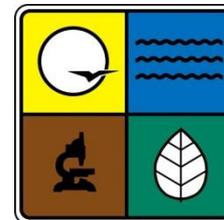


2010 SO₂ NAAQS

SO₂ Nonattainment Area Guidance

June 26, 2014



MISSOURI
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NATURAL RESOURCES

SO₂ Nonattainment Area Guidance

- Applies to both initial round SO₂ NAAs and future rounds of NAA
- SO₂ Nonattainment plans require use of allowable emissions

****Actual emissions only for future area designations**

Taking Credit in SO₂ Nonattainment Plans

- Unit specific requirements used to demonstrate modeled attainment will be codified in the new state sulfur rule
 - Ultra Low Sulfur Diesel (ULSD) or Low Sulfur Diesel (LSD)
 - Natural Gas
 - Fuel sulfur content
 - Boiler MACT
 - Supplemental limits

Limits with Longer Averaging Times

- NAA guidance allows averaging times from 1 hour up to 30 days if operational flexibility is desired
- Find critical emission rate that demonstrates compliance through modeling (i.e. the hourly emission limit)
- Statistical analysis is required
- Supplemental limits and/or conditions may be required

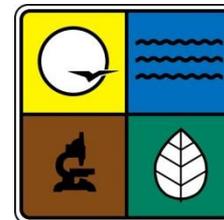
****All longer term limits will be evaluated on a case by case basis, with communication between the source, state, and EPA Region 7.**

Implementation – Permanent and Enforceable Questions

- Will emission limits be expressed as lb/hr or lb/MMBtu?
 - Limits expressed in lb/hr in state rule, but lb/MMBtu supplementary limit could also be included
- Will SO₂ emission limits be on a unit or facility wide basis?
 - Alternatives to unit specific lb/hr limit will be evaluated on a case-by-case basis. Facilities must provide justification that alternative limits are equally protective of NAAQS.

2010 SO₂ NAAQS SO₂ Data Requirements Rule (DRR)

June 26, 2014



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DRR Overview

- SO₂ DRR proposal published in FR on May 13, 2014, comment period open through July 14, 2014
- Outlines criteria for sources to be evaluated for next rounds of SO₂ designations
- To be used in conjunction with Modeling/Monitoring Technical Assistance Documents (TADs)

Regulatory Applicability

- Once DRR is finalized, we will contact affected sources to begin characterization dialogue – Modeling or monitoring option
- Monitoring option presented later
- Air Program and source must reach agreement by June 2015 for monitoring approach to be viable, otherwise source will be modeled

Designations Process

- All sources must be modeled
 - Both monitoring & modeling options
 - Actual emissions
 - One NWS meteorological data set per area
- How to avoid future NAA designations
 - Take a limit to lower allowable emissions
 - Limit must be agreed upon by January 2016

Benefits of Taking an Allowable Limit Early

- Avoid NAA designation and associated requirements for your source/area
- Avoid ongoing attainment verification
 - Designations modeling based on actual emissions requires ongoing verification every 3 years or annually, depending on finalized DRR

Emissions Inputs for Modeling

- MoEIS data used as starting point
- Important for sources to verify their modeling inputs
- Emissions (MHDR) data, emission factors, stack/release parameter data & locational data
- Contact Emissions Inventory Unit (Stacy Allen) for corrections

Things to Consider Now

- Is your MoEIS data correct? Are recent & pending changes updated/available?
 - **Contact APCP to verify your data**
- Can you install a monitor?
 - **We need to know by June 2015**
- Should you take an early limit to model attainment?
 - **Agree to early limit by January 2016**
 - **Attainment is modeled at fence line & beyond**

Things to Consider Now

- Should you install onsite met tower?
 - Data can be used in Attainment demo if installed by Jan 2016
- When should you install controls once you're NAA (for future rounds)?
 - Controls and process changes must be operational by January 2022 (Modeling option) or January 2025 (Monitoring option)

