Technical Support Document:

Chapter 40
Final Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for Utah

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_2) primary national ambient air quality standard (NAAQS) (2010 SO_2 NAAQS). Our Notice of Availability (NOA)[1] and our Technical Support Document[2] 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 Utah'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 Utah addresses any change by Utah to Utah's recommended designations since we communicated our intended designations for areas in Utah. It also provides our assessment of additional relevant data and information that were submitted too close to the signature of the NOA to have been considered in our intended designations, or that have been submitted by Utah 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 Utah 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. All the final designations are listed in Table 1 below.

The EPA received comments from the Sierra Club on October 5, 2017, regarding our intended unclassifiable/attainment designation for Emery County, Utah. This included modeling information as well as legal and policy related comments specific to the modeling receptors the

[1] 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)

[2] Technical Support Document: Intended Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard, August 2017. https://www.epa.gov/sulfur-dioxide-designations/initial-technical-support-documents-area-designations-round-3

state had excluded from its modeling analysis in Emery County. These comments are addressed in this Utah chapter of the final designations TSD. Notably, as discussed below, we base our final designation for this area on one of the model simulations provided by the Sierra Club, which we have concluded reflects the best available information to support a final decision: the simulation that included emissions from Huntington and Hunter and all of the receptors in the modeling domain, and that applied the site-specific meteorological data from Huntington. This model simulation is identical to one of Utah's two modeling submissions (described in our TSD for the intended designations), except that it includes receptors at all locations.

For the areas in Utah 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 Utah'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 Utah

Area/County	Utah's Recommended Area Definition	Utah's Recommended Designation	EPA's Intended Designation	EPA's Final Area Definition	EPA's Final Designation[3]
Emery County	Full County	Attainment	Unclassifiable/ Attainment	Same as State's Recommendation	Attainment/ Unclassifiable
Millard County	Full County	Attainment	Unclassifiable/ Attainment	Same as State's Recommendation	Attainment/ Unclassifiable
Remaining Undesignated Areas to Be Designated in this Action[4]	Full County	Attainment	Unclassifiable/ Attainment	Same as State's Recommendation	Attainment/ Unclassifiable

[3] Refer to Chapter 1 of Technical Support Document: Final Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for definitions of the designation categories and the terminology change from Unclassifiable/Attainment to Attainment/Unclassifiable.

[4] The EPA is designating the remaining undesignated counties (or portions of counties) in Utah as "attainment/unclassifiable." These areas that we are designating as attainment/unclassifiable (those to which this row of this table is applicable) are identified more specifically in section 5 of Chapter 40 (specific to Utah) of the TSD for our intended designations.

2. Technical Analysis of New Information for the Emery County Area

2.1. Introduction

The EPA must designate the Emery County area by December 31, 2017, because the area has not been previously designated and Utah has not installed and begun timely operation of a new, approved SO_2 monitoring network to characterize air quality in the vicinity of any source in Emery County. During the public comment period the EPA received new modeling analyses from the Sierra Club in response to our intended designations for Emery County. Our review of the newly submitted information and our assessment of what is the most representative characterization of this area's air quality after consideration of all available information is explained in the following sections.

Sierra Club also commented that in Chapter 40 of the TSD for the EPA's intended designations, the EPA states that "[a]s of March 2017, Region 8 has not received any modeling assessments from a 3rd party." Sierra Club noted they had submitted a 1-hour SO_2 NAAQS modeling assessment for the Hunter and Huntington plants. This modeling assessment was performed in 2014 and reflected emissions from 2012-2014. Specifically, Sierra Club noted their submittal of this modeling to the EPA on May 26, 2016, in its comments on the EPA's proposed approval of the Utah infrastructure State Implementation Plan (SIP) for the SO_2 NAAQS and in which Sierra Club provided comments on the State of Utah's SO_2 NAAQS modeling analysis. In its comment letter[5] Sierra Club noted that the "EPA did not address that modeling in its final approval of the Utah Infrastructure SIP for the SO_2 NAAQS and instead implied that it would be addressing the issues raised by Sierra Club at the time of EPA's designations of SO_2 NAAQS compliance." Therefore, Sierra Club requested that the EPA acknowledge and respond to Sierra Club's SO_2 NAAQS modeling submitted to EPA n May 2016. Sierra Club also submitted a copy of this previous modeling as part of their comments on the EPA's Intended Round 3 Area Designations.

The EPA acknowledges receipt of this Sierra Club modeling and has considered its appropriateness compared with the more recent modeling provided by Sierra Club for the Emery County area of analysis. The EPA finds the more recent modeling assessment provided by Sierra Club for this area, dated October 2017, to be the most reliable and representative assessment of current air quality in the area, for the following reasons: the May 2016 submittal did not include the use of site-specific meteorological data from the Huntington facility whereas the October 2017 submittal did; the 2016 submittal did not include estimates of background concentrations or downwash whereas the October 2017 submittal did; and the 2016 submittal used overly conservative emission estimates (maximum hourly emissions) whereas the 2017 modeling used recent actual hourly emissions. Accordingly, we are relying solely on the results of the October 2017 submittal as the most reliable simulation of current air quality in the area. Therefore, this TSD only provides a detailed assessment of the October 2017 modeling. As discussed below, this October 2017 modeling assessment provided by Sierra Club is the basis for our final designation of attainment/unclassifiable for Emery County.

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 Utah, and further explained in Chapter 40 of the TSD for the intended Round 3 area designations, the EPA proposed a designation of unclassifiable/attainment based on all available information, including modeling information and all relevant monitoring information.

The following Table 2 identifies all the modeling assessments evaluated for the 120-day letters and discussed in the TSD for the intended Round 3 area designations for Utah. Additional details can be found in the TSD for the Intended Round 3 Area Designations, Chapter 40.

Table 2 –Modeling Assessments Evaluated in the TSD for the Intended Designation for the Emery County Area

Organization Submitting Assessment	Date of the Assessment	Identifier used in the TSD for the Intended Round 3 Area Designations, Chapter 40	Distinguishing or Otherwise Key Features
Utah Department of Air Quality (UDAQ)	August 15, 2017	August 2017 Emery County Analysis for Hunter	-NWS data -Excluded receptors
UDAQ	August 15, 2017	August 2017 Emery County Analysis for Huntington	-Site-specific data -Excluded receptors

The EPA considered all available information for the Emery County area, including modeling from the state. The state provided a modeling assessment on January 13, 2017, and a revised modeling assessment on August 15, 2017. The EPA considered the revised modeling assessment to completely supersede the prior assessment because it corrected some discrepancies that the state identified with respect to the fenceline receptors and was performed using the most recent regulatory version of AERMOD (16216r). Based on the information available at the time of the 120-day letters, the EPA stated our intention to conclude that the state's modeling analysis provided an appropriate basis on which to determine the attainment status of the area: Specifically, that no violations of the 2010 SO_2 standard were occurring based on the state's modeling of actual emissions, including those from two DRR sources, in the area.

[5] *See* Docket ID: EPA-HQ-OAR-2017-0003-0532 at Appendix D.

2.3. Assessment of New Air Quality Modeling Analysis for the Emery County Area Addressing the Hunter and Huntington Facilities

2.3.1. October 2017 Modeling Analysis Provided by Sierra Club

2.3.1.1. Differences Between and Relevance of the Modeling Assessment Submitted by Sierra Club and Modeling Assessment Submitted by Utah DAQ

The Sierra Club submitted modeling for the Emery County area as a comment on the EPA's intended designations. The Sierra Club's modeling duplicated the modeling submitted by the Utah in August 2017, except for the differences described below. Further discussion of the model approaches used by the state, and thereby the Sierra Club, can be found in the TSD for the Intended Designations, Chapter 40 for Utah.

For the Huntington and Hunter power plants, the first difference between the modeling analyses submitted by Utah DAQ and the Sierra Club are the receptor networks. Specifically, the Sierra Club included all receptors in its modeling analysis, including in areas of complex terrain where Utah DAQ had excluded receptors based on its determination that it was not feasible to place an air quality monitor in these areas. The second apparent difference was that the Sierra Club's written comments did not include in their modeling report the cumulative impacts predicted by the model, instead they reported the predicted concentrations from only one of the two sources explicitly modeled in the analysis. However, these cumulative impacts were included in Sierra Club's submission within the model output files provided by Sierra Club, and thus were available for the EPA to assess through analysis of those files. Otherwise, the Sierra Club exactly replicated the Utah DAQ modeling assessments.

Utah DAQ and the Sierra Club both explicitly modeled the Huntington and Hunter power plants together in the same model domain due to their close proximity (roughly 23 km apart). Utah DAQ and Sierra Club also both conducted separate model simulations for each of the power plants. Both sources were included in each simulation to ensure that the modeling analysis captured any plume interactions between the two facilities and to capture all significant concentration gradients. In other words, the Huntington Power Plant was treated as a nearby source when predicting the impacts from the Hunter Power Plant, while the Hunter Power Plant was treated as a nearby source when predicting the impacts from the Huntington Power Plant.

Utah DAQ and the Sierra Club both utilized a different meteorological dataset for the Huntington Power Plant simulation compared to the Hunter Power Plant simulation, while other aspects of the modeling not derived from the meteorological data were kept constant between the two simulations by each party. In its January 2017 recommendation, Utah DAQ asserted that terrain differences surrounding each of the facilities warranted the use of different meteorological datasets. Specifically, the State selected meteorological data from the nearest National Weather Service (NWS) station in Price, Utah, as most representative of the Hunter area for use in its model simulation analysis, and selected site-specific data collected at Huntington as most

representative of the Huntington area for use in its model simulation analysis.[6] As a result, Utah DAQ provided one simulation that used site-specific meteorological data to analyze the impacts from the Huntington Power Plant (hereafter referred to as the "UT Huntington Simulation"), and a second simulation that used NWS data to analyze the impacts from the Hunter Power Plant (hereafter referred to as the "UT Hunter Simulation") with both simulations including the same receptor network and modeled sources. The State's modeling indicated that the highest predicted 99th percentile daily maximum 1-hour concentration (includes contributions from both sources and background concentration of 19.8 μg/m^3) within the chosen modeling domain for each facility was (NAAQS for SO_2 is 75 ppb or 196.4 μg/m^3)[7]:

- UT Hunter Simulation: 192.0 μg/m^3, equivalent to 73.3 ppb; and
- UT Huntington Simulation: 102.8 μg/m^3, equivalent to 39.2 ppb.

As explained earlier in this section, Sierra Club's modeling included two model simulations that use the same input assumptions and model configuration as the State, but did not exclude any receptors within the modeling domain. This means that the Sierra Club provided a model simulation for the Hunter Power Plant that continued to use the NWS meteorological data and the same model configuration and domain as the State (hereafter referred to as the "SC Hunter Simulation"), and a model simulation for the Huntington Power Plant that used the same site-specific meteorological data and same model configuration and domain as the State (hereafter referred to as the "SC Huntington Simulation"). All of the model files from the Sierra Club's analyses were provided to the EPA.

