

# Technical Support Document:

## Chapter 44

### Final Round 3 Area Designations for the 2010 1-Hour SO<sub>2</sub> Primary National Ambient Air Quality Standard for Wisconsin

#### 1. Summary

Pursuant to section 107(d) of the Clean Air Act (CAA), the U.S. Environmental Protection Agency (the EPA, we, or us) must designate areas as either “nonattainment,” “attainment,” or “unclassifiable” for the 2010 1-hour sulfur dioxide (SO<sub>2</sub>) primary national ambient air quality standard (NAAQS) (2010 SO<sub>2</sub> NAAQS). Our Notice of Availability (NOA)<sup>1</sup> and our Technical Support Document<sup>2</sup> for our intended designations for the round of designations we are required to complete by December 31, 2017, provided background on the relevant CAA definitions and the history of the designations for this NAAQS. Chapter 1 of this TSD for the final designations explains the definitions we are applying in the final designations. The TSD for the intended Round 3 area designations also described Wisconsin’s recommended designations, assessed the available relevant monitoring, modeling, and any other information, and provided our intended designations.

This TSD for the final Round 3 area designations for Wisconsin addresses any change by Wisconsin to its recommended designations since we communicated our intended designations for areas in Wisconsin. It also provides our assessment of additional relevant information that was submitted too close to the signature of the NOA to have been considered in our intended designations, or that has been submitted by Wisconsin or other parties since the publication of the NOA. This TSD does not repeat information contained in the TSD for our intended designations except as needed to explain our assessment of the newer information and to make clear the final action we are taking and its basis, but that information is incorporated as part of our final designations. If our assessment of the information already considered in our TSD for our intended designations has changed based on new information and we are finalizing a designation based on such change in our assessment, this TSD also explains that change. For areas of Wisconsin not explicitly addressed in this chapter, we are finalizing the designations described in our 120-day letters and the TSD for the intended Round 3 area designations as explained in those documents. All the final designations are listed in Table 1 below.

In response to our 120-day letter to Wisconsin, the EPA received comments from both the State and from USG Interiors, LLC-Walworth (USG-Walworth) pertaining to our intended designations for Walworth County, Wisconsin.

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<sup>1</sup> EPA Responses to Certain State Designation Recommendations for the 2010 Sulfur Dioxide Primary National Ambient Air Quality Standard: Notification of Availability and Public Comment Period, September 5, 2017 (82 FR 41903).

<sup>2</sup> Technical Support Document: Intended Round 3 Area Designations for the 2010 1-Hour SO<sub>2</sub> Primary National Ambient Air Quality Standard, August 2017. <https://www.epa.gov/sulfur-dioxide-designations/initial-technical-support-documents-area-designations-round-3>

The State provided comments on a variety of topics related to our intended designations for areas in Wisconsin. Specifically, the State provided comments: requesting that certain counties in Wisconsin be designated attainment as opposed to unclassifiable/attainment; supporting the EPA's intended designation as unclassifiable/attainment for the remaining areas for which we had proposed such designations; requesting a designation of unclassifiable/attainment for Walworth County, based on implementation of recently approved federally enforceable and effective requirements for USG-Walworth; and urging that the EPA make "as small as possible" the boundaries of the area not being designated at this time after the state timely installed and began operation of a new monitoring network in Outagamie County. The EPA has addressed these comments from the state in our response to comments document that accompanies this action.

Section 2 below reviews the comments received from USG-Walworth specific to the Walworth County, Wisconsin area.

For the areas in Wisconsin that are part of the Round 3 designations process, Table 1 identifies the EPA's final designations and the counties or portions of counties to which they apply. It also lists Wisconsin's current recommendations. The EPA's final designations for these areas are based on an assessment and characterization of air quality through ambient air quality data, air dispersion modeling, other evidence and supporting information, or a combination of the above.

