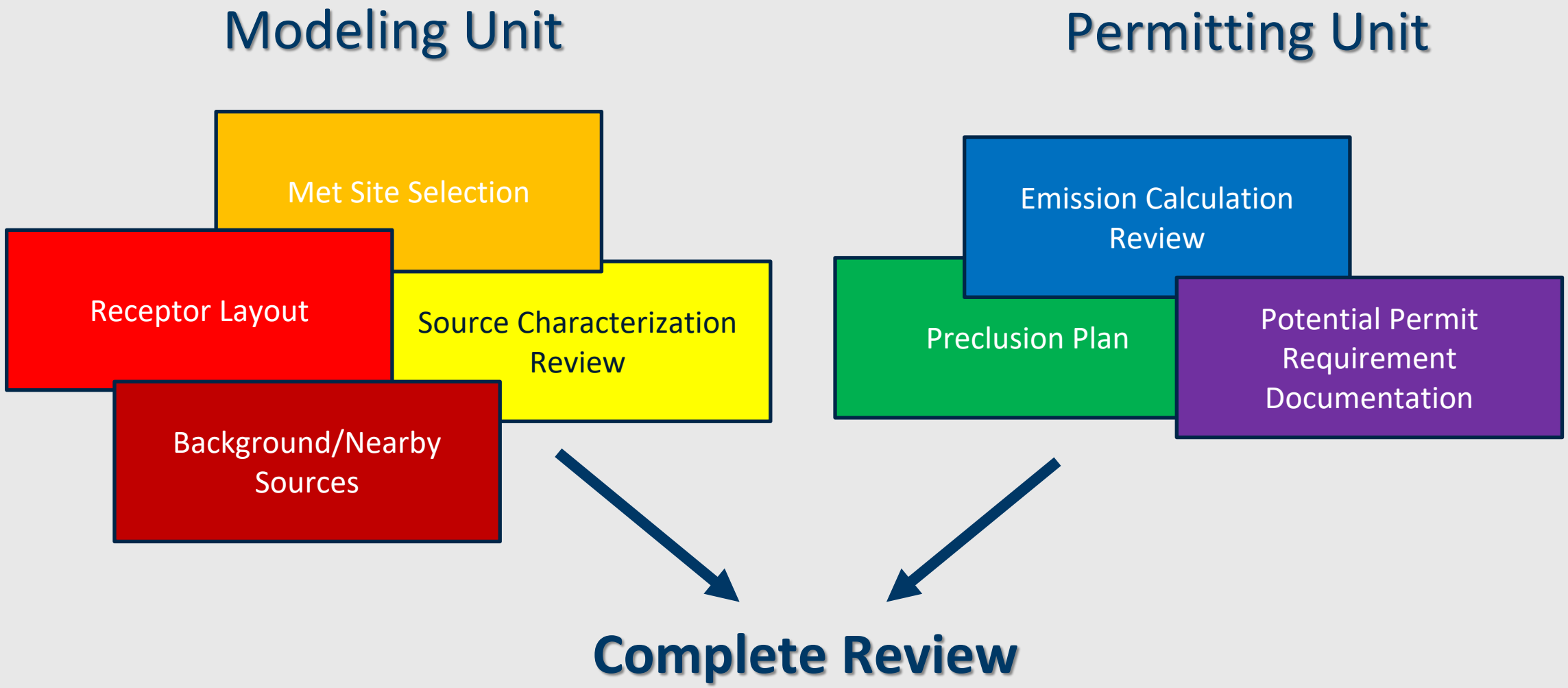
EPA RSL WORKSHOP

JUNE 21, 2021

MINNESOTA POLLUTION CONTROL AGENCY