The Sierra Club's written modeling comments indicated that the highest predicted 99th percentile daily maximum 1-hour concentration (including a background concentration of 19.8 μg/m^3) within the chosen modeling domain for each facility was (NAAQS for SO_2 is 75 ppb or 196.4 μg/m^3)[8]:

- SC Hunter Simulation: 233.7 μg/m^3, equivalent to 89.2 ppb; and
- SC Huntington Simulation: 161.5 μg/m^3, equivalent to 61.6 ppb.

Note that the listed impacts above are not cumulative. The SC Hunter Simulation includes Hunter impacts only with background and the SC Huntington Simulation includes only impacts from Huntington and background. The cumulative impacts were determined using the Sierra Club's model output files and are presented for both simulations in Tables 6 and 7.

The EPA evaluated all available modeling assessments provided by the state and Sierra Club and finds that the most representative and reliable assessment for both areas is the 'SC Huntington Simulation.' This simulation is reviewed and analyzed in the following sections, and is the basis for our final attainment/unclassifiable designation for Emery County. As noted above, this simulation is referred to as the 'SC Huntington Simulation' throughout this chapter but characterizes air quality for the entire Emery County area of analysis, including explicit modeling of both the Huntington and Hunter facilities.

[6] *See* Section 3.2.2.3 of Chapter 40 (for Utah) of the TSD for the EPA's intended Round 3 area designations.
[7] The 2010 SO_2 NAAQS of 75 ppb is equivalent to 196.4 μg/m^3 using a 2.619 μg/m^3 conversion factor.
[8] *See* footnote 4.

2.3.1.2.Model Selection and Modeling Components

The EPA's Modeling TAD notes that for area designations under the 2010 SO_2 NAAQS, the AERMOD modeling system should be used, unless use of an alternative model can be justified. The AERMOD modeling system contains the following components:

- AERMOD: the dispersion model
- AERMAP: the terrain processor for AERMOD
- AERMET: the meteorological data processor for AERMOD
- BPIPPRM: the building input processor
- AERMINUTE: a pre-processor to AERMET incorporating 1-minute automated surface observation system (ASOS) wind data
- AERSURFACE: the surface characteristics processor for AERMET
- AERSCREEN: a screening version of AERMOD

Sierra Club used AERMOD version 16216r and AERMET version 15181. A discussion of the Sierra Club's approach to the individual components is provided in the corresponding discussion that follows, as appropriate.

The EPA did not identify any issues with the AERMOD version used by the Sierra Club, which is the currently approved version. The Sierra Club did not use the current regulatory version of AERMET (version 16216), but the version they used would not impact the predicted concentrations because the ADJ_U* option was not utilized and the updates between the two AERMET versions were primarily related to the ADJ_U* option.

2.3.1.3. Modeling Parameter: Rural or Urban Dispersion

For any dispersion modeling exercise, the "urban" or "rural" determination of a source is important in determining the boundary layer characteristics that affect the model's prediction of downwind concentrations. For SO_2 modeling, the urban/rural determination is important because AERMOD invokes a 4-hour half-life for urban SO_2 sources. Section 6.3 of the Modeling TAD details the procedures used to determine if a source is urban or rural based on land use or population density.

For the purpose of performing the modeling for the area of analysis, the Sierra Club determined that it was most appropriate to run the model in rural mode. The site location was classified as rural using the land use procedure specified in Appendix W. The percent of land classified as developed within a 3-km ring around each facility was less than 2 percent. By the definition in Appendix W, land that contains less than 50 percent of developed land use categories should be considered rural. A description of the area surrounding each facility is discussed below.

- **PacifiCorp Hunter Power Plant** – The Hunter Power Plant is located 2.5 miles south of Castle Dale, Utah, and 4.5 miles northeast of Clawson, Utah, in the central part of the State. PacifiCorp operates three coal-fired 450MW electrical generation units at the Clawson facility. The area is surrounded by farmland to the north of the plant with desert shrub land to the west and red rock desert to the south and east of the facility. The nearest residence is 1.75 miles to the north of the plant. The surrounding terrain is relatively flat close to the plant, with steep sloping terrain 4 miles to the west, and rugged desert land to

the east and south. Figure 2 is an aerial view of the plant and its surrounding environment.

- **PacifiCorp Huntington Power Plant** – The Huntington Power Plant is located in Huntington Canyon, 6.5 miles northwest of Huntington, Utah, in the central part of the State. PacifiCorp operates two coal-fired 450MW electrical generation units at the Huntington facility. Huntington Canyon is a narrow canyon with steep terrain rising 3,000 feet from the canyon floor on each side. The nearest residence is 1 mile down the canyon from the plant. Figure 3 is an aerial view of the plant and its surrounding environment.

The EPA has assessed this component of the Sierra Club's modeling and concludes that it is appropriate.

2.3.1.4. Modeling Parameter: Area of Analysis (Receptor Grid)

The TAD recommends that the first step towards characterization of air quality in the area around a source or group of sources is to determine the extent of the area of analysis and the spacing of the receptor grid. Considerations presented in the Modeling TAD include but are not limited to: the location of the SO_2 emission sources or facilities considered for modeling; the extent of significant concentration gradients due to the influence of nearby sources; and sufficient receptor coverage and density to adequately capture and resolve the model predicted maximum SO_2 concentrations.

The sources of SO_2 emissions subject to the DRR in this area are described in more detail in the TSD for our intended designations and briefly in Section 2.3.1.3. For the Emery County area, the Sierra Club did not include other emitters of SO_2 within 20 km of each facility. The Sierra Club determined that this was the appropriate distance to adequately characterize air quality through modeling to include the potential extent of any SO_2 NAAQS exceedances in the area of analysis and any potential impact on SO_2 air quality from other sources in nearby areas. No other sources beyond 20 km were determined by the Sierra Club to have the potential to cause concentration gradient impacts within the area of analysis.

A Cartesian modeling receptor array was established to capture the 99^{th} percentiles of the maximum daily one-hour average SO_2 impacts from the facilities. The domain used in the Sierra Club modeling is about 30 km by 65 km. This is consistent with the Modeling TAD because the distance is more than 10 times the stack height and captures significant concentration gradients.

Consistent with the Utah DAQ modeling, receptors were included on the property of each facility, or within the facilities' fence lines, because the facility operators and Utah DAQ determined that they could not establish where enclosed fence lines around the facilities were located. In fact, the modeling provided by the Sierra Club included receptors in all areas, including in locations that were excluded in the State's analyses. For both of the Sierra Club simulations, the receptor grid included a grid of 7,991 receptors with 500-meter spacing covering the entire model domain. This includes areas where Utah DAQ excluded receptors due to complex terrain based on the state's determination that it was not feasible to place an air quality monitor in these areas. Figure 1 depicts the entire receptor network used in the Sierra Club's

modeling analyses. Figures 2 and 3 depict more focused views of the Sierra Club's receptor network over the Hunter Power Plant and Huntington Power Plant, respectively.

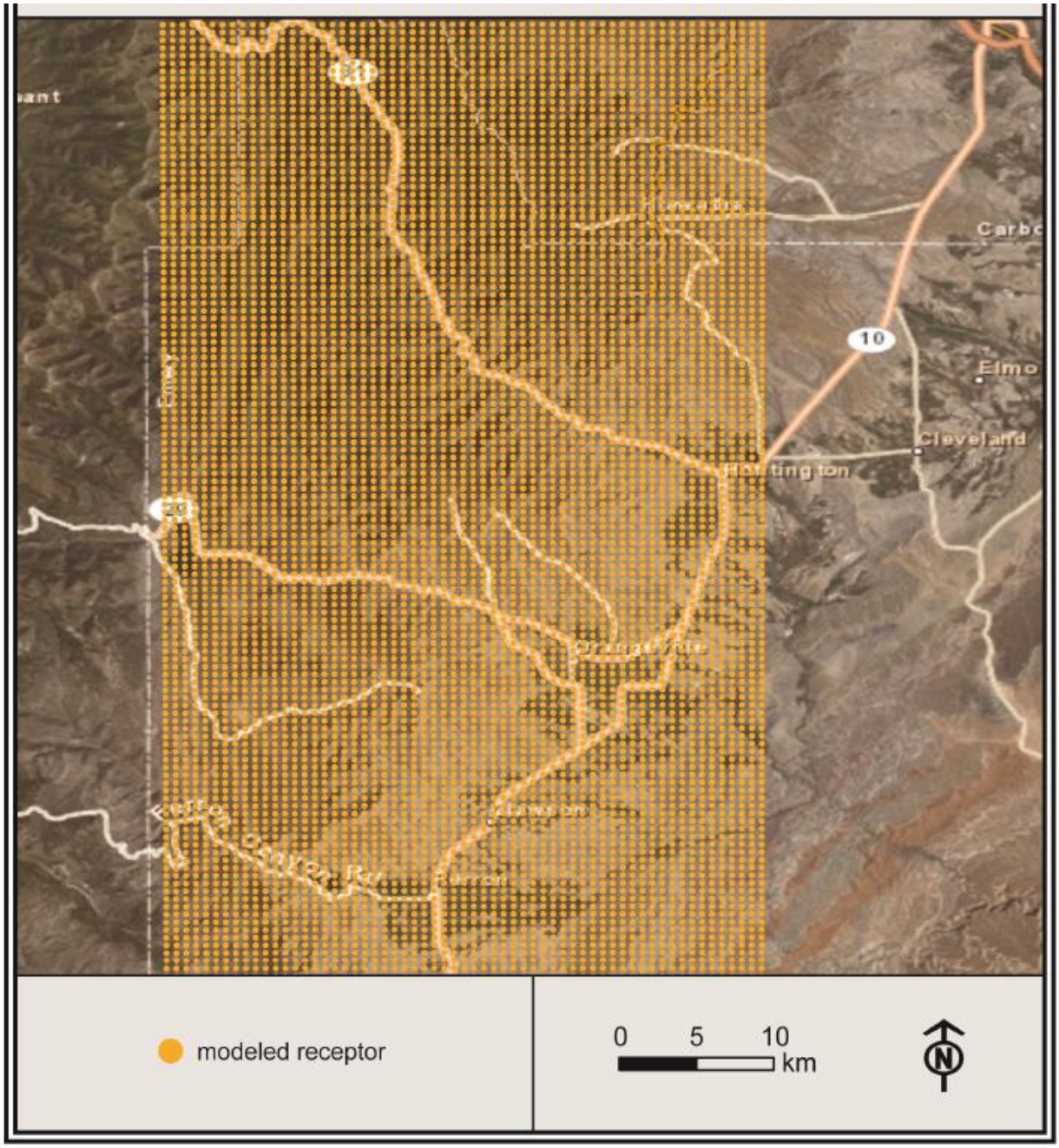

Figure 1. Receptor Network used in Sierra Club's Modeling for Hunter and Huntington.