**Table 1. Summary of the EPA's Final Designations and the Designation Recommendations by Wisconsin**

Area/County	Wisconsin's Recommended Area Definition	Wisconsin's Recommended Designation	EPA's Intended Designation	EPA's Final Area Definition <sup>+</sup>	EPA's Final Designation <sup>3</sup>
Marathon County	Full County	Attainment	Unclassifiable/Attainment	Same as State's Recommendation	Attainment/Unclassifiable
Sheboygan County	Full County	Attainment	Unclassifiable/Attainment	Same as State's Recommendation	Attainment/Unclassifiable
Walworth County	Full County	Attainment	Nonattainment	Same as State's Recommendation	Attainment/Unclassifiable
Remaining Undesignated Areas to Be Designated in this Action*	Remainder of the State	Attainment	Unclassifiable/Attainment	Remainder of the state except for Outagamie County and those other areas already designated by EPA <sup>4</sup> or listed above	Attainment/Unclassifiable

\* Except for areas that are associated with sources for which Wisconsin elected to install and timely began operation of a new SO<sub>2</sub> monitoring network meeting EPA specifications referenced in EPA's SO<sub>2</sub> DRR (Expera Specialty Solutions, LLC-Kaukauna in Outagamie County; see Table 2 below), the EPA is designating the remaining undesignated counties (or portions of counties) in Wisconsin as "attainment/unclassifiable." These areas that we are

<sup>3</sup> Refer to Chapter 1 of Technical Support Document: Final Round 3 Area Designations for the 2010 1-Hour SO<sub>2</sub> Primary National Ambient Air Quality Standard for definitions of the designation categories and the terminology change from Unclassifiable/Attainment to Attainment/Unclassifiable.

<sup>4</sup> Columbia County (81 FR 45039) and a portion of Oneida County comprised of the City of Rhinelander and four townships, including Crescent Town, Newbold Town, Pine Lake Town, and Pelican Town (78 FR 47191).

designating as attainment/unclassifiable (those to which this row of this table is applicable) are identified more specifically in section 6 of Chapter 44 (addressing Wisconsin) of the TSD for our intended designations.

<sup>+</sup> Includes all areas of Indian country geographically located with the county, unless otherwise noted. The EPA is not determining the boundaries of any area of Indian country in this document, including any area of Indian country located in the larger designation area. This document is not a determination related to regulatory authority under the Clean Air Act for such area of Indian country.

Areas for which Wisconsin elected to install and began operation of a new, approved SO<sub>2</sub> monitoring network are listed in Table 2. The EPA is required to designate these areas, pursuant to a court ordered schedule, by December 31, 2020. Table 2 also lists the SO<sub>2</sub> emissions sources around which each new, approved monitoring network has been established.

**Table 2. Undesignated Areas Which the EPA Is Not Addressing in this Round of Designations (and Associated Source or Sources)**

Area	Source
Outagamie County	Expera Specialty Solutions, LLC-Kaukauna

## 2. Technical Analysis of New Information for the Walworth County Area

### 2.1. Introduction

The EPA must designate the Walworth County, Wisconsin area by December 31, 2017, because the area has not been previously designated and Wisconsin has not installed and begun timely operation of a new, approved SO<sub>2</sub> monitoring network to characterize air quality in the vicinity of any source in Walworth County, Wisconsin.

The EPA received comments from USG-Walworth noting that the EPA has approved the Administrative Consent Order (hereafter referred to as “AM-16-01”) and incorporated it into the Wisconsin State Implementation Plan (SIP). Furthermore, the comments from USG-Walworth indicated that AM-16-01 is “in force.” The EPA agrees that AM-16-01 is now federally enforceable and in effect because it had a compliance date of October 1, 2017, and has been approved as an enforceable condition of Wisconsin’s SIP (*see* 82 FR 31458). Additionally, the comments from USG-Walworth indicate that the first two requirements under AM-16-01, i.e., increasing the cupola stack height and the submission of a Compliance and Monitoring plan, have been completed. The EPA’s assessment of this additional information from USG-Walworth is presented below. As discussed in the response to comments document, Wisconsin also urged that the EPA designate this area as unclassifiable/attainment based on the applicability of the now federally enforceable and “in force” requirements of AM-16-01.

