

# 2010 SO<sub>2</sub> NAAQS Original, Revised and Recent

MDNR Stakeholder Meeting

June 26, 2014

# Overview

- History of the 2010 SO<sub>2</sub> 1hr NAAQS
- Revised Implementation Schedule for Designations
- Recent Data Requirements Rule Proposal
- Litigation Consent Decree Notification

# History of the 2010 SO<sub>2</sub> 1-hr NAAQS

- June 2, 2010, EPA issued the revised primary NAAQS to improve public health protection
  - First revision since the initial SO<sub>2</sub> NAAQS was issued in 1971
  - The 2010 revision was compelled by a judicial consent decree and legal challenge to our 1996 decision not to revise the 1971 standards
- The revised standard focused on health benefits to children, the elderly, and people w/ breathing issues
- The standard established a new 1-hr limit to reduce people exposure to short term high concentrations of SO<sub>2</sub>
- The 2010 NAAQS included a hybrid implementation approach that would utilize both monitoring and modeling to establish compliance with the new standard

# SO<sub>2</sub> NAAQS Implementation

- In July of 2012, EPA issued a notice extending the deadline for area designations by 1 year to June 2013
- The extension was provided because EPA lacked sufficient information to make the designations
- In May 2012, EPA issued a White Paper and held 3 stakeholder meetings with states/tribes, industry and environmental organizations to discuss a reasonable approach to SO<sub>2</sub> implementation.
  - Implement through a notice and comment rulemaking
  - Broad support for emissions threshold to identify priority sources
  - States expressed concerns about costs of additional monitoring. Supported flexibility to choose to characterize air quality for priority sources through monitoring or modeling
  - Industry generally favored monitoring as traditional and more certain approach to characterize air quality.
  - Environmental groups strongly favored modeling as able to characterize air quality 360 degrees around the source, and able to provide data more quickly and for less cost than monitoring.

# Implementation (2)

- In February of 2013
  - EPA submitted to states our proposed nonattainment boundary designations “120-day letters” for areas with monitored 1-hour SO<sub>2</sub> NAAQS violations
  - EPA also issued letters regarding other areas stating “EPA was not yet ready to propose designations”
  - Finally, EPA released a Strategy Paper for SO<sub>2</sub> designations and implementation
    - Informed by input received in stakeholder meetings and written comments
    - Recommended development of future “SO<sub>2</sub> data requirements rule” and completing designations using data collected pursuant to the rule
      - Orderly nationwide process
      - Expeditious but workable schedule
      - State flexibility to use monitoring or modeling to characterize air quality
      - Incentives to establish enforceable emission limits to avoid nonattainment designation
      - Maintain traditional state and EPA roles in designation process

# Implementation (3)

- In May 2013, EPA released (first draft) and December 2013 (second draft) draft technical assistance documents (TADs) for public review
  - SO<sub>2</sub> Source-Oriented Monitoring TAD: guidance on identifying locations of peak ambient concentrations for ambient monitoring sites
  - SO<sub>2</sub> Modeling for Designations TAD: guidance on use of actual emissions and meteorological data in modeling analyses conducted as a surrogate for monitoring “current” air quality.
- August 2013: EPA issued final area designations for 29 areas in the Country - two areas in Missouri finalized as nonattainment
  - Jackson County (Kansas City Area)
  - Jefferson County (Herculaneum Area)

# Data Requirements Proposed Rule

- Proposed on May 13, 2014 (79 FR 27446)
- Comments due by July 14, 2013, Docket (EPA-HQ-OAR-2013-0711)
- Expected implementation timeline
  - Deadline for air agencies to declare to EPA which source areas would be modeled vs. monitored
  - Deadline for air agencies to submit new modeling or monitoring data to EPA
  - Discussion of intended dates for EPA action on future rounds of designations
- Source thresholds for identifying priority sources around which to characterize air quality through ambient monitoring or air quality modeling (serving as surrogate for monitoring)
- Discussion of incentives and procedures for air agencies to work with sources to adopt enforceable emission limits early enough to avoid nonattainment designation
- Provisions for ongoing assessment of air quality for areas designated attainment

# DRR Schedule

- **Late 2014:** EPA issues final rule
- **Jan. 2016:** Air agency: (1) identifies sources to be characterized with monitoring data; and (2) provides modeling protocol for other sources
- **July 2016:** Air agency updates annual air quality monitoring plan
- **Jan. 2017:**
  - New monitoring sites operational in January 2017
  - Air agency submits modeling analyses for “modeling” areas (i.e., areas above threshold for which they are not installing new monitors)
  - Air agency can submit boundary recommendations for all areas except those relying on new monitoring data (in future)
- **Dec. 2017:** EPA intends to designate areas not installing new monitors
  - Designations based on: modeling data, properly sited monitors showing attainment, areas having no sources
- **Early 2020:** New monitoring sites have 3 years of data; air agency submits monitoring data
  - Air agency can submit boundary recommendations for monitored areas
- **Dec. 2020:** EPA intends to designate areas for rest of country