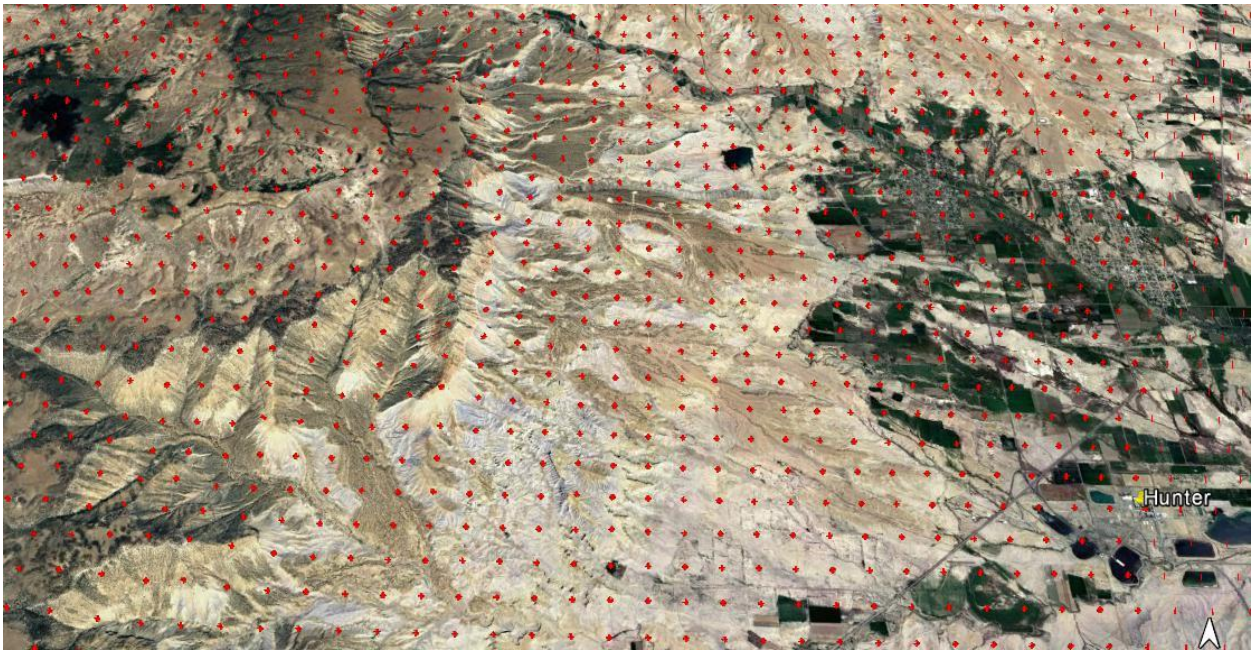

Figure 2. Sierra Club receptor network focused over Hunter Power Plant (red markers indicate receptors).

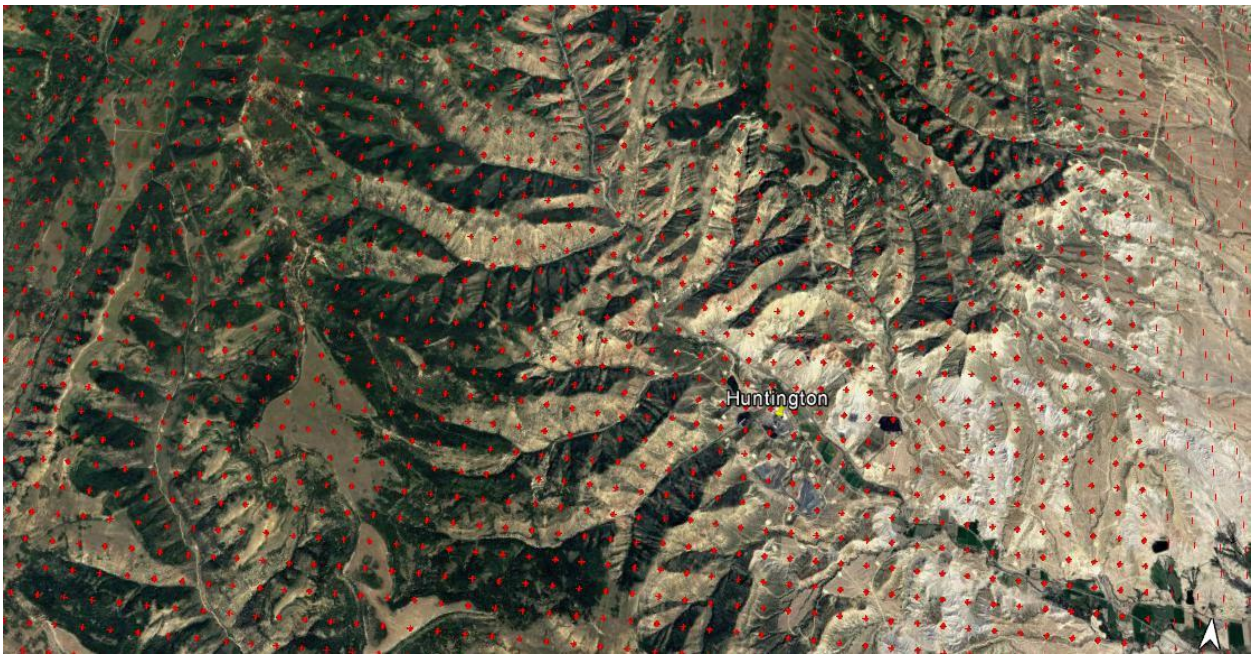

Figure 3. Sierra Club receptor network focused over Huntington Power Plant (red markers indicate receptors).

As stated in its comments on the EPA's intended designations, the Sierra Club suggested that the UT DAQ modeling improperly and unlawfully failed to account for the Hunter and Huntington plants' impacts on SO_2 concentrations in all areas of the ambient air. The Sierra Club also asserted that EPA is allowing Utah to ignore areas of ambient air to which the general public has

access (e.g., public land, roads, trails, highways), and that the receptor exclusions are inconsistent with the EPA's regulatory definition of ambient air.

As Sierra Club noted in its comments on our intended designations, the EPA acknowledges that receptors were excluded by the state in areas where the public has access. Utah DAQ asserts that these areas that are accessible to the public are located in areas of complex terrain where it may not be feasible to place monitors (see Figure 8). The Sierra Club also provided examples of monitors that could be placed in complex terrain.

Despite these assertions that receptors may or may not be excluded in certain areas, and as further discussed in sections below, the SC Huntington Simulation provided by Sierra Club demonstrates that the area around these two sources, with no receptor exclusions, is attaining the NAAQS. As the EPA finds that this is the most representative and reliable characterization of air quality in this area after consideration of all available information, and as all receptors in this simulation are not violating the standard, the EPA is relying on this simulation as the clearest evidence that this area meets the 2010 SO_2 NAAQS. For this reason, the comments from Sierra Club, the state, or any other party regarding whether receptors may or may not be excluded in this area for any reason does not impact the EPA's conclusion that Emery County meets the 2010 SO_2 NAAQS and does not contribute to any nearby area that does not meet the NAAQS.

2.3.1.5. Modeling Parameter: Source Characterization

Section 6 of the Modeling TAD offers recommendations on source characterization including source types, use of accurate stack parameters, inclusion of building dimensions for building downwash (if warranted), and the use of actual stack heights with actual emissions or following GEP policy with allowable emissions.

Concentrations predicted in the analyses are based on hourly emission rates and release parameters (e.g., in-stack gas temperatures, and in-stack flow rates) recorded on continuous emission monitors (CEMS) at the two power plants between January 1, 2012, and December 31, 2014. All missing data substitutions and bias adjustments to the CEMS data were based on 40 CFR Part 75.33 Missing Data Substitution Procedures.

Emissions of SO_2 at the two facilities are released from a dedicated stack for each coal-fired boiler unit. The stack locations and release parameters for the two power plant's boiler stacks are listed in Table 3 below.

Table 3: AERMOD Stack Location and Release Parameters

SO_2 Source	UTME (m)	UTMN (m)	Height (m)	Diameter (m)	Temperature (K)	Exit Velocity (m/s)
PacifiCorp – Hunter Plant					Gas Temp. Changes Hourly, Consistent with each Unit's CEMS for Period 2012 through 2014	Exit Velocity Changes Hourly, Consistent with each Unit's CEMS for Period 2012 through 2014
Unit 1	497394	4336026	183	7.3		
Unit 2	497488	4336026	183	7.3		
Unit 3	497567	4335993	183	7.3		
PacifiCorp – Huntington Plant						
Unit 1	493148	4358849	183	7.3		
Unit 2	493190	4358784	183	7.3		

For all simulations, the Sierra Club characterized these sources within the area of analysis in accordance with the best practices outlined in the Modeling TAD. Specifically, they used actual stack heights in conjunction with actual emissions. The Sierra Club also adequately characterized the sources' building layout and location, as well as the stack parameters (e.g., exit temperature, exit velocity, location, and diameter). Where appropriate, the AERMOD component BPIPPRM was used to assist in addressing building downwash. Specifically, the plant structures, buildings, and tanks were included for AERMOD downwash calculations using BPIPPRM. A total of 25 structures were included in each of the Hunter and Huntington modeling simulations. The EPA finds that the Sierra Club's analysis of the source characterizations aligns with the Modeling TAD.

2.3.1.6. Modeling Parameter: Emissions

The Modeling TAD notes that for the purpose of modeling to characterize air quality for use in designations, the recommended approach is to use the most recent 3 years of actual emissions data and concurrent meteorological data. However, the TAD also indicates that it would be acceptable to use allowable emissions in the form of the most recently permitted (referred to as PTE or allowable) emissions rate that is federally effective and enforceable.

The EPA believes that continuous emissions monitoring systems (CEMS) data provide acceptable historical emissions information, when they are available. These data are available for many electric generating units. In the absence of CEMS data, the EPA's Modeling TAD highly encourages the use of AERMOD's hourly varying emissions keyword HOUREMIS, or through the use of AERMOD's variable emissions factors keyword EMISFACT. When choosing one of these methods, the EPA recommends using detailed throughput, operating schedules, and emissions information from the impacted source(s).

In certain instances, states and other interested parties may find that it is more advantageous or simpler to use PTE rates as part of their modeling runs. For example, where a facility has recently adopted a new federally enforceable emissions limit or implemented other federally enforceable mechanisms and control technologies to limit SO_2 emissions to a level that indicates compliance with the NAAQS, the state may choose to model PTE rates. These new limits or conditions may be used in the application of AERMOD for the purposes of modeling for designations, even if the source has not been subject to these limits for the entirety of the most recent 3 calendar years. In these cases, the Modeling TAD notes that a state should be able to

find the necessary emissions information for designations-related modeling in the existing SO_2 emissions inventories used for permitting or SIP planning demonstrations. In the event that these short-term emissions are not readily available, they may be calculated using the methodology in Table 8-1 of Appendix W to 40 CFR Part 51 titled, "Guideline on Air Quality Models."