### 2.2. Summary of Information Reviewed in the TSD for the Intended Round 3 Area Designations

In the 120-day letter notification to the governor of Wisconsin, and further explained in Chapter 44 of the TSD for the Intended Round 3 Area Designations, the EPA proposed a designation of nonattainment based on all available information, including modeling information and all relevant monitoring information.

The following Table 3 identifies all the modeling assessments evaluated for the 120-day letters and discussed in the TSD for the intended Round 3 area designations. Additional details can be found in the TSD for the Intended Round 3 Area Designations, Chapter 44.

**Table 3 –Modeling Assessments Evaluated in the TSD for the Intended Designation for the Walworth County Area**

<b>Organization Submitting Assessment</b>	<b>Date of the Assessment</b>	<b>Identifier used in the TSD for the Intended Round 3 Area Designations, Chapter 44</b>	<b>Distinguishing or Otherwise Key Features</b>
State of Wisconsin	Jan. 2017	State modeling	Based on new conditions of AM-16-01
EPA - Enforcement	2014	EPA modeling	Based on actual emissions

The EPA in 2014 conducted a modeling analysis of USG-Walworth for enforcement purposes. The EPA's 2014 enforcement modeling indicated violations of the 2010 SO<sub>2</sub> NAAQS under the conditions at that time (in absence of the AM-16-01 requirements). Specifically, the EPA's 2014 enforcement modeling relied on estimated actual emissions paired with the 5-year period of meteorological data, 2006-2010. Because this modeling indicated violations of the standard, USG-Walworth was added to the SO<sub>2</sub> DRR Source list by the EPA in a letter<sup>5</sup> to Wisconsin dated April 12, 2016.

For this area, the EPA received and considered one modeling assessment from the state. In January 2017, Wisconsin submitted a modeling analysis demonstrating attainment for the Walworth County area based on the conditions contained in AM-16-01. AM-16-01 imposes on USG-Walworth an SO<sub>2</sub> emission limit on the mineral wool production process in conjunction with a minimum cupola stack flue gas flow rate and an increased cupola stack height. Wisconsin's modeling analysis and the EPA's 2014 enforcement modeling analysis are detailed in Chapter 44 of the TSD for our intended designations.

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<sup>5</sup> See attachment to Docket ID: EPA-HQ-OAR-2017-0003-0388, titled, "Letter dated April 12, 2016, from Robert A. Kaplan, Acting Regional Administrator, US EPA Region 5, to Gail Good, Director, Air Management Program, Wisconsin Dept of Natural Resources, Regarding the addition of USG Interiors in Walworth County, Wisconsin to the list of sources to be characterized under the SO<sub>2</sub> Data Requirements Rule."

The EPA recently approved AM-16-01 into the Wisconsin SIP, thereby making the requirements of AM-16-01 federally enforceable, via a direct final rulemaking (82 FR 31458). This direct final rule became effective September 5, 2017. These requirements had a compliance date of October 1, 2017. As explained in the TSD for our intended designations, the EPA found that the modeling performed by Wisconsin would be a reliable assessment of air quality in the area for the period beginning after the compliance date of October 1, 2017, and going forward once those requirements were incorporated into the SIP. Therefore, the EPA's intended nonattainment designation for Walworth County was based on the EPA's 2014 enforcement modeling as the new AM-16-01 requirements as modeled by the state were not yet fully enforceable and in effect, but the EPA anticipated that the final designation may differ from the intended designation if such modeling became a reliable assessment of air quality in the area at the time of final action.

