



Proposed Sulfur Dioxide (SO₂) State Implementation
Plan for Wayne County, Michigan

Frequently Asked Questions

What is sulfur dioxide, and why do I care about it?

Sulfur dioxide (SO₂) is a gas formed by the burning of sulfur-containing materials. Sources of SO₂ include coal burning power plants, steel mills, petroleum refineries, pulp and paper mills and non-road transportation sources.

The MDEQ regulates sources of SO₂ as exposure to elevated levels can affect breathing, cause respiratory illnesses and aggravate existing cardiovascular and pulmonary diseases. Asthmatics, children and the elderly are especially sensitive to SO₂.

Is the air safe to breathe?

Air quality standards, which define what is safe to breathe, are set by federal law using levels that focus on protecting our most vulnerable populations – children and individuals with compromised respiratory systems. The United States Environmental Protection Agency (EPA) lowered the air quality standard for SO₂ in 2010. The air in Wayne County currently meets all federal air quality standards. Data from 2012-2014 at the MDEQ's Southwestern High School monitoring station showed 72.4 parts of SO₂ per billion parts of air. This is lower than the federal limit of 75 parts per billion.

So why is MDEQ working on this plan?

A few years ago, the air in a portion of Wayne County failed to meet the new, lowered federal air quality standards for SO₂, as measured by MDEQ air monitoring at the Southwestern High School monitoring station. This portion of the county included southwest Detroit, River Rouge and Ecorse (see attached map).

In response, federal clean air laws required the MDEQ to develop a State Implementation Plan to demonstrate how the state will bring the area's air quality back into compliance with federal standards and keep it there. Even though data from 2012-2014 shows the area is now in compliance, the state must complete this process.

How will the proposed State Implementation Plan ensure the federal standard for SO₂ is met?

There are five key sources for SO₂ in the area.

- DTE Trenton Channel
- DTE River Rouge
- EES Coke
- Carmeuse Lime
- U.S. Steel

The first four worked with the MDEQ on new permits and pollution control equipment that helps them lower and/or better disperse their emissions.

Separately, MDEQ has developed a state rule (Rule 430) requiring U.S. Steel to lower its SO₂ emissions.

Will the proposed state plan bring the area into compliance with the federal standard for SO₂?

The state plan is required to demonstrate that the air quality meets the air quality standard under both actual and computer-simulated emissions. The simulated emissions model a “worst case scenario” for air quality where every facility is operating at its maximum capacity at the same time. Under this extreme scenario, the computer modeling predicts two small hotspots with concentrations exceeding the federal standard.

However, the MDEQ is confident the “worst case scenario” modeling assumptions are unlikely in the real world. The MDEQ believes the permit revisions for DTE Trenton Channel, DTE River Rouge, Carmeuse Lime and EES Coke coupled with the proposed new state rule for U.S. Steel will be adequate to meet the federal standard for SO₂.

In fact, even before the state plan comes into effect, the Southwestern High School monitor showed compliance with the federal standard between 2012 and 2014.

When will the proposed State Implementation Plan become effective?

Once submitted by MDEQ, the EPA has 18 months to approve or reject the proposed strategy.

How many SO₂ monitors are in southeast Michigan?

In southwest Detroit, the MDEQ conducts SO₂ monitoring at the Allen Park and the Southwestern High School sites (see attached map). The MDEQ also monitors SO₂ in Port Huron and Monroe.

In addition to the MDEQ monitors, Marathon Petroleum Company has four ambient air monitoring stations in the 48217 zip code. Three of the stations are on the facility property and one station is south of the facility at Mark Twain Middle School. SO₂ is measured continuously at all four sites, along with other pollutants. Marathon sends its data to the MDEQ every month, where it is reviewed and then housed on the EPA's Air Quality System database. It is publically available from the MDEQ.

How were those locations for SO₂ monitoring in Wayne County chosen?

The MDEQ monitors for SO₂ at the Allen Park and Southwestern High School sites (see attached maps).

There is a long history of monitoring at the Allen Park site. Originally operated by the Wayne County Air Pollution Control Division, the site provided SO₂ monitoring from 1971-1998. The MDEQ became the monitoring agency in 2001, and began monitoring for SO₂ in 2008.

The Southwestern High School site, also originally operated by the Wayne County Air Pollution Control Division, has continuously provided SO₂ monitoring since 1971. Due to its proximity to industry, traffic corridors, and a residential area, this site was well-suited for the ambient air monitoring station, originally located on school property. Today, the site is across the street from the former school, and continues to monitor for SO₂ and many other types of pollutants.

Is the air quality monitoring system effective?

Yes. In addition to two MDEQ SO₂ monitoring stations in Wayne County, the department receives data from four Marathon SO₂ monitoring stations located in the 48217 area. The MDEQ also uses sophisticated computer modeling to determine SO₂ levels.

Additionally, the MDEQ routinely inspects industrial facilities to make sure they are meeting their permitted SO₂ emission limits.

Are there other areas in Michigan not meeting the SO₂ standard?

Currently all of MDEQ's air monitors show compliance with the health standard. However, modeling conducted for large SO₂ sources in other parts of the state show that there is a potential for the standard to be exceeded in southern St. Clair County. As such, MDEQ has recommended to EPA that portion of St. Clair County be designated as nonattainment.

How do I give my input on the draft State Implementation Plan?

The MDEQ is accepting written comments on the proposed State Implementation Plan from August 20, 2015 through October 5, 2015. Comments should be emailed to Cari DeBruler at DeBrulerc@michigan.gov or mailed to:

Cari DeBruler
Michigan MDEQ, Air Quality Division
PO Box 30260
Lansing, MI 48909-7760

In addition, the MDEQ is holding an informational meeting followed by a public hearing at 6 PM and 7 PM, respectively, on Sept. 23, 2015 at River Rouge High School, 1460 W. Coolidge Hwy., River Rouge, Michigan. Both written and oral comments will be accepted at the public hearing.

What happens after the public comment period and public hearing are over?

The MDEQ will review the comments received and will make changes to the proposed State Implementation Plan as needed. The MDEQ will then send the proposed State Implementation Plan to the EPA for their approval. The MDEQ will also work to formally adopt the rule regarding U.S. Steel.

What happens if the U.S. Environmental Protection Agency does not approve the proposed State Implementation Plan?

If the EPA finds the State Implementation Plan inadequate, they can issue a Federal Implementation Plan that contains more or different control requirements on sources located in the SO₂ nonattainment area.