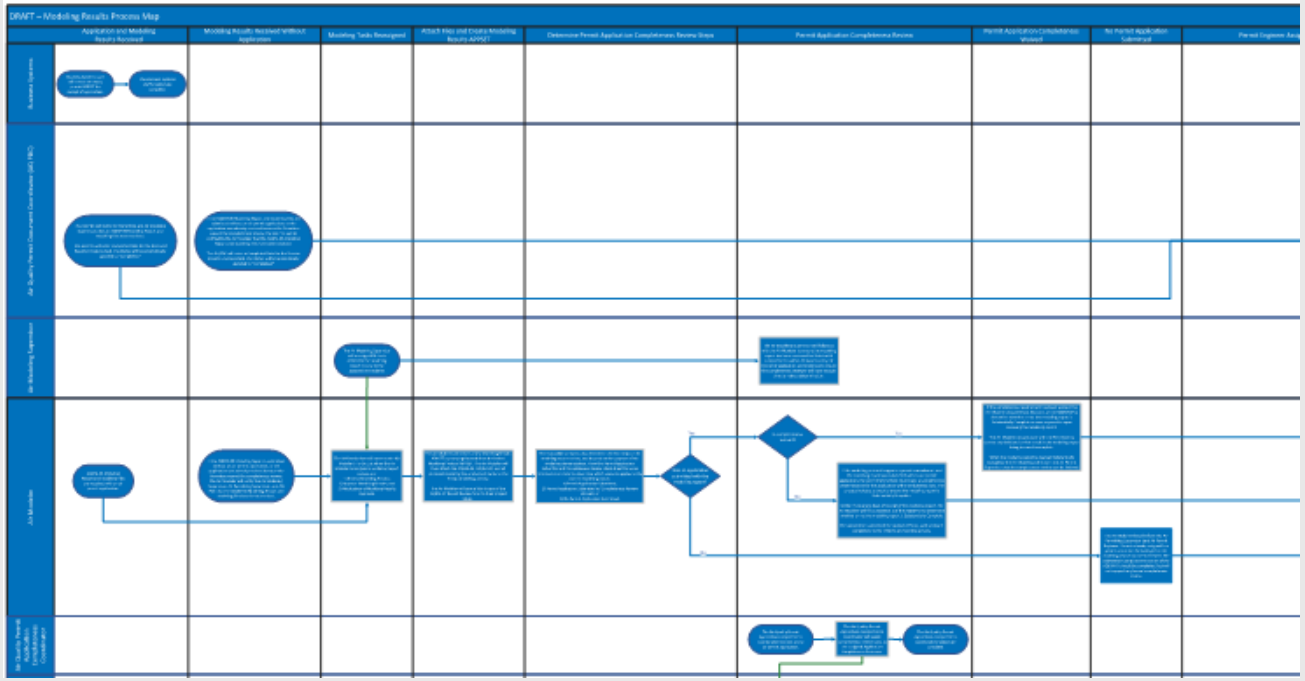
Our mission is to protect and improve the environment and enhance human health | https://www.pca.state.mn.us