Ambient Air Monitoring and the Sulfur Dioxide Data Requirements Rule Proposal

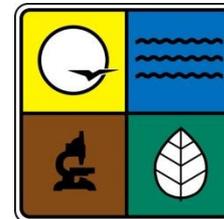
Stephen Hall

Air Quality Analysis Section

Air Pollution Control Program

SO₂ Stakeholders Meeting, June 26, 2014

Jefferson City, MO



MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Presentation Overview

- Monitoring Characterization Proposal
- Monitoring Network Milestones
- Sources' Responsibility for Monitoring
- Data Reporting Expectations
- Site Cost Estimates
- Siting Proposals
- Website Resources

Proposed Requirements

§ 51.1203 Air agency requirements

- (c) Monitoring. For any area for which air quality will be characterized through ambient monitoring, the monitors shall be **sited and operated** in a manner **equivalent to SLAMS**, including, **but not limited to** being subject to reporting data to AQS, data certification and satisfying criteria in 40 CFR part 58 Appendices A, C and E.

Proposed Monitoring Milestones

- **January 15, 2016**- State submits Modeling/Monitoring source list to EPA.
- **July 1, 2016**- Specific Sites Proposed in Monitoring Network plan.
- **Sites Operational**- By January 1, 2017
- **Data Certification**- (year-by-year) – By May 1, 2020, 'first' 3 years of complete monitoring data will have been certified (2017, 2018, 2019)

Sources' Responsibilities for Monitoring

Limited state funding means sources perform & pay for the monitoring under state oversight. (Monitor type classified as "Industrial")

- Source conducts site evaluation to determine area of anticipated maximum SO₂ concentrations consistent with EPA's SO₂ NAAQS Designations Source-Oriented Monitoring Technical Assistance Document. (e.g. 'relative' dispersion modeling using normalized emissions to find max impact area, other...)
- Source submits siting proposal to the state for review and approval. (State performs on-site evaluation to approve site(s) meet monitoring objectives and siting criteria in 40 CFR 58 Appendix E.)
- Source submits Quality Assurance Project Plan (QAPP) for state review and approval. <http://dnr.mo.gov/env/apcp/qapptemplate.htm>
- Source negotiates access agreements with property owners.

Timeline- What can we expect?

Plan ahead and early! State can't oversee all site installations at once.

- Expect 6-8 months to negotiate site access agreements with property owners and install site(s).
- This means site location needs to be decided BEFORE March of 2016 for inclusion on the 2016 Monitoring Network Plan. ('Handshake' agreements with property owners by late 2015 or sooner is highly suggested.)
- 2014 to late 2015 is the site 'design phase' to ensure meeting the monitoring deadlines.
- Start planning now!

Data Reporting for Monitoring- What can we expect?

Facility SO₂ data and Quality Assurance data reported to state:

- Near real-time hourly concentrations “polled” by state from site data logger every hour for Air Quality Index (AQI) reporting (required in some parts of the state).
- Report validated monitoring data, every 2 week quality control checks, in AQS format to Air Program every calendar quarter. (30 days after the previous quarter).
- Depending on number of sources, facilities may need to contract out ‘third party’ semi-annual performance evaluation ‘audits’. (different equipment and different staff other than routine quality control staff).
- Participate in periodic state quality assurance performance evaluation audits and technical systems audits.

Independent Audits



Audit System
Equipment & staff
are different from
routine monitoring.
Why? –Verify no
systematic errors in
routine monitoring

Monitoring Site
Monitor and quality
control equipment
for routine
monitoring



Potential Issues and Questions

- ***What happens if monitoring does not start by January 1, 2017?***
State will model the facility to determine attainment status of area.
- ❖ **Take Home Message:** If a facility is considering the monitoring characterization approach for its source, **Contact Air Program SIP Unit no later than June 2015!**
- Program staff will work with the facilities to evaluate options.
- ‘Shovel ready’ projects take priority! *Expect 30 to 60 days from submission of siting proposal and QAPP for department review.
- **When can monitoring stop?** Depends on concentration trends. Expect more than three years. EPA is taking comment on 50 to 80% of NAAQS thresholds. EPA approves site discontinuation.

Example: SO₂ Site

- About how much does it cost?