### **2.3. Other Additional Information Relevant to the Designation for the Walworth County Area**

At the time of our intended designations, the conditions of AM-16-01 were not yet federally enforceable and in effect. As stated at the time, when designating areas, the EPA does not consider anticipated future emission reductions that are not yet fully effective and in effect. In Chapter 44 of the TSD for our intended designation, we further stated that since the AM-16-01 requirements would be in effect before we take final action on the designation for the USG-Walworth area (expecting final designation action would take place after October 1, 2017), the EPA anticipated designating the area unclassifiable/attainment in a final action by December 31, 2017. The EPA based this expectation predominantly on the modeling analysis provided by Wisconsin, which demonstrates that, upon satisfaction of the new AM-16-01 requirements on the mineral wool production process at USG-Walworth, the area near USG-Walworth will be attaining the SO<sub>2</sub> standard. AM-16-01 required that USG-Walworth meet these requirements by October 1, 2017.<sup>6</sup> This expectation was also based on a finding that no other SO<sub>2</sub> sources warranting inclusion in the modeling analysis are located in or near Walworth County, such that Wisconsin's analysis may be considered to demonstrate that satisfaction of the requirements of AM-16-01 would ensure that no violations would occur anywhere in Walworth County. In addition, no area within 100 km of Walworth County is currently designated nonattainment or is being designated nonattainment in Round 3, so that the EPA also finds that there is no indication of contribution of Walworth County sources to nonattainment in nearby areas.

### **2.4. Emissions and Emissions-Related Data, Meteorology, Geography, and Topography for the Walworth County Area**

These factors have been incorporated into the air quality modeling efforts and results discussed above and in further detail in the TSD for our intended designations for this area. The EPA gave

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<sup>6</sup> USG-Walworth submitted comments that attest it is now meeting these requirements. See Docket ID: EPA-HQ-OAR-2017-0003-0535.

consideration to these factors by considering whether they were properly incorporated and by considering the air quality concentrations predicted by the modeling.

## 2.5. Jurisdictional Boundaries in the Walworth County Area

Existing jurisdictional boundaries are considered for the purpose of informing the EPA's designation action for Walworth County. Our goal is to base designations on clearly defined legal boundaries, and to have these boundaries align with existing administrative boundaries when reasonable.

In January 2017, Wisconsin recommended that all remaining areas of the state, including Walworth County, be designated attainment, except those areas conducting monitoring in accordance with the SO<sub>2</sub> DRR.

## 2.6. The EPA's Assessment of the Available Information for the Walworth County Area

The EPA's assessment of the Walworth County area, as described in the TSD for our intended designations, concluded that, after the compliance date of October 1, 2017, for the enforceable conditions on USG-Walworth had passed, the modeling previously submitted by the State would then be sufficient to demonstrate attainment and be a suitable basis for our final designations. Guidance in the Modeling TAD describes an option to assess air quality in an area based on allowable emissions pursuant to existing federally enforceable emission limitations for which compliance is already required. Wisconsin provided modeling accordingly demonstrating that the limitations in AM-16-01 would assure that Walworth County attains the SO<sub>2</sub> standard. As such, the EPA is relying on this information as the basis for our final designation for this area.

