



# Cumulative Levels and Effects Analysis

## Air Permitting in South Minneapolis

A cumulative levels and effects (CL&E) analysis is required for all air permits in the area drawn on the map.

The CL&E analysis is required by a statute that was written by South Minneapolis community members and legislators in 2008. This is the first statute of its kind in the nation.

The Minnesota Pollution Control Agency (MPCA) developed a method for conducting the CL&E analysis through a stakeholder process. Information related to the CL&E analysis, the statute, and active permit projects in the area can be found at <http://www.pca.state.mn.us/qzqh484>.

### What is a cumulative levels and effects analysis?

A CL&E analysis is a comprehensive look at all the environmental health related information in the area that could be affected by a project. The information from the CL&E analysis is used as part of developing an air permit. The steps involved in a CL&E analysis are described below.

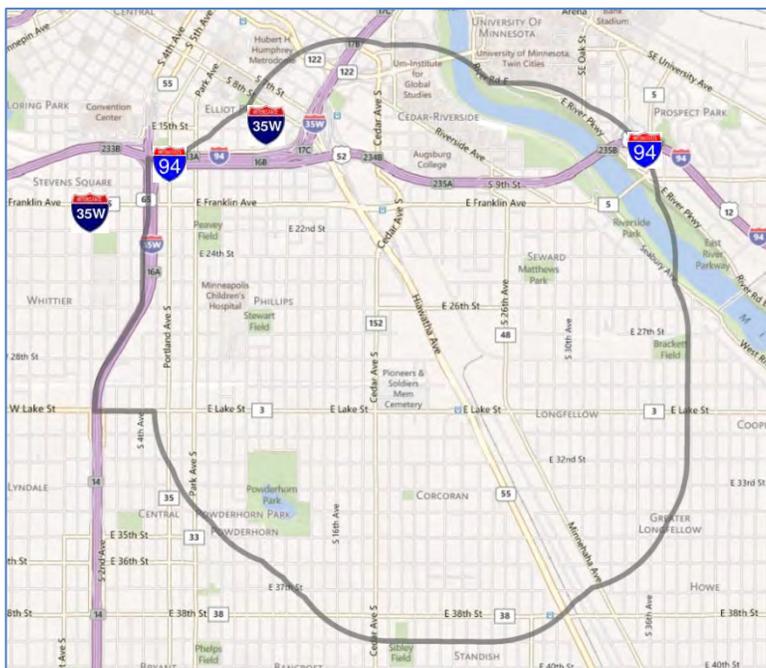
### How do I stay informed?

The MPCA offers expanded outreach in the area, including:

- Community information sessions held at the beginning of the permit review process.
- E-mail notifications ([http://public.govdelivery.com/accounts/MNPCA/subscriber/new?topic\\_id=MNPCA\\_14](http://public.govdelivery.com/accounts/MNPCA/subscriber/new?topic_id=MNPCA_14)).
- Website devoted to the CL&E process (<http://www.pca.state.mn.us/qzqh484>).
- Extended public comment period for draft air permits.
- Public meeting for draft permits.

### How do I comment on the cumulative levels and effects process?

The MPCA continues to update the CL&E process. If you have questions or suggestions, please let us know (contact information: <http://www.pca.state.mn.us/qzqh484>).



# Five steps to a Cumulative Levels and Effects Analysis

## 1. Pollutants and emission rates

The maximum possible pollutant emissions from a project are determined. In air permitting, pollutants fall into two categories:

- criteria pollutants (pollutants with air quality standards)
- air toxics (all other air pollutants)

## 2. Computer models

A computer calculates maximum air concentrations or risks using an “*air dispersion model*” that includes the following types of information:

- maximum possible air pollutant emissions
- local weather data
- building locations
- terrain
- facility operations
- other data unique to the facility

## 3. Determine the study area

The study area is determined based on a comparison of modeled air concentrations with screening levels. The screening levels are a small fraction of state and federal air quality standards and guidelines. The study area is the focus of the CL&E analysis. This area is based on the farthest point from the facility where a screening level is exceeded. *Please note: the screening level is set low to be protective. If a screening level is exceeded, further study is needed; it does not mean there is a concern.*

## 4. Environmental Health Information Included in the cumulative levels and effects Analysis

Environmental health data associated with the health effects identified in Step 3, such as:

- asthma-related emergency room visits and hospitalizations
- blood lead in children
- traffic densities
- measured air pollutants from air monitors

- modeled air pollutants
- cancer registry data
- birth data
- water quality data
- fish tissue concentrations
- other health risk factors such as community smoking rates, nutritional status, etc.

Some information is always included in the CL&E analysis, such as:

- socioeconomic data
- facility-specific air concentrations and risks
- potential contributions from nearby sources

## 5. Cumulative levels and effects report

After all the information is gathered, a CL&E report is prepared and included in the air permit application.

The CL&E analysis report includes:

- description of the environmental health data
- description of the facility specific analyses
- summaries of community stressors and vulnerabilities
- description of nearby sources
- modeling results for air toxics and criteria pollutants

### When is an Air Permit Needed?

State and federal rules tell us which projects need an air permit. Some examples of when an air permit is needed include:

1. New facility that needs an air permit to construct and operate.
2. Expansion at a facility that already has a permit, but needs a new permit to operate the new equipment.
3. Change in ownership at a facility.
4. Change in how the company plans to operate the equipment, such as a change in fuels used in a boiler.

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### Additional Resources

- The CL&E Statute (Minn. Stat. § 116.07, subd. 4a): <https://www.revisor.mn.gov/statutes/?id=116.07>.
- MPCA CL&E process website: <http://www.pca.state.mn.us/qzqh484>.
- U.S. Environmental Protection Agency cumulative risk framework: <http://www.epa.gov/raf/publications/framework-cra.htm>.
- Publication on CL&E process implementation: <http://www.mdpi.com/1660-4601/8/11/4140>.