# DRR Source Threshold Options

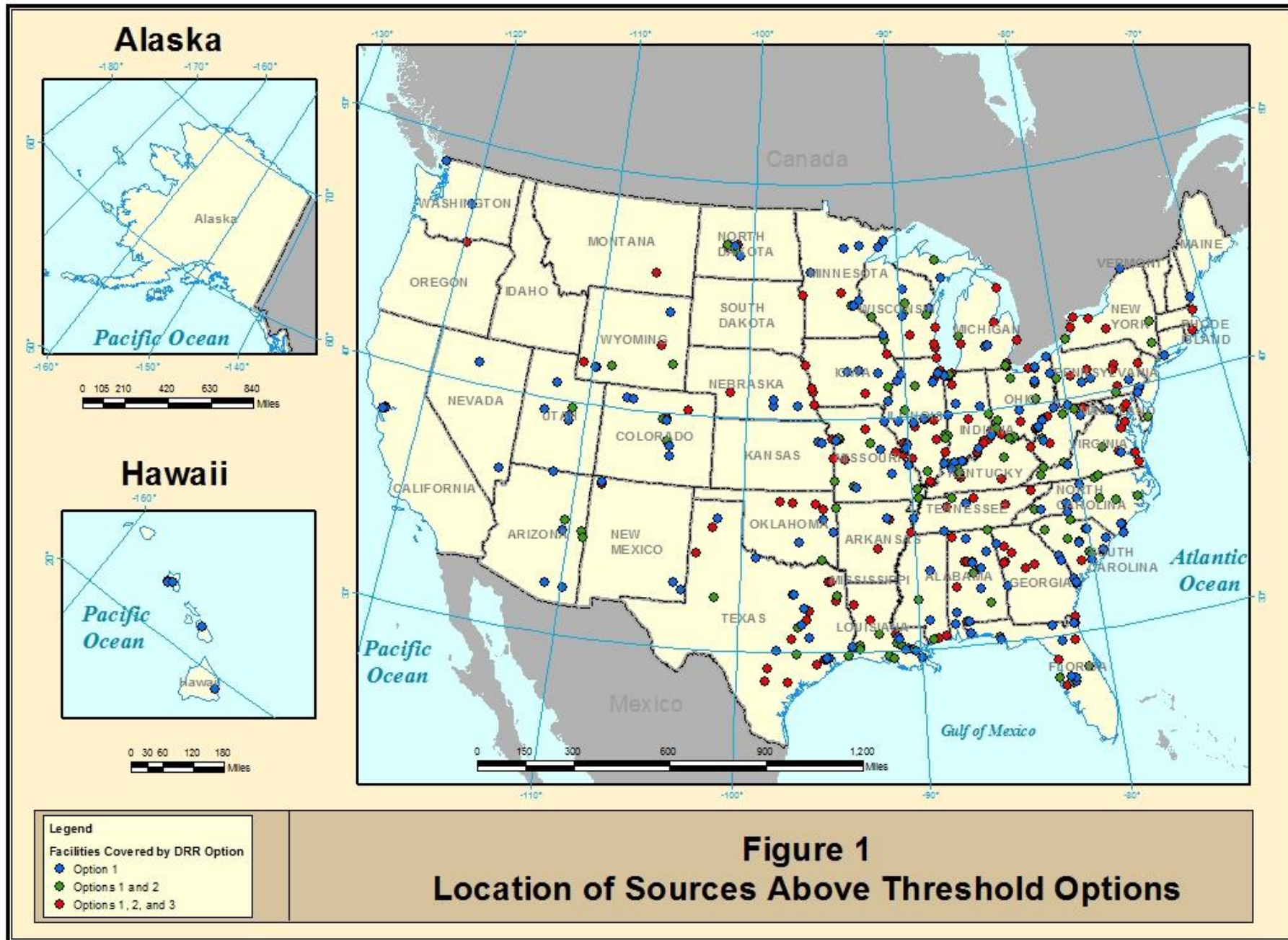
Option	Threshold For SO <sub>2</sub> Sources		Number of Sources**	Percent of National Emission†	Plus Sources In Designated Nonattainment Areas‡	Total Source Coverage	Total Annual Emissions Coverage
	Inside CBSAs Greater than 1M	Outside CBSAs Greater than 1M					
1*	1,000 TPY	2,000 TPY	447	75 %	47	496	90 %
2	2,000 TPY	5,000 TPY	271	66 %	47	323	82 %
3	3,000 TPY	10,000 TPY	159	54 %	47	211	69 %

\* Preferred option.  
 \*\* These do not include sources located in nonattainment areas designated in 2013.  
 † Total SO<sub>2</sub> emissions in 2011 were 5.8 million tons.  
 ‡ There are 47 sources with annual emissions greater than 1,000 tpy in nonattainment areas designated in 2013.