Establish (1) site:
- About \$100,000

Annual operating costs (1) Site:
About \$25,000

Estimates from page 27468
FR/ Vol. 79, No. 92 Proposed
Rule rounded to nearest \$100K
and \$5K respectively.



Siting a Monitor -Example



Siting Considerations-40
CFR Part 58 Appendix E

❖ **What siting proposals
must include!**

(Documentation!)

-Spacing from roadways

Hwy 94- Between 1,374
and 2,758 annual average
daily traffic count
(MoDOT)

- ✓ Required Minimum
Distance from roadway:
(O₃) 20 meters
(SO₂) (N/A)
(Suggest 10 meters)

Actual distance about 78
Meters.

West Alton Ozone (**Former SO₂ site**) Monitoring Site: Meets
Neighborhood/Urban Spatial Scale.

Ozone Site (West Alton MO)

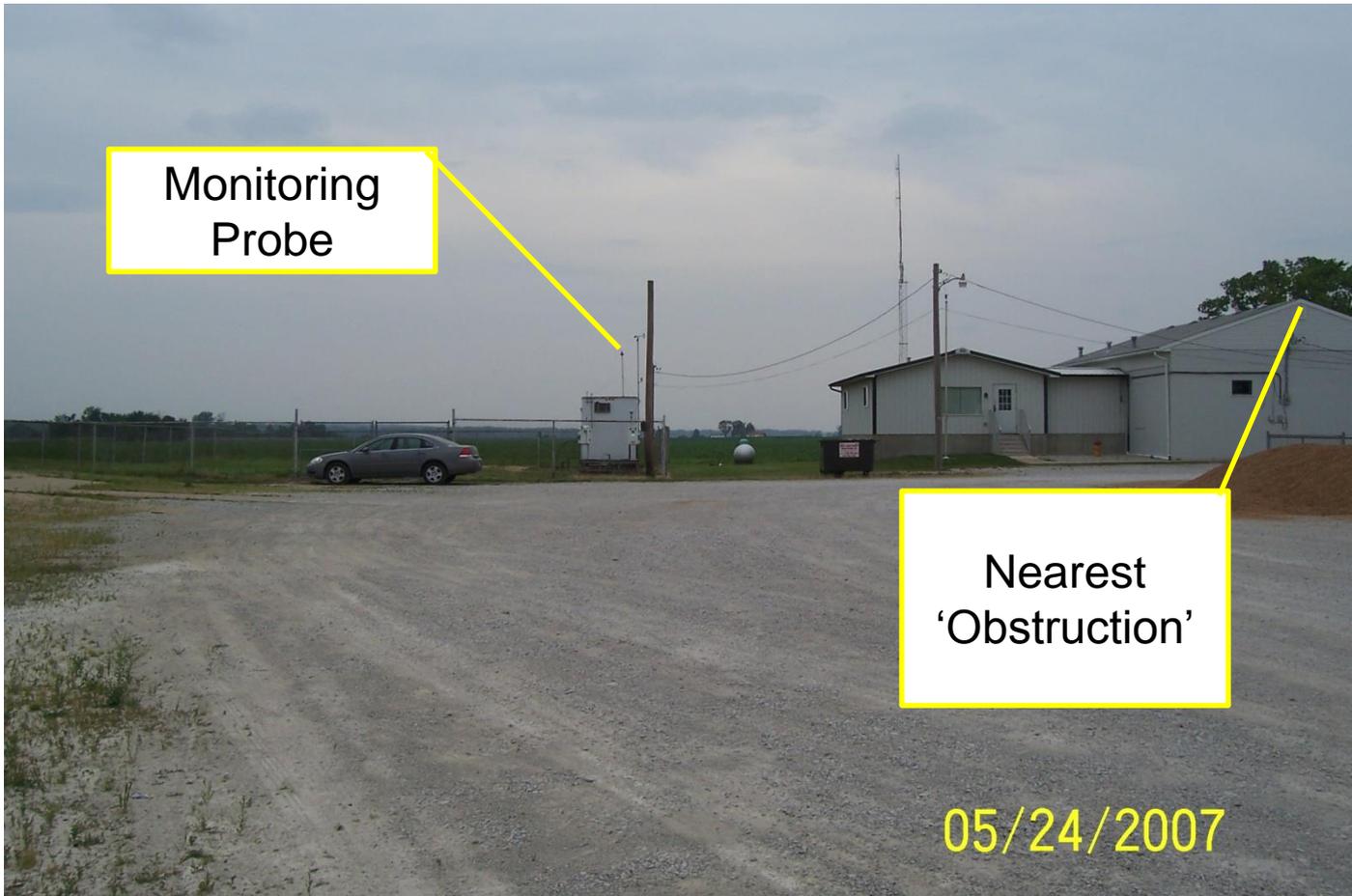
Siting Considerations-

- Spacing From Obstructions:
 - ✓ Inlet probe located at least a distance of twice the height of the obstruction protrudes above the inlet.
 - ✓ 2 meters from walls.
 - ✓ At least 90% of monitoring path open.
- Spacing from trees:
 - ✓ probe inlet at least 10 meters away from drip line.
 - ✓ Spacing from minor sources (flues).

Monitoring
Probe

Nearest
'Obstruction'

05/24/2007



Website Resources

- Air Pollutants Page: Missouri Department of Natural Resources/Programs/Air Pollution Control Program/Program Links/Air Pollutants:
<http://dnr.mo.gov/env/apcp/airpollutants.htm>
- QAPP Guidance (**recently updated!**)
<http://dnr.mo.gov/env/apcp/qapptemplate.htm>
- Preliminary hourly data reports
- Design Value reports
- Monitoring Network Plans and more...

Projected Timeline – What to expect?

Now → Model input verification

- Stack/release parameters, MHDR & Emission Factors, locational data

Late 2014 - early 2015 → DRR final rule issued &
State contacts affected facilities for model input
verification

Jul 2015 → Sources pursuing monitoring option must
formalize agreement with APCP

