



State of Oregon Department of Environmental Quality

Short-Term NAAQS Analysis Quick Guide

Updated August 30, 2022

Overview

As of June 2021, all new facilities applying for a Simple or Standard ACDP must demonstrate compliance with the National Ambient Air Quality Standards, including 1-hour NO₂ and SO₂, and the 24-hour PM_{2.5} standard. The current process of comparing annual emissions to a Significant Emission Rate as an initial screening step is not protective of the short-term NAAQS because there are cases when a facility may have emissions below an SER but can cause short-term NAAQS violations. The SERs will still be used to determine if compliance with the annual NAAQS is required. Since the 1-hour NO₂ and SO₂ NAAQS were not established at the time the SERs were developed, facilities may compare their short term emission rates to the trial Significant Emission Threshold (SET) to show compliance with the short-term NAAQS, otherwise a full NAAQS analysis is required. This Quick Guide highlights the process for demonstrating compliance with all NAAQS.

Applicability

This guide applies to all new, non-intermittent permitted sources. It does not apply to sources that run intermittent schedules, such as data centers. Specific data center guidance will be provided separately. Guidance for existing facilities will be similar to what is shown below, but facilities should work directly with DEQ to determine individual requirements based on existing emission limits.

Significant Emission Threshold (SET)

DEQ has developed trial short-term SETs for PM_{2.5}, SO₂, and NO_x that are similar in concept to the annual-based SERs. Facilities can compare their *facility-wide maximum short-term emission rates* against the SETs, and if the emission rate is below the SET, further evaluation of the pollutant is not required to show compliance with the short-term NAAQS. If the emission rate is equal to or above the SET, the facility must further demonstrate compliance by following the process outlined in the following section. The trial SETs are as followed:

Pollutant	Trial SET
24-hour PM _{2.5}	5 lbs/day
1-hour SO ₂	3 lbs/hr
1-hour NO _x	3 lbs/hr

The trial SETs will be reviewed within three years (target date of 2025) to ensure they are meeting the dual objectives of protecting public health and improving efficiencies for the air quality permitting process.

Comparison of NAAQS Analysis Process

The process for evaluating annual NAAQS compliance is unchanged and is demonstrated by the steps in the second column below. The same process steps apply to the analysis of short-term NAAQS compliance, shown in the third column, which must be conducted regardless of how the annual emissions compare to SERs. The revised process is highlighted in red. It is required until a SET is developed and evaluated by DEQ. Once the SETs are established, the process for facilities to follow is shown in the column on the right.

Information	Annual NAAQS	Short-term NAAQS (NEW)
Applicable Averaging Time: Pollutant*	Annual: PM ₁₀ , PM _{2.5} , NO ₂	1-hour: NO ₂ , SO ₂ 24-hour: PM _{2.5}
Compare Emissions to a significance threshold	SER [OAR340-200-0020(161)]	SET [See Above]
SIL Analysis [OAR 340-200-0020 (162)]	Only if SER is exceeded	Only if SET is exceeded, Facilities may skip straight to Cumulative Analysis, if desired.
NAAQS Cumulative Impact Analysis [OAR340-225]	Only if SIL is exceeded	If SET or SIL is exceeded
Include Background Conc.	Yes	Yes
Include Competing Source	Yes	Yes, except may not be needed for 1-hour standards

*Ozone requires different analyses, which are discussed further in the Modeling Procedures document.

Comparison to SER and SET

For the annual NAAQS, comparing the annual emission to the SERs is still an acceptable first screening step. For the short-term NAAQS, comparing the maximum short term emission rate to the trial SET is an acceptable first screening step. In this case, both the SERs and trial SETs are considered protective of the NAAQS. If the annual emissions from a facility are greater than the SERs, they must continue on to a SIL Analysis. If the maximum short-term emissions from a facility are greater than the SETs, the facility can opt to conduct a SIL analysis, or go directly to a Cumulative Impact Analysis because facilities greater than the SET are anticipated to exceed the SIL.

SIL Analysis

The process for conducting a SIL Analysis is outlined in the [Recommended Procedures for Air Quality Dispersion Modeling](#). This analysis is currently required for all short-term NAAQS, and any annual NAAQS that exceed the SER. All receptors where concentrations exceed the SILs, shown in the table below, are required to conduct a NAAQS Cumulative Impact Analysis.

Pollutant	Averaging Time	Significant Impact Level (ug/m3)	
		Class I Area	Class II Area
PM _{2.5}	Annual	0.06	0.30
	24-hour	0.07	1.2
PM ₁₀	Annual	0.20	0.20
	24-hour	0.30	1.0
SO ₂	Annual	0.10	1.0
	24-hour	0.20	5.0
	3-hour	1.0	25.0
	1-hour	--	8.0
NO ₂	Annual	0.10	1.0
	1-hour	--	8.0
CO	8-hour	--	500
	1-hour	--	2000

NAAQS Cumulative Impact Analysis

The Recommended Procedures for Air Quality Dispersion Modeling document includes instructions for developing a competing source inventory and the use of background concentrations. DEQ will work with sources on a case-by-case basis to determine if a competing source inventory for short-term NAAQS is necessary, as plumes are not likely to overlap in a given hour.

More Information

Please Contact [Kristen Martin](#) if you have any questions regarding the information provided in this Quick Guide.