As previously noted, the Sierra Club simulations each included both the Hunter and Huntington facilities, which are roughly 23 km apart, in the same area of analysis. For both facilities, the actual hourly emissions data were obtained by the Sierra Club from CEMS reports and used in the modeling analyses. The facilities in the modeling analysis and their associated annual actual SO_2 emissions between 2012 and 2014 are summarized in Table 4.

Table 4. Actual SO_2 Emissions Between 2012 – 2014 from Facilities in the Emery County Area

	SO_2 Emissions (tpy)		
Facility Name	**2012**	**2013**	**2014**
Hunter Power Plant	4,502	5,001	3,937
Huntington Power Plant	2,231	2,325	2,452
Total Emissions from All Modeled Facilities in the State's Area of Analysis	6,733	7,326	6,389

The EPA finds the Sierra Club's approach for defining the emissions to be appropriate.

2.3.1.7. Modeling Parameter: Meteorology and Surface Characteristics

As noted in the Modeling TAD, the most recent 3 years of meteorological data (concurrent with the most recent 3 years of emissions data) should be used in designations efforts. The selection of data should be based on spatial and climatological (temporal) representativeness, as well as the ability of the individual parameters selected to characterize the transport and dispersion of conditions in the area of concern.[9] The data should be adequately representative,[10] and representativeness of the data is determined based on: 1) the proximity of the meteorological monitoring site to the area under consideration, 2) the complexity of terrain, 3) the exposure of the meteorological site, and 4) the period of time during which data are collected.[11] Sources of meteorological data include National Weather Service (NWS) stations,[12] site-specific or onsite data,[13] and other sources such as universities, Federal Aviation Administration (FAA), and military stations.[14] In some instances site-specific data can be used in conjunction with NWS or comparable information.[15]

The Sierra Club used the same meteorological datasets for each facility as the State. The State found that the site-specific data were representative for the Huntington simulation and that the NWS data were representative for the Hunter simulation. The state based their determination on a weighing of the factors outlined in Appendix W,[16] including that: the surface and terrain characteristics are similar to the areas surrounding the facilities; they contain at least the most recent three years of meteorological data; there is adequate exposure of the meteorological site; and there is adequate characterization of anticipated dispersion for predicting maximum design concentrations.

The meteorological period selected for the modeling analysis was January 1, 2012, through December 31, 2014. Meteorological monitoring data was collected onsite at the PacifiCorp – Huntington plant during this period. The PacifiCorp – Hunter plant did not operate an onsite meteorological monitoring tower during this period. The Sierra Club's Hunter analysis used meteorological data from the nearest National Weather Service (NWS) – ASOS station in Price, Utah, 30 miles northeast of the facility.
Data used in the analyses is as follows:

- SC Hunter Simulation: PacifiCorp – Hunter Power Plant – Hourly 10 meter NWS-ASOS meteorological tower from Price – Carbon Regional Airport, UT with winds recorded at 10 meters, and temperature recorded at 2 and 10 meters.
- SC Huntington Simulation: PacifiCorp – Huntington Power Plant – Hourly 50 meter site-specific SRDT (Solar Radiation/Delta-T method) meteorological tower with winds recorded at 10 and 50 meters, and temperature recorded at 2, 10, and 50 meters.
- NWS Upper Air data from Grand Junction, Colorado.

[9] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.
[10] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.1.2(a).
[11] *Id,*
[12] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.2.
[13] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.3,
[14] *Id.*
[15] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.3.2(c).
[16] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.3.

Figure 4 presents the location of the onsite and NWS stations relative to the areas of analysis.

Figure 4. Map of Facilities and Monitoring Locations.

Hourly surface meteorological data records are read by AERMET, and include all the necessary elements for data processing. For the SC Hunter Simulation, in order to better represent actual wind conditions at the meteorological tower, one-minute ASOS (Automated Surface Observing System) wind data from the Price, Utah, station were processed using AERMINUTE (version 15272) into hourly data for input into AERMET (15181). For the SC Huntington Simulation, the site-specific meteorological dataset was used.

A surface wind rose for the entire 3-year modeled period is shown in Figure 5 and Figure 6 for each dataset. For each facility, the wind roses show:

- **PacifiCorp - Hunter Power Plant**: the dominant wind directions are from the north-east (about 7 percent of the time) and northwest (about 5 percent of the time). The average wind speed is about 6.62 knots, where calm winds are about 1.7 percent of the time.
- **PacifiCorp – Huntington Power Plant:** the dominant wind directions are from the north-northwest (about 17 percent of the time). The average wind speed is about 7.6 knots, where calm winds are about 0.1 percent of the time.

The wind rose shown below for each facility is different because each source used a different meteorological dataset.

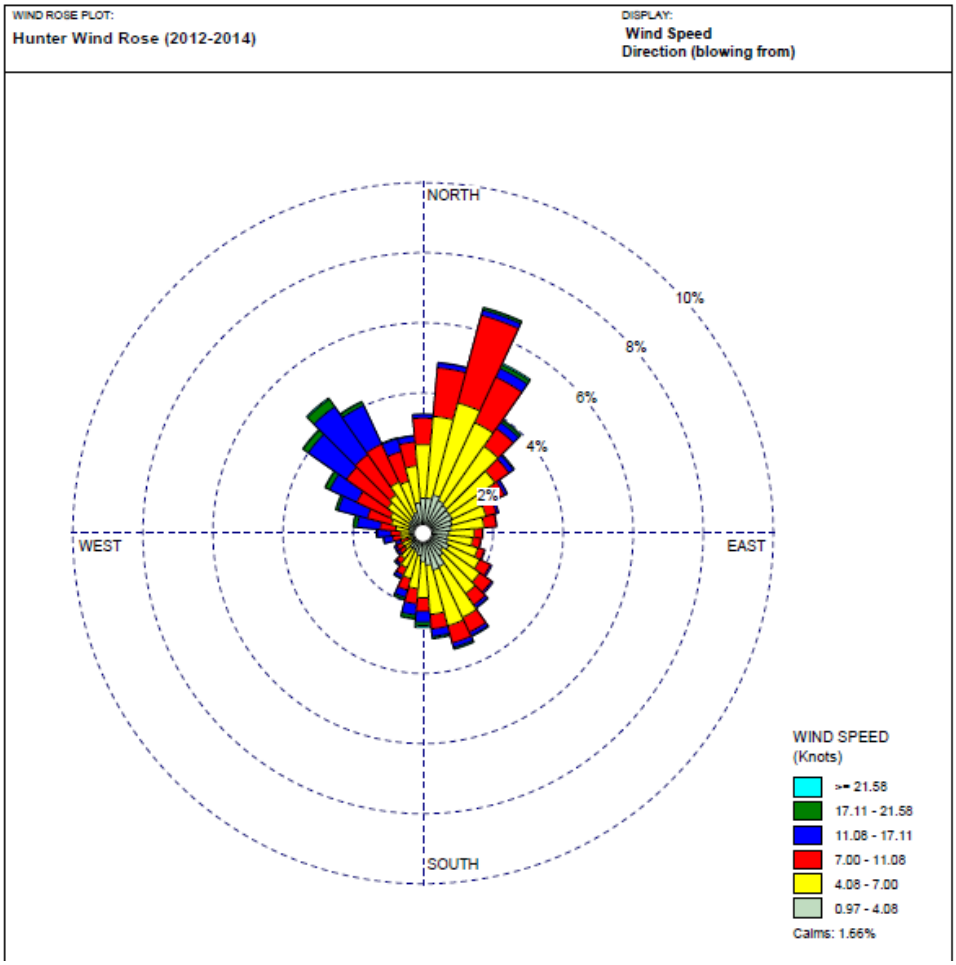

Figure 5: PacifiCorp Hunter – Price NWS Meteorology Windrose

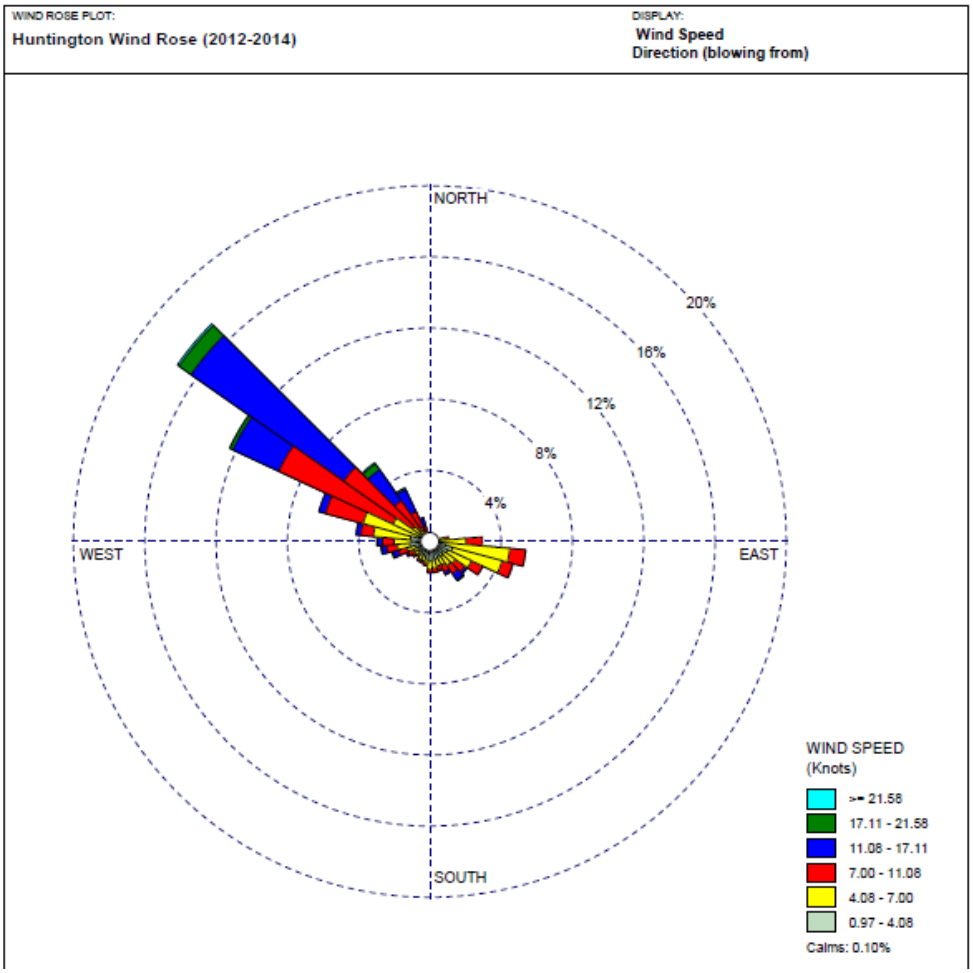

Figure 6: Huntington Onsite Meteorology Windrose

AERSURFACE version 13016 was used to estimate the surface characteristics (albedo, Bowen ratio, and surface roughness (z_o)) with data from the surface meteorological observing site for input into AERMET. Albedo is the fraction of solar energy reflected from the earth back into space, the Bowen ratio is the method generally used to calculate heat lost or heat gained in a substance, and the surface roughness is sometimes referred to as "z_o" . The 1992 National Land Cover Dataset (NLCD92) file for input into AERSURFACE was downloaded from the United States Geological Society (USGS) website.