Jan 2016 → “Early” emission limits must be agreed
upon for inclusion in state SO₂ rule

Projected Timeline – What to expect?

Jan 15, 2016 → State submits to EPA: 1) list of sources characterized by monitoring or modeling & 2) modeling protocol

Jul 1, 2016 → Specific monitoring sites proposed in State's Monitoring Network Plan

Jan 1, 2017 → New industrial monitors operational

→ Implementation deadline for Control strategies and emission reductions for: 1) Initial Round NAAs and 2) early limits to avoid NAA designation.

→ State submits to EPA boundary recommendations and analysis for modeling option areas

Projected Timeline – What to expect?

Feb 2018 → Round 2 (modeled) NAAs effective

Feb 2021 → Round 3 (monitored) NAAs effective

Jan 2022 → Implementation of controls for Round 2 areas

Jan 2025 → Implementation of controls for Round 3 areas

Stay Tuned

- DRR and Consent Decree are both proposed and subject to change
- We will keep everyone informed as things change

Who do I contact with questions about...?

- **SIPs/SO₂ Modeling**
 - Bob Randolph, bob.randolph@dnr.mo.gov
- **Rulemaking**
 - Paul Myers, paul.myers@dnr.mo.gov
- **Emission Inventory/EIQs**
 - Stacy Allen, stacy.allen@dnr.mo.gov
- **Monitoring**
 - Patricia Maliro, patricia.maliro@dnr.mo.gov

References

- SO₂ Nonattainment Area Guidance
<http://www.epa.gov/airquality/sulfurdioxide/pdfs/20140423guidance.pdf>
- Proposed SO₂ Data Requirements Rule
<http://www.regulations.gov/#!docketBrowser;rpp=25;po=0;D=EPA-HQ-OAR-2013-0711> [Air Docket]
- Proposed SO₂ Consent Decree
<http://www.gpo.gov/fdsys/pkg/FR-2014-06-02/pdf/2014-12693.pdf>

Division of Environmental Quality Director: Leanne Tippett Mosby

Date: June 26, 2014

Nothing in this document may be used to implement any enforcement action or levy any penalty unless promulgated by rule under chapter 536 or authorized by statute.