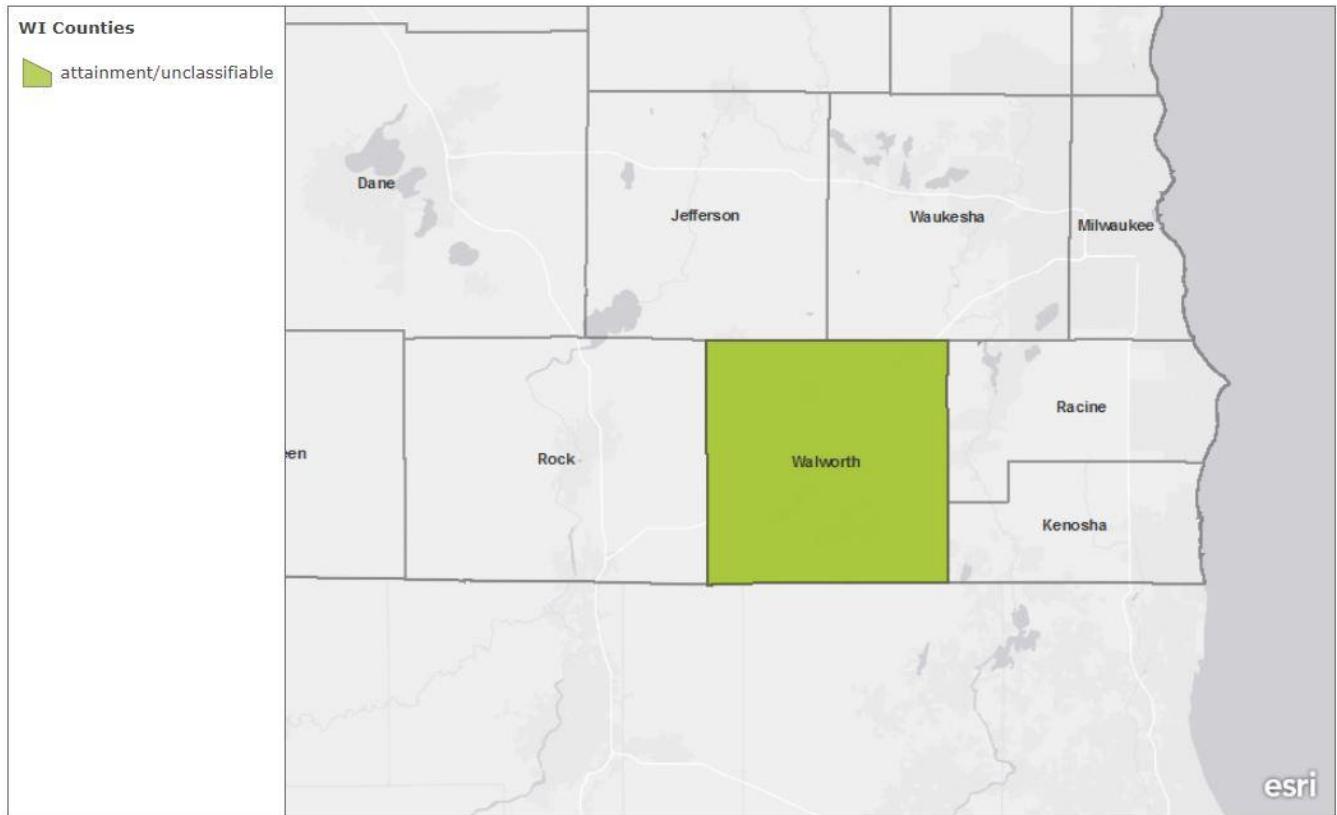
The EPA believes that our final attainment/unclassifiable area, bounded by the boundaries of Walworth County, will have clearly defined legal boundaries, and we find these boundaries to be a suitable basis for defining our final attainment/unclassifiable area.

## 2.7. Summary of Our Final Designation for the Walworth County Area

After careful evaluation of the State's recommendation and supporting information, as well as all available relevant information, the EPA is designating the Walworth County area as attainment/unclassifiable for the 2010 SO<sub>2</sub> NAAQS. The EPA has determined that the State's modeling demonstrates that now that the conditions of AM-16-01 are in place and fully effective (which occurred as of October 1, 2017) the area meets the EPA's definition of an attainment/unclassifiable area as an area for which the EPA has determined the available information indicates the area meets the NAAQS and does not indicate the area contributes to ambient air quality in a nearby area that does not meet the NAAQS. Specifically, the boundaries are comprised of the jurisdictional boundaries of Walworth County.

Figure 1 shows the boundary of this final designated area.

**Figure 1. Boundary of the Final Walworth County Attainment/Unclassifiable Area**



Esri, HERE, NPS | Esri, HERE, Garmin, NGA, USGS, NPS

At this time, our final designations for the state only apply to this area and the other areas presented in this chapter. The EPA intends in a separate action to evaluate and designate all remaining undesignated areas in Wisconsin by December 31, 2020.