The state and Sierra Club used AERSURFACE version 13016 using data from [clearly refer to one of the NWS stations already mentioned or explain what other stations was used] to estimate the surface characteristics (albedo, Bowen ratio, and surface roughness (z_o)) of the area of analysis. Albedo is the fraction of solar energy reflected from the earth back into space, the Bowen ratio is the method generally used to calculate heat lost or heat gained in a substance, and the surface roughness is sometimes referred to as "z_o." Surface roughness values were estimated in 30 degree sectors for 12 spatial sectors out to 1 km at a seasonal temporal resolution.

As previously mentioned, the factors to determine data representativeness found in Appendix W include: 1) the proximity of the meteorological monitoring site to the area under consideration, 2) the complexity of terrain, 3) the exposure of the meteorological site, and 4) the period of time during which data are collected. As discussed in the Modeling TAD (Section 7.3.2), the use of site-specific data is the preferred method for achieving spatial representativeness, especially in areas of complex terrain and meteorological conditions. The EPA's assessment of the area is that it is one airshed with complex terrain throughout. Considering these factors, the EPA finds the site-specific data collected at Huntington to be more representative of the entire modeled area (containing both sources) than the NWS station located more than 50 km from the Hunter facility. The model domain, containing both facilities, includes complex terrain features that are best represented by data collected at a site within the modeling domain near the Huntington facility, as was used in the SC Huntington Simulation. As previously explained, both the state and Sierra Club used different meteorological datasets in each simulation, focused on each respective facility, but in each simulation both facilities' emissions were included in the modeling and thus each simulation can be interpreted to characterize the full area.

The output meteorological data created by the AERMET processor is suitable for being applied with AERMOD input files for AERMOD modeling runs. The Sierra Club followed the methodology and settings presented in Appendix W[17] and the Modeling TAD in the processing of the raw meteorological data into an AERMOD-ready format, and used AERSURFACE to represent surface characteristics. While the EPA explained in the TSD for our intended designations that use of the NWS station data aligns with the Modeling TAD and Appendix W[18], as the EPA explains above, upon consideration we find that use of the Huntington site-specific data for Hunter aligns with the Modeling TAD and is the preferred approach in this area of complex terrain. Therefore, the EPA supports the SC Huntington Simulation as most representative of meteorological conditions within the area of analysis given the complex terrain around both facilities, especially Huntington. For this reason, the EPA finds the NWS data would not be representative of Huntington, while the site-specific data at Huntington is representative of Huntington and adequately representative of Hunter. The lack of representativeness of the NWS data for Huntington can be seen in Figure 4 where Huntington is located in a valley or canyon while the NWS station is located in a plain with terrain to the north and west. Hunter is located to the east of the mountain range that contains Huntington and is oriented differently with respect to the terrain than the Price NWS station. While it can be argued that Price NWS data could be adequately representative of Hunter, it is clearly not representative of Huntington. Since both facilities are included in the same model simulation, the input meteorological data should be representative of the entire modeled area including both sources. Therefore, since the EPA has determined that the area is one airshed, and the NWS data is not representative of Huntington, and the site-specific data at Huntington is adequately representative of Hunter; the site-specific data from Huntington is the most representative of the modeled area for both the sources.

2.3.1.8. Modeling Parameter: Geography, Topography (Mountain Ranges or Other Air Basin Boundaries) and Terrain

[17] Appendix W to Part 51, Guideline on Air Quality Models, Section 8.4.
[18] Appendix W to Part 51, Guideline of Air Quality Models, Section 8.4.

The area surrounding the Hunter and Huntington power plants is considered complex terrain. In particular, the Hunter plant has relatively flat terrain close to the plant, with steep sloping terrain 4 miles to the west, and rugged desert land to the east and south. The terrain surrounding the Huntington plant includes a narrow canyon with steep terrain rising 3,000 feet from the canyon floor on each side. To account for the complex terrain of the area, the AERMAP terrain program (version 11103) was used to specify terrain elevations for all the receptors. The source of the elevation data incorporated into the model is from the USGS National Elevation Database. The EPA supports the Sierra Club's approach for defining the terrain, which was the same as Utah DAQ's.

2.3.1.9. Modeling Parameter: Background Concentrations of SO_2

The Modeling TAD offers two mechanisms for characterizing background concentrations of SO_2 that are ultimately added to the modeled design values: 1) a "tier 1" approach, based on a monitored design value, or 2) a temporally varying "tier 2" approach, based on the 99th percentile monitored concentrations by hour of day and season or month. For this area of analysis, the Sierra Club utilized the tier 1 approach, where the background concentrations for this area of analysis were based on a monitored design value.

Ambient SO_2 monitoring data was collected at the Intermountain Power Plant (IPP) plant during the period of October 2, 2001, through October 2, 2002. This data set was used in the Sierra Club modeling analyses as a representative background concentration for the Hunter and Huntington power plants. This was the same dataset used by Utah DAQ in its modeling assessments.

Meteorological Solutions Incorporated (MSI), the third-party air monitoring company that collected the data, conducted an in-depth evaluation of monitored values and the associated meteorological monitoring data collected during this period. The review identified a number of above average ambient values that were influenced by emissions from the IPP plant during periods of strong instability in the surrounding atmosphere, which allowed for recirculation of plant exhaust gases into the area where the monitor was located. The EPA's Guidelines for Air Quality Models allow for monitoring values with direct source influence to be excluded from the process for determining a representative background concentration.

Consistent with the form of the 1-hour SO_2 NAAQS, the fourth highest daily high monitored value for the period was 7.6 ppb or 19.8 µg/m^3. The IPP data set is considered representative of current SO_2 background conditions in the areas surrounding the two plants because:

- The monitoring data was collected onsite in west-central Utah under a Prevention of Significant Deterioration (PSD) monitoring plan for a proposed modification to the IPP plant.
- A large source of SO_2 emissions in central Utah, the PacifiCorp's Carbon Plant was shut down in June of 2015. The facility's permit has been revoked, and a January 8, 2016, letter from Utah DAQ to PacifiCorp confirming revocation of this permit can be found in the docket for this action.[19]
- No new sources of SO_2 emissions have been added to these areas since 2001 and the

[19] *See* EPA-HQ-OAR-2017-0003-0281

PacifiCorp plants have since installed additional controls to significantly reduce their SO_2 emissions since that time.

- A search of the EPA-AIRDATA website identified no other SO_2 monitoring sites in rural areas of central Utah between 1995 and 2015.

The EPA supports the Sierra Club's approach for determining the background concentration, which was the same as that used by Utah DAQ.

2.3.1.10. Summary of Modeling Inputs and Results

The AERMOD modeling input parameters for the Emery County area of analysis are summarized below in Table 5.

Table 5. Summary of AERMOD Modeling Input Parameters for the Area of Analysis for the Emery County Area surrounding the Hunter and Huntington Facilities.

Input Parameter	Value
AERMOD Version	16216r (AERMET: 15181)
Dispersion Characteristics	Rural
Modeled Sources	2
Modeled Stacks	5
Modeled Structures	25
Modeled Fencelines	0
Total receptors	7,991
Emissions Type	Actual
Emissions Years	2012-2014
Meteorology Years	2012-2014
NWS Station for Surface Meteorology	Hunter: NWS/Price Carbon County (KPUC) Huntington: On-site data
NWS Station Upper Air Meteorology	Grand Junction, CO
Site-specific Station for Calculating Surface Characteristics	Huntington, Utah [NLCD_081500]
Methodology for Calculating Background SO_2 Concentration	Tier 1 Intermountain Power Plant (IPP) ambient PSD monitor ran October 2001 to October 2002
Calculated Background SO_2 Concentration	7.6 ppb or 19.8 µg/m^3

The Sierra Club provided the EPA with all the modeling files for simulations specific for the

Hunter Power Plant analysis (SC Hunter Simulation) and Huntington Power Plant analysis (SC Huntington Simulation). The Sierra Club's modeling analysis of impacts from the Huntington Power Plant, which included emissions from both Hunter and Huntington with no receptor exclusions, did not show any violations of the 1-hour SO_2 NAAQS in the area. Specifically, the highest predicted 99th percentile daily maximum 1-hour concentration from the SC Huntington simulation was 161.5 µg/m^3 (including a background concentration of 19.8 µg/m^3). Utah DAQ's Huntington-focused modeling simulation, that was the same in every respect to the SC Huntington simulation other than receptor exclusions, predicted 102.85 µg/m^3. Figure 7, generated by the EPA using Sierra Club's model output files, shows the predicted impacts from the SC Huntington Simulation.