Modeling Reviews
Separation of Duties



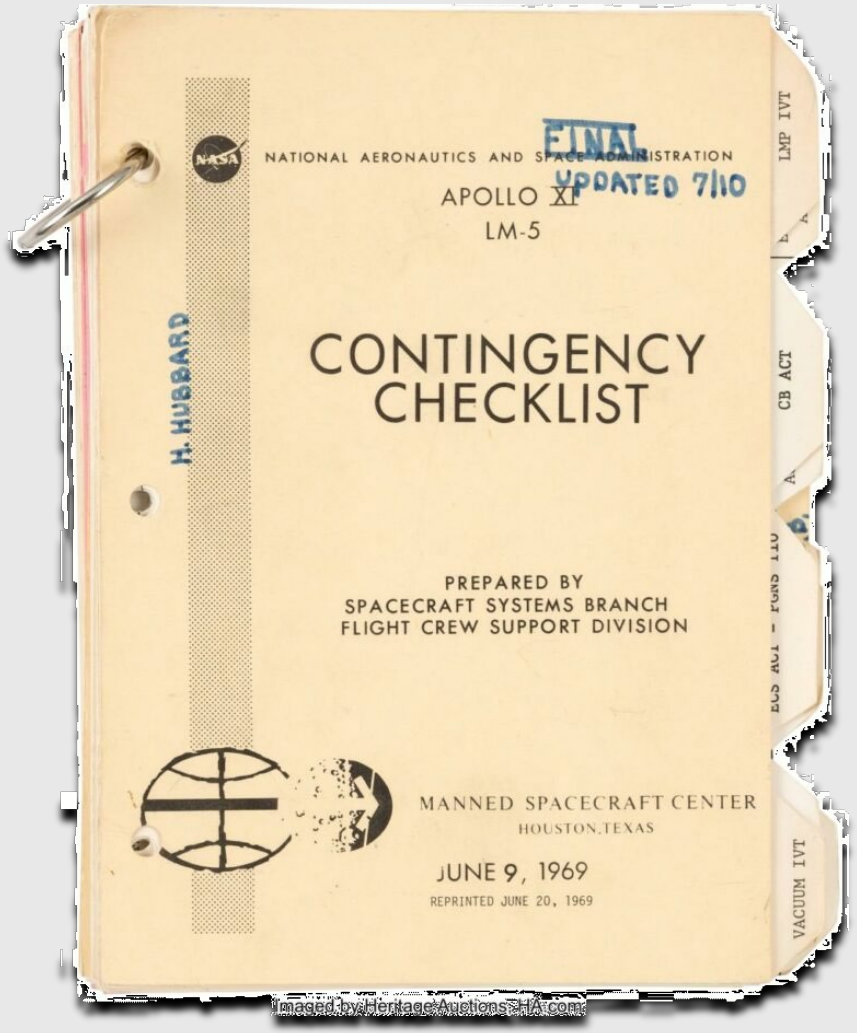
Bridging Documents: Process Map

- Protocol & Results Process Maps
  - ❖Outline Roles and Responsibilities for administrative completion and recording of modeling submittals.
  - ❖ **Originally designed in tandem with implementation of new agency database (TEMPO).*
  - ❖Process map for both steps of modeling demonstration review process: protocol and report.
  - ❖Extensive updates after a few years of non-activity



Bridging Documents: Checklists

- Checklists and Tasks
  - ✓From the overarching process maps, each unit has devised individualized unit checklists to complete the tasks assigned to their staffs.
  - ✓Cross-reviews between the units proved useful in catching misconceptions and provided clarity to steps, e.g. orphaned tasks that where not being completed by either unit.



Bridging Documents: Spreadsheet

AQDM-02: Air Quality Dispersion Modeling Protocol Spreadsheet

- Key document where model and emission inputs are compared. Both staffers, modeler and engineer, ensure that the emissions as documented elsewhere are inputted into AERMOD according to the records on this form.
  - Modeler reviews model input files
  - Engineer reviews submitted facility permit application PTE calculations
- MPRT work identified additional fields that were needed for completion of engineer tasks in the process maps.

30	SO EMISFACT Description		Scalar/Variable emissions description												
31															
32															
33	Permit	AERMOD	Pollutant	Averaging time	Operating scenario	Scalar/Variable emissions_type	X1	Y1	Base_Elev	Emission_Rate	Emission_Rate	Height	Length_X	Length_Y	Rotation_Angle
34	ID	ID					[m]	[m]	[m]	(g/sec/m^2)	(lb/hr/ft^2)	[m]	[m]	[m]	[deg]
35	FS001	FACCONCWE	PM10	24-hr	2		483,070.730	5,247,239.030	469.24	1		0	200	500	0
36	FS002	FACOXPILE	PM2.5	24-hr	1	WSPEED	483,070.730	5,247,239.030	469.24	0.00000536		0	50	100	0
37															
38															
39	Permit	AERMOD	Pollutant	Averaging time	Operating scenario	Scalar/Variable emissions_type	X1	Y1	Base_Elev	Emission_Rate	Emission_Rate	Height	Length_X	Length_Y	Rotation_Angle
40	ID	ID			#		[m]	[m]	[m]	(g/sec/m^2)	(lb/hr/ft^2)	[m]	[m]	[m]	[deg]
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Outcomes

- Regular maintenance a noted necessity
- All new joint modeling/permitting training presentation and effort to have all staff participate
- Collaboration across unit staffs to be conducive to correcting poor assumptions and oversights in reviews.
- Project Manager can lead to more productive updates.
- A useful forum for modeling unit to begin developing internal guidance on review steps for junior modelers (i.e. great for onboarding!)

Thank You!

QUESTIONS are welcomed!

Daniel Dix

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