- EPA preference is Option 1
  - “90% emissions” option discussed in May 2012 white paper and stakeholder meetings
  - Minimum monitoring requirement for source-oriented lead NAAQS addresses 90% of the stationary source emissions
  - Many states supported a threshold of 2,000 tpy
  - 2013 designations generally reflect sources above these thresholds
  - No state would have more than 32 sources
  - Close to 10% of the target sources were included in 2013 area designations

# DRR Source Threshold Options

- Proposed thresholds are expressed in terms of annual tons of SO<sub>2</sub>
  - Hourly emission rate data not available for all SO<sub>2</sub> sources
- Air agency will need to characterize air quality through monitoring or modeling for each source above the threshold
- Two-pronged approach is proposed
  - Lower threshold in more populated areas
  - Higher threshold in less populated areas



## Incentives for Enforceable Emission Limits to Avoid Nonattainment Designation

- Air agencies can avoid nonattainment designation for certain areas by working with sources to establish permanent and enforceable emission limitations by January 2017 that show compliance with the SO<sub>2</sub> NAAQS through modeling
  - Emission limits would need to be incorporated into the SIP and made federally-enforceable (e.g. through source-specific SIP revision, minor NSR permit, consent decree, etc.)
  - Can take into consideration emission reduction measures that will be implemented for Mercury and Air Toxics Standard (MATS) and other rules

# Ongoing Assessment of Air Quality for Areas Designated “Attainment”

- If areas are designated “attainment” after states provide monitoring or modeling data, states will be required to verify ongoing attainment
- Monitors deployed to meet the requirements of this rule in general must continue operation. However, the rule proposes that a monitor may be shut down if it meets certain criteria, including:
  - Two proposed options:
    1. if design value is below 50% of standard;
    2. if design value is below 80% of standard.
- Modeled areas
  - For other pollutants, monitors are available to track emissions in the future, but this will not be true for SO<sub>2</sub> where state chooses modeling option
  - Three options are proposed for ongoing assessment of attainment
    1. Air agency assesses emissions annually, conducts modeling every 3 years
    2. Air agency assesses emissions annually; if total SO<sub>2</sub> emissions increase, air agency recommends whether more modeling is needed; RA considers case-by-case
    3. Air agency conducts screening modeling every 3 years

# Litigation Designations Deadline & Consent Decree

- EPA was sued because we didn't designate all areas according to the Act
- EPA reached a proposed settlement with Sierra Club and NRDC that would resolve litigation over deadline to complete designations complete designations earlier than DRR
- May 19<sup>th</sup>, EPA filed a proposed CD to expedite designations schedule for priority sources...expedited designations 16 months from date court entered CD
- Proposed settlement was public noticed early June, comment period open until July 2<sup>nd</sup>.
- EPA Contemplating Next Steps

# SO2 Consent Decree

## Plants in Region 7 that exceed 16,000 TPY SO2 in 2012

State	Utility	Plant	Heat Input	SO2 Mass	Weighted SO2 Rate
IA	MidAmerican	George Neal	88,985,040	24,061	0.541
KS	KCPL	La Cygne	91,295,758	16,235	0.356
MO	AmerenUE	Labadie	147,924,296	42,234	0.571
NE	NPPD	Gerald Gentleman	89,473,663	26,437	0.591
NE	OPPD	Nebraska City	94,594,399	16,765	0.354

# SO2 Consent Decree

## Plants in Region 7 that exceed 2,600 TPY SO2 and a rate of 0.45 lb SO2/mmBtu in 2012

State	Utility	Plant	Heat Input	SO2 Mass	Weighted SO2 Rate
IA	Alliant	Burlington	13,973,963	4,697	0.672
IA	Alliant	Lansing	13,251,043	4,477	0.676
IA	Alliant	Ottumwa	35,967,485	11,985	0.666
IA	Alliant	Prairie Creek	8,946,919	2,615	0.585
IA	MidAmerican	George Neal	88,985,040	24,061	0.541
KS	BPU-KCK	Nearman Creek	13,310,799	4,136	0.621
KS	BPU-KCK	Quindaro	10,418,202	2,757	0.529
KS	Westar	Tecumseh	13,605,210	3,978	0.585
MO	AmerenUE	Labadie	147,924,296	42,234	0.571
MO	Empire District	Asbury	13,798,472	6,261	0.907
MO	KCPL	Montrose	20,753,790	6,445	0.621
MO	KCPL	Sibley	22,180,478	6,095	0.550
MO	Sikeston	Sikeston	16,924,234	5,243	0.620
NE	NPPD	Gerald Gentleman	89,473,663	26,437	0.591
NE	NPPD	Sheldon	12,058,768	2,760	0.458
NE	OPPD	North Omaha	35,111,948	11,378	0.648



# Questions?

For more information:

SO<sub>2</sub> NAAQS Implementation website:

<http://www.epa.gov/airquality/sulfurdioxide/implement.html>

Submit comments:

<http://www.regulations.gov>, docket EPA-HQ-OAR-2013-0711 (DRR)

<http://www.regulations.gov>, docket EPA-HQ-OGC-2014-0421 (CD)

Regional Contact

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