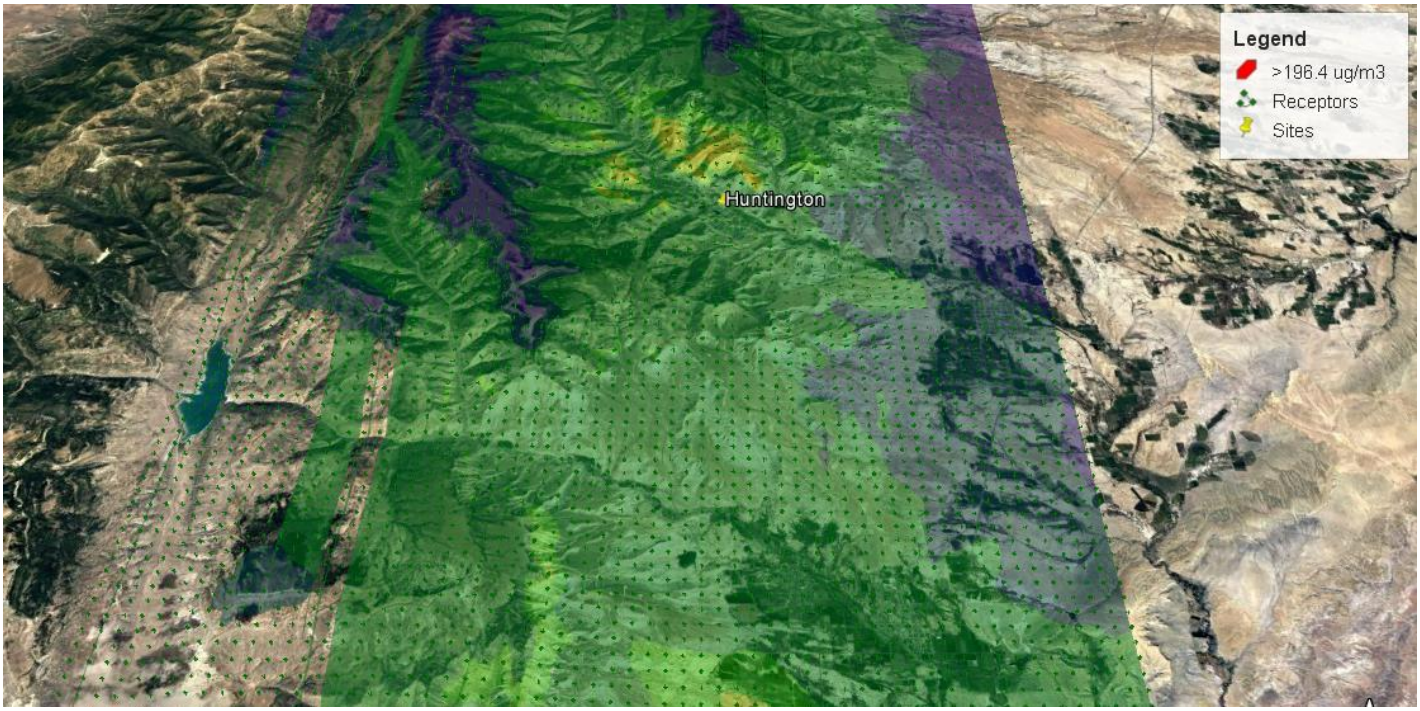

Figure 7. Figure generated by the EPA using the SC Huntington Simulation output files provided by Sierra Club, showing no violations of the standard.

As noted above, the SC Huntington Simulation did not show violations of the standard while the SC Hunter Simulation did. Other than providing the modeling files for both simulations, the Sierra Club comments focused only on the Hunter Simulation, specifically the results and impact analysis for the Hunter Power Plant not the cumulative impacts of both facilities, which showed violations of the 1-hour SO_2 NAAQS.

For the Hunter analysis, the SC Hunter Simulation predicted violations of the NAAQS in the areas where receptors were excluded in the State's modeling. The results presented by the Sierra Club showed (with background concentrations – 19.8 µg/m^3, but not cumulative):

- 15 receptors with violations in areas where the Utah did not place receptors; and
- Concentrations among violating receptors ranging from 196.4 to 233.6 µg/m^3.

The EPA generated Figure 8 to present the results reported by the Sierra Club.

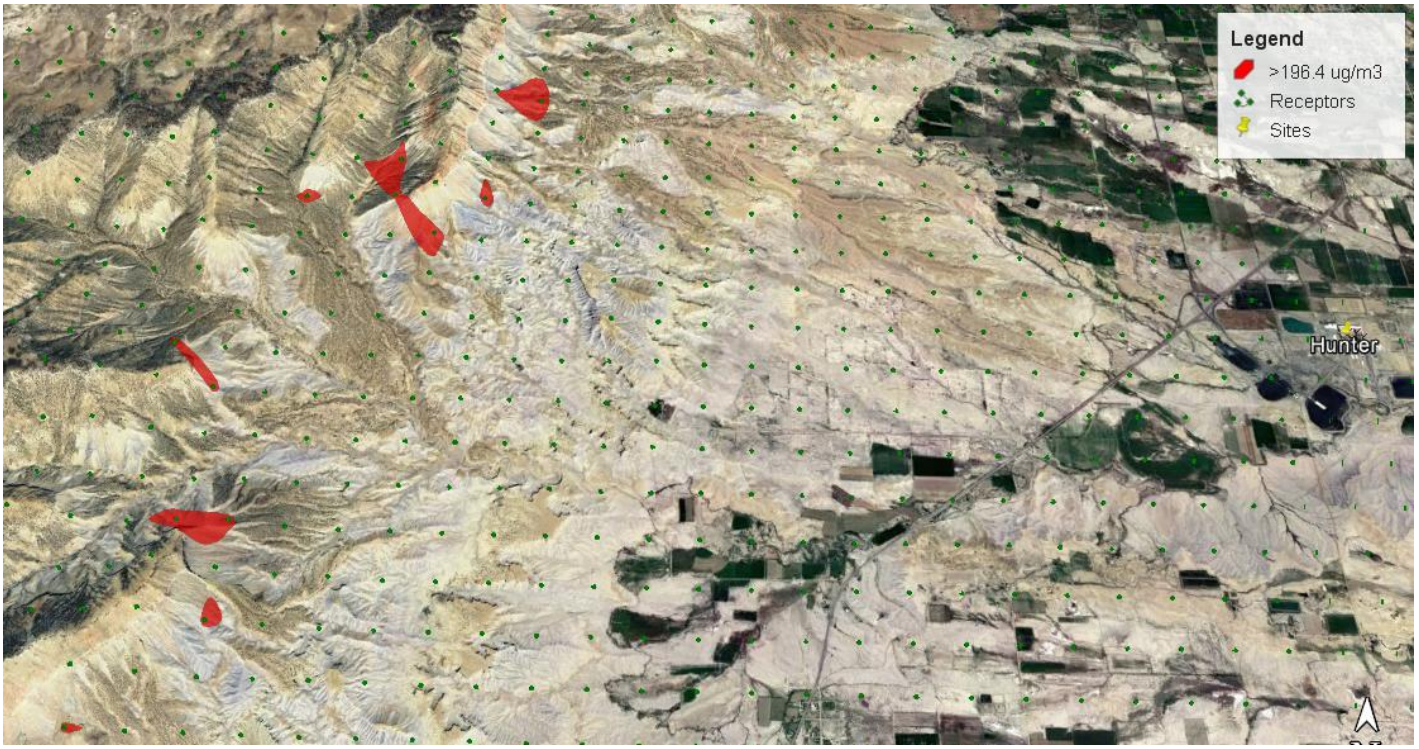

Figure 8. Figure generated by the EPA using the SC Hunter Simulation output files provided by Sierra Club. Consistent with the Sierra Club analysis, the results in the figure only show the Hunter impacts and include background concentrations. Red shaded areas represent receptors violating the NAAQS.

The results discussed by the Sierra Club (i.e., discussed in their comments and presented in Figure 8) were based on the SC Hunter Simulation. While the results presented by the Sierra Club show violations, as indicated in the red shaded areas with complex terrain, the results only represented the impacts from the Hunter Power Plant. The Sierra Club did not discuss the cumulative impacts from the Hunter and Huntington power plants even though all of the sources were included in the model. To be consistent with EPA guidelines (Appendix W and Modeling TAD), the results should be based on the predicted impacts from all the sources included in the model domain or the cumulative impacts from all the sources included in the model domain. The results of the cumulative impacts predicted by the SC Hunter Simulation, submitted by the Sierra Club in its modeling output files, are presented in Figure 9 and show (with background concentrations – 19.8 µg/m^3)[20]:

- 63 total receptors with violations in areas where the Utah modeling did not place receptors (Concentrations range from 196.7 to 585.2 µg/m^3;
- 15 of the 63 receptors with violations are within 15 km of the Hunter Power Plant (Concentrations range from 196.7 to 233.6 µg/m^3); and
- 48 of the 63 receptors with violations are within 5 km of the Huntington Power Plant (Concentrations range from 200.0 to 585.2 µg/m^3).

[20] *See* Docket ID: EPA-HQ-OAR-2017-0003-0568, Appendix D (Utah) to Sierra Club's comments, at page 14.

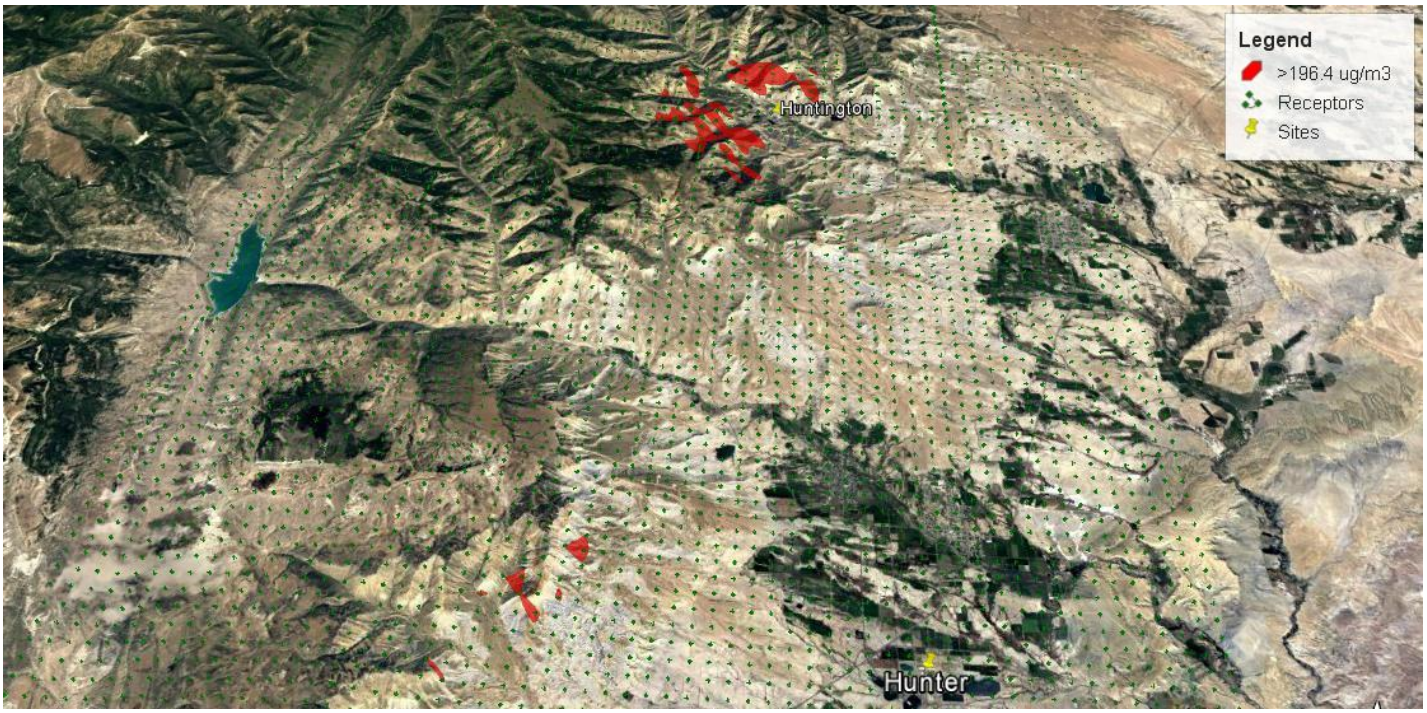

Figure 9. Figure generated by the EPA using the SC Hunter Simulation output files provided by Sierra Club. The results in the figure show the cumulative impacts from the Hunter and Huntington power plants and include background concentrations. Red shaded areas represent receptors violating the NAAQS.

