AIR QUALITY BUREAU
ATTN: Application Log in
7900 Hickman Rd., Suite 1
Windsor Heights, IA 50324

AIR CONSTRUCTION PERMIT APPLICATION

NON-PSD MODELING DETERMINATION FORM

Company Name:	Facility ID:

DISPERSION MODELING DETERMINATION

Completion of Form MD is intended to assist applicants in determining whether emissions associated with non-PSD construction permit projects will require an air dispersion modeling analysis and if so, the type of analysis necessary. This procedure is used for both new construction permit projects and for modifications to previous projects.

The back of this form includes the Air Dispersion Modeling Determination Flow Chart found in the DNR "Air Dispersion Modeling Guidelines for Non-PSD, Pre-Construction Permit Applications." Please check the appropriate boxes on the flow chart to document the modeling determination. This flow chart is pollutant specific, so multiple forms may be needed. The project emissions to be evaluated are the net increase in potential emissions, excluding any units that are exempt from permitting. When determining if previous modeling was within one significant impact level (SIL) of the National Ambient Air Quality Standard (NAAQS) (see second box in flowchart), the modeled concentration should be updated to include the current background value.

Any net increase in lead emissions will require a lead modeling analysis. The DNR may require modeling of emissions of ozone on a case-by-case basis.

There are unique circumstances that the Air Dispersion Modeling Determination Flow Chart does not address that may trigger a modeling review. Recommendations for modeling reviews that fall outside of the Air Dispersion Modeling Determination Flow Chart will be reviewed by DNR management.

When dispersion modeling is required, the modeling analysis is either conducted by the DNR or is submitted by the applicant for DNR review as noted below:

- All applicants have the option to prepare and submit a complete dispersion modeling analysis per DNR's "Air Dispersion Modeling Guidelines for Non-PSD, Pre-Construction Permit Applications" and the "Dispersion Modeling Checklist for Non-PSD Projects."
- For major sources as defined in 567 IAC 22.100 that have previously been modeled, the DNR will conduct the modeling analysis if resources allow. Applicants with extensive changes to their facility may expedite the modeling review by submitting their own modeling analysis.
- For projects at major sources that have not previously been modeled, the applicant must prepare and submit the dispersion modeling analysis.
- For projects at non-major sources (minor), the DNR will conduct the initial dispersion modeling as a service to the minor source when a modeling analysis has not been submitted by the applicant.

TIPS FOR IMPROVING DISPERSION OF AIR POLLUTANTS

- Build stacks with vertical, unobstructed-type discharges. Flapper-type and Chicago-style rain caps are considered to be unobstructed-type discharges.
- Locate stacks as far as possible from the facility's property boundary.
- Build stacks as tall as possible.

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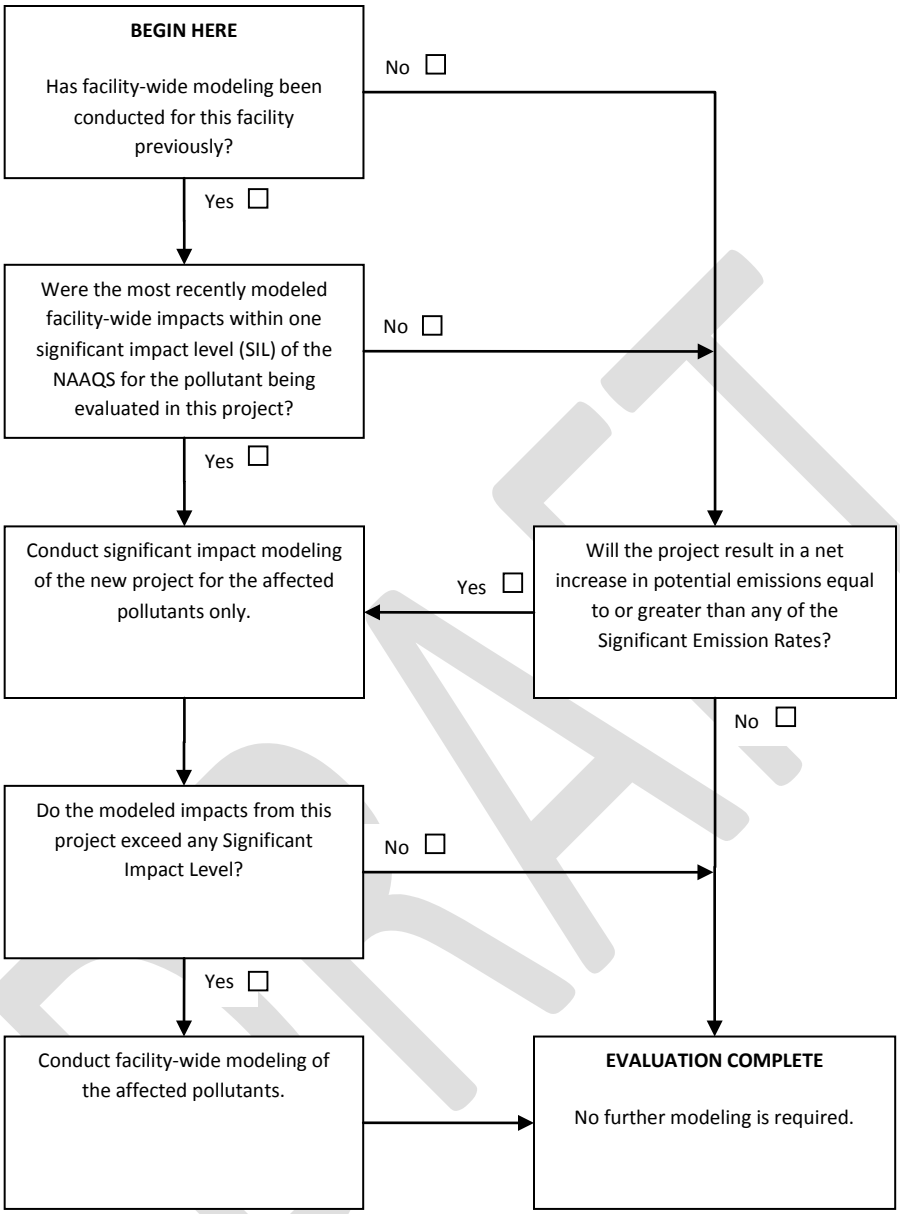
Modeling Determination Flow Chart

Pollutant (s): **Net increase in potential emissions:**



Pollutant	Significant Emission Rate	National Ambient Air Quality Standard ($\mu g/m^3$)					Significant Impact Level (SIL) ($\mu g/m^3$)				
		1-hour	3-hour	8-hour	24-hour	Annual	1-hour	3-hour	8-hour	24-hour	Annual
PM_{10}	3.42 lb/hr				150					5	
$PM_{2.5}$	2.28 lb/hr				35	15				1.2	0.3
NO_2	9.13 lb/hr	188				100	7.5				1
SO_2*	9.13 lb/hr	196	1,300		365	80	7.9	25		5	1
CO	22.8 lb/hr	40,000		10,000			2,000		500		

~~* For 1-hour SO_2: no dispersion modeling is currently required for minor projects. Ambient air impact evaluation will be required in the future State Implementation Plan revision.~~