Figure 10 and Figure 11 present the same results as Figure 9, but focus on the area surrounding the Hunter Power Plant and the Huntington Power Plant, respectively. These figures incorporate the receptor network developed by the Sierra Club.

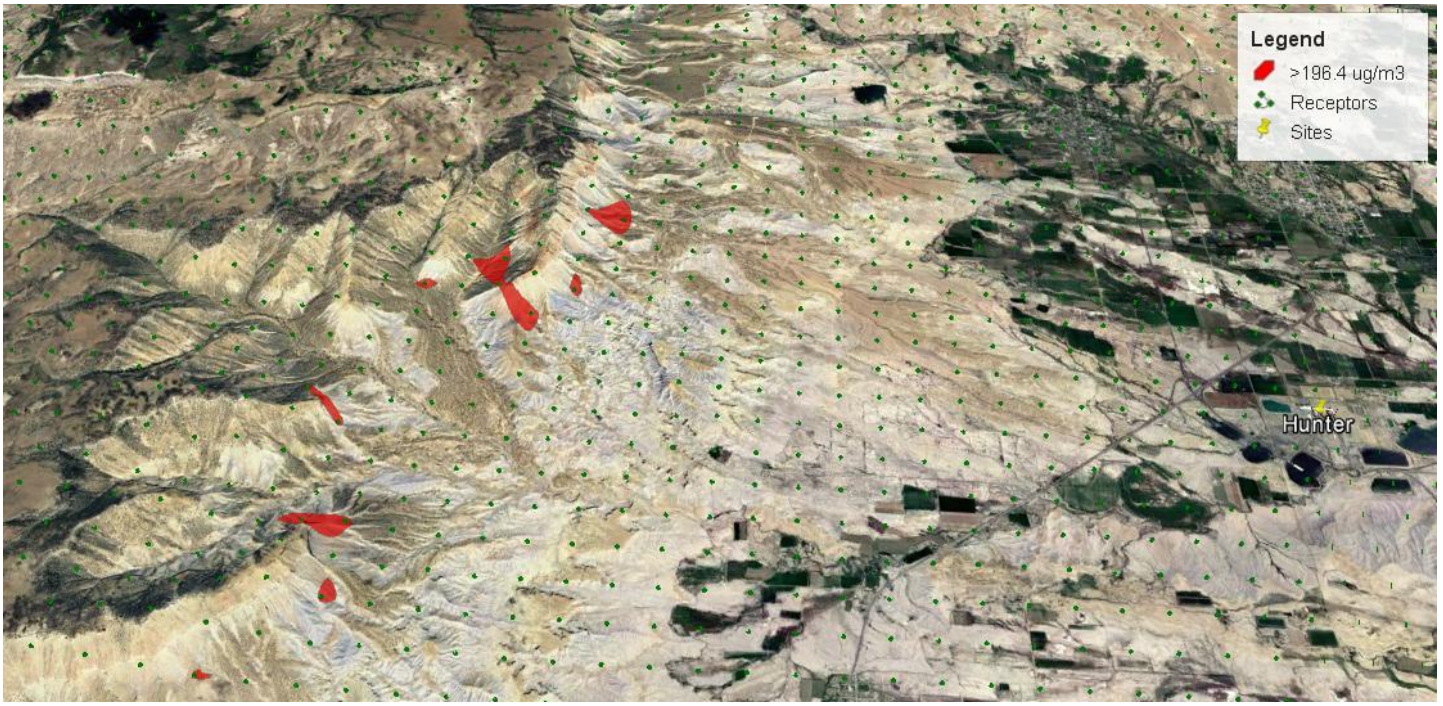

Figure 10. Figure generated by the EPA using the SC Hunter Simulation output files provided by Sierra Club. The results in the figure show the cumulative impacts from the Hunter and Huntington power plants and include background concentrations. The results are the same as Figure 9 but focuses on the area around the Hunter Power Plant. Red shaded areas represent receptors violating the NAAQS.

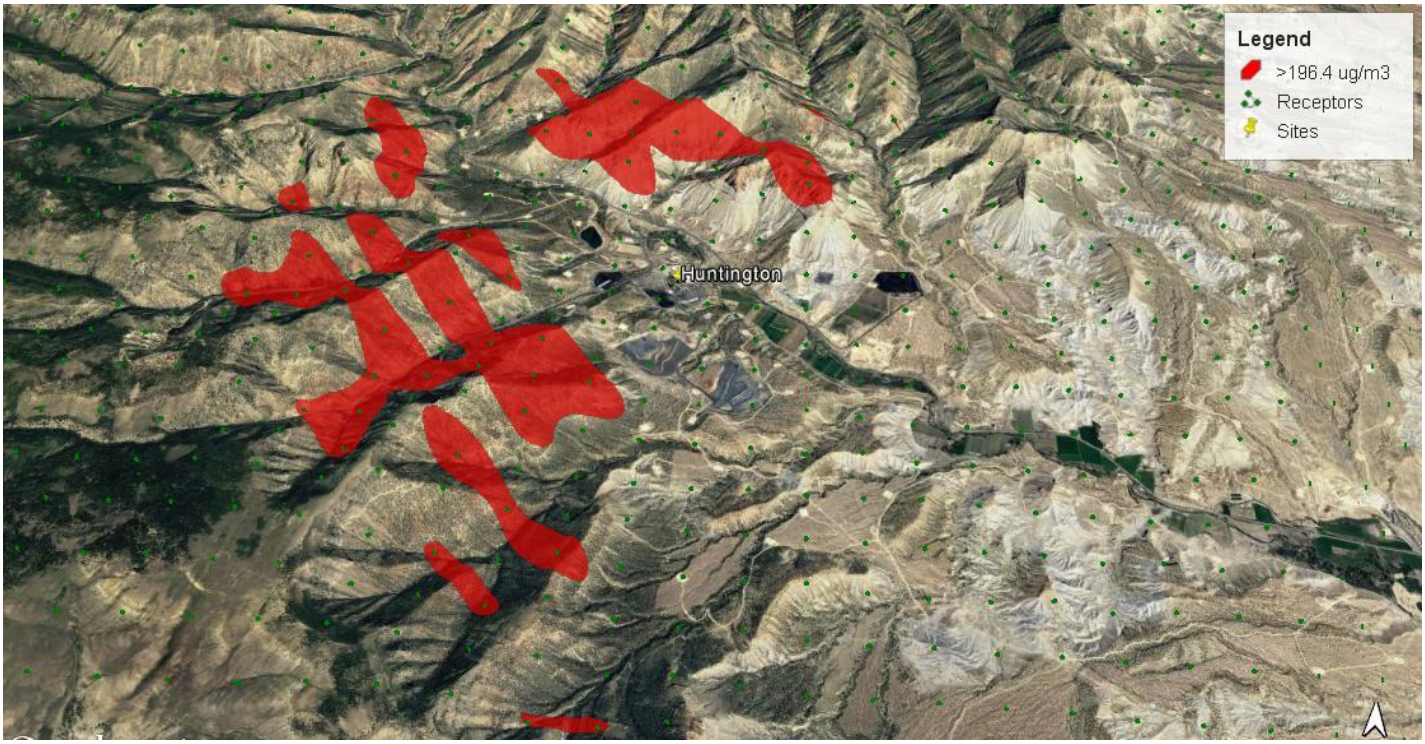

Figure 11. Figure generated by the EPA using the SC Hunter Simulation output files provided by Sierra Club. The results in the figure show the cumulative impacts from the Hunter and Huntington power plants and include background concentrations. The results are the same as Figure 9 but focuses on the area around the Huntington Power Plant. Red shaded areas represent receptors violating the NAAQS.

The cumulative results presented below in Table 6 and Table 7 show the magnitude and geographic location of the highest predicted modeled concentration (includes background concentrations) based on the input parameters. Figures 12 and 13 depict the predicted 99th percentile daily maximum 1-Hour SO_2 concentrations averaged over three years for the Hunter and Huntington facilities, respectively. The maximum impacts shown in these figures do not include the background concentration of 19.8 $\mu g/m^3$.

Table 6. Maximum Predicted 99th Percentile Daily Maximum 1-Hour SO_2 Concentrations Averaged Over Three Years for the Emery County Area of Analysis for the SC Hunter Simulation.

Averaging Period	Data Period	Receptor Location UTM Zone 12		99th percentile daily maximum 1-hour SO_2 Concentration ($\mu g/m^3$)	
		UTM Easting	UTM Northing	Cumulative Modeled concentration (including background)	NAAQS Level
99th Percentile 1-Hour Average	2012-2014	492000	4357500	585.2**	196.4*

*Equivalent to the 2010 SO_2 NAAQS of 75 ppb using a 2.619 $\mu g/m^3$ conversion factor.
** Predicted concentration reported in AERMOD output file.

Table 7. Maximum Predicted 99th Percentile Daily Maximum 1-Hour SO_2 Concentrations Averaged Over Three Years for the Emery County Area of Analysis for the SC Huntington Simulation.

Averaging Period	Data Period	Receptor Location UTM Zone 12		99th percentile daily maximum 1-hour SO_2 Concentration ($\mu g/m^3$)	
		UTM Easting	UTM Northing	Cumulative Modeled concentration (including background)	NAAQS Level
99th Percentile 1-Hour Average	2012-2014	494500	4360000	161.5**	196.4*

*Equivalent to the 2010 SO_2 NAAQS of 75 ppb using a 2.619 $\mu g/m^3$ conversion factor.
** Predicted concentration reported in AERMOD output file.

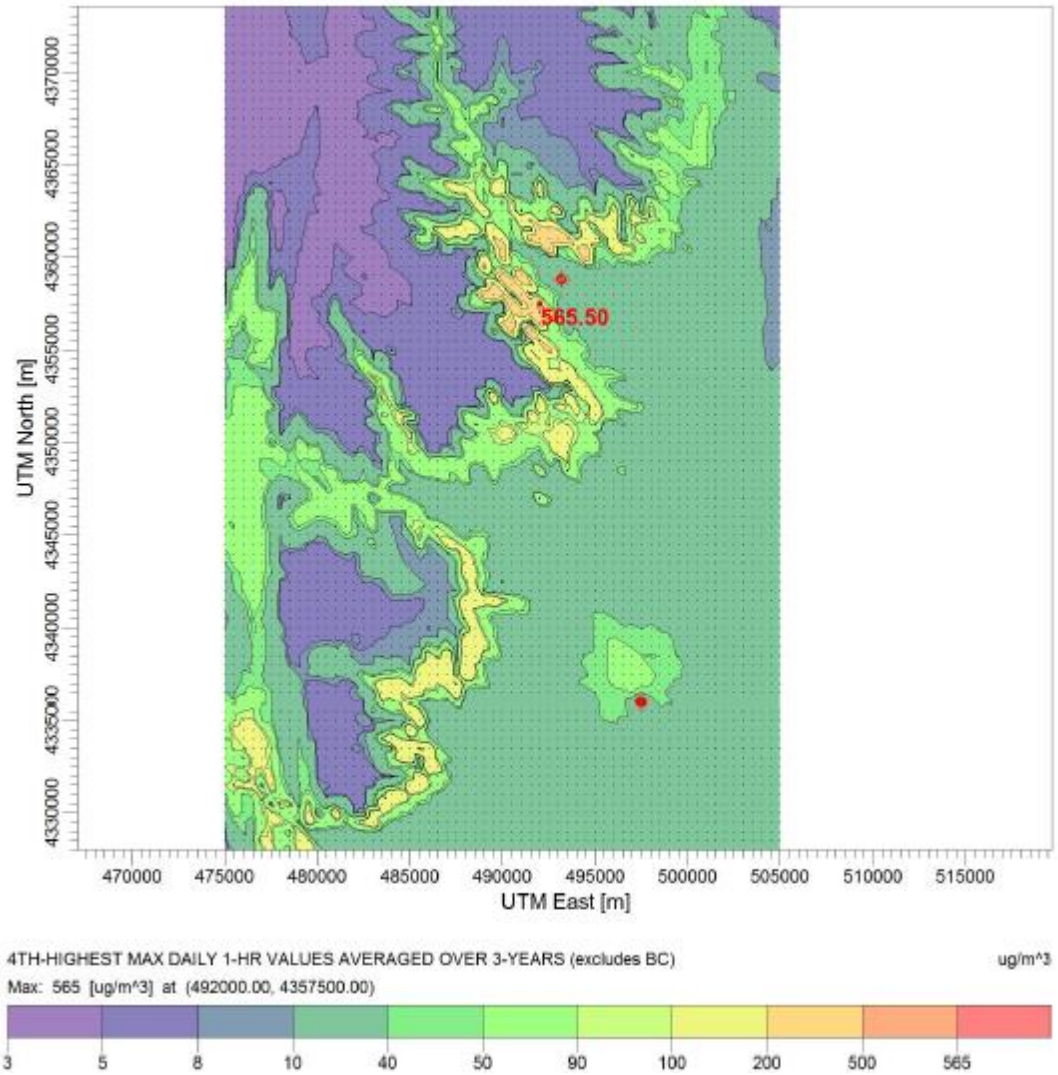

Figure 12: Predicted 99th Percentile Daily Maximum 1-Hour SO_2 Concentrations Averaged Over Three Years for the Emery County Area of Analysis for the SC Hunter Simulation.

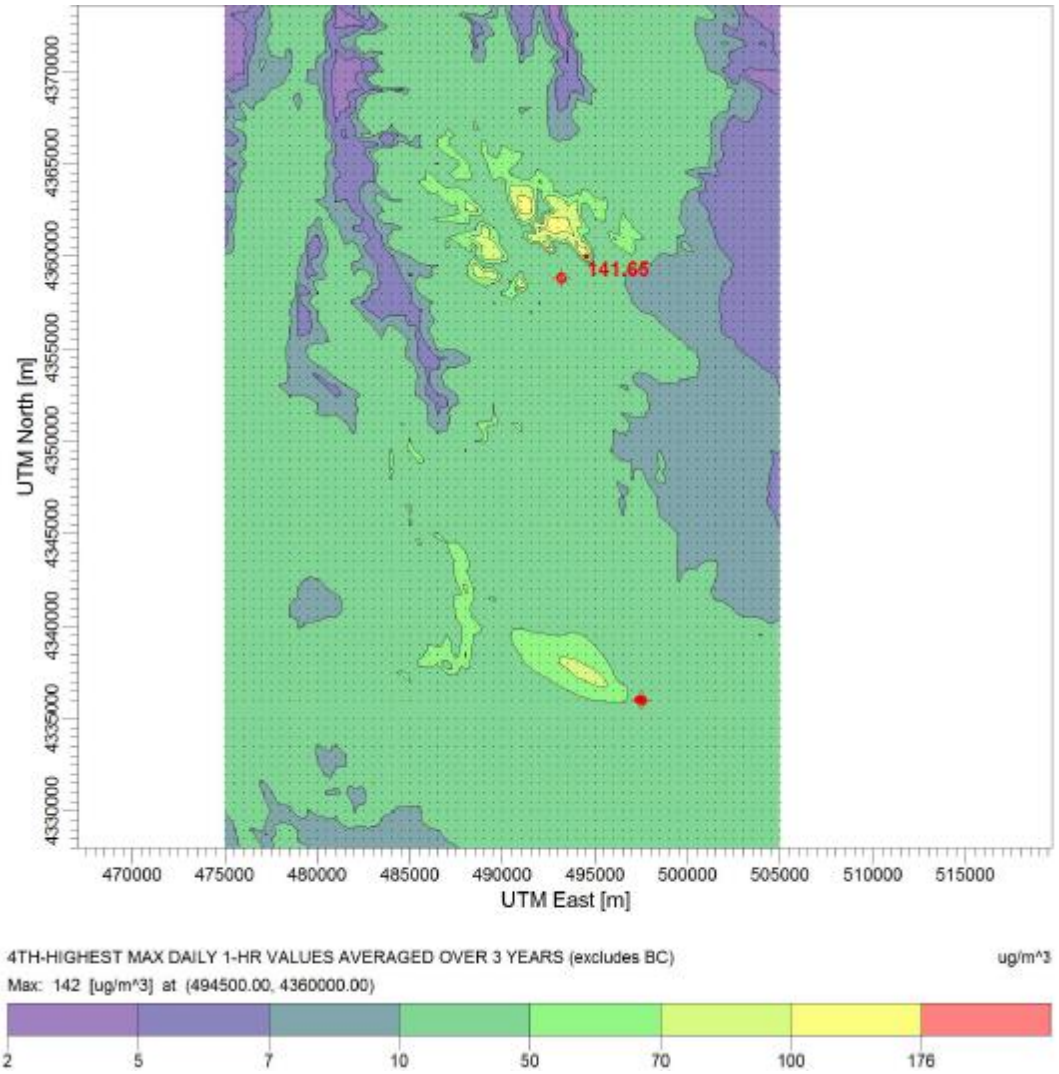

Figure 13: Predicted 99th Percentile Daily Maximum 1-Hour SO_2 Concentrations Averaged Over Three Years for the Emery County Area of Analysis for the SC Huntington Simulation.

2.3.1.11. The EPA's Assessment of the October 2017 Modeling Information Provided by the Sierra Club

As stated previously, the Sierra Club provided two modeling simulations for the area containing the Hunter and Huntington facilities. Sierra Club exactly duplicated the state's modeling for each respective simulation, except for the receptor network. The EPA has assessed all modeling assessments from the state and the Sierra Club and determined the most reliable is the analysis termed the SC Huntington Simulation. This analysis used site-specific meteorological data collected at Huntington Power Plant, and included emissions from both Huntington and Hunter. This analysis did not exclude any receptors and does not predict violations of the NAAQS in the area.

The EPA finds that the site-specific meteorological data used in the SC Huntington Simulation is more representative for the area that includes Huntington Power Plant, which includes both Huntington and Hunter, and therefore finds it to be more refined than the NWS data used in the SC Hunter Simulation based on the EPA guidelines (Appendix W and Modeling TAD). As stated previously, the EPA assessed the area and determined the area to be one airshed with complex terrain throughout that can be best represented by the site-specific meteorological data collected at Huntington Power Plant. As previously mentioned, the factors to determine data representativeness found in Appendix W include: 1) the proximity of the meteorological monitoring site to the area under consideration, 2) the complexity of terrain, 3) the exposure of the meteorological site, and 4) the period of time during which data are collected. While both meteorological stations appear to align with the Modeling TAD generally, considering these factors, the EPA finds the site-specific data collected at Huntington to be more representative of the entire modeled area (containing both sources) than the NWS station located more than 50 km from the Hunter facility based on the reasons discussed in Section 2.3.1.7.

The EPA-generated data and plots of the results from the Sierra Club modeling analysis using the modeling output files provided by Sierra Club for the Huntington Power Plant (i.e., SC Huntington Simulation, which includes emissions from both the Hunter Power Plant and Huntington Power Plant, and to which the EPA added background concentrations) indicate that all receptors within the model domain attain the 2010 SO_2 NAAQS (see Figure 7).

As Sierra Club noted in its comments on our intended designations, the EPA acknowledges that receptors were excluded by the state in areas where the public has access. Utah DAQ asserted that these areas that are accessible to the public are located in areas of complex terrain where it may not be feasible to place monitors (See Figure 8).The Sierra Club also provided examples of monitors that could be placed in complex terrain. Despite these assertions that receptors may or may not be excluded in certain areas, the SC Huntington Simulation, with no receptor exclusions, provided by Sierra Club demonstrates that the area around these two sources is attaining the NAAQS, and thus is the clearest evidence that the area is attaining the NAAQS. For this reason, the comments from Sierra Club, the state, or any other party regarding whether receptors may or may not be excluded in this area on any basis would not change the EPA's conclusion that Emery County meets the 2010 SO_2 NAAQS and does not contribute to any nearby area that does not meet the NAAQS.

2.4. Emissions and Emissions-Related Data, Meteorology, Geography, and Topography for the Emery County Area

These factors have been incorporated into the air quality modeling efforts and results discussed above. The EPA is giving 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 Emery County Area

Existing jurisdictional boundaries are considered for the purpose of informing the EPA's designation action for Emery 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, the state recommended a full-county attainment designation for Emery County.

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

The EPA has determined, based on our review of all available information including the modeling data provided by Utah DAQ and the Sierra Club, that Emery County meets the 2010 SO_2 NAAQS and does not contribute to any nearby area that does not meet the NAAQS. There are no areas that do not meet the NAAQS within 500 km of the Emery County area of analysis. For these reasons, we are designating Emery County as attainment/unclassifiable.

The EPA believes that our final attainment/unclassifiable area, bounded by the borders of Emery 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 Emery County Area

After careful evaluation of the state's recommendation and supporting information, as well as all available relevant information including modeling data provided by the Sierra Club and Utah, the EPA is designating Emery County as attainment/unclassifiable for the 2010 SO_2 NAAQS. The EPA finds that Emery County meets its definition of an attainment/unclassifiable area as it is an area that was required to be characterized under 40 CFR 51.1203(c) or (d) 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 borders of Emery County.

Figure 18 shows the boundary of this final designated area.

Figure 18. Boundary of the Final Emery County Attainment/Unclassifiable Area