

# Subchapter 31 & The Revised SO<sub>2</sub> NAAQS

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L. Brooks Kirlin  
Rules & Planning Section

# SO<sub>2</sub> NAAQS Revision – Now Final

- Published on June 22, 2010
  - 75 FR 35520
  - Effective August 23<sup>rd</sup>
- Primary Standard Only
  - Effects on Human Health
  - Focus on Short-Term Concentrations
    - 5-minute to 24-hour Exposure
- Info at:
  - <http://www.epa.gov/air/sulfurdioxide/actions.html>

# SO<sub>2</sub> Standard: Old vs. New

- Revised SO<sub>2</sub> NAAQS :
  - 1-hour 75 ppb
    - Revoked Both the Current 24-hour & Annual Standards
- “Current” (Appendix E) SO<sub>2</sub> NAAQS:
  - 24-hour 140 ppb
  - Annual 30 ppb

# Attainment: Old vs. New

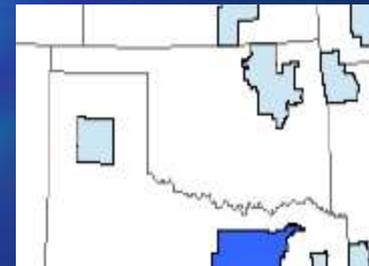
- Old/Existing:
  - Oklahoma is in Attainment for Current Standards
- Revised SO<sub>2</sub> NAAQS (EPA Projection):
  - All Oklahoma Counties below 75 ppb
  - 2020 - Muskogee County above 75 ppb

# SO<sub>2</sub> Monitoring

- Proposed Monitoring Network Reduced
  - 348 Sites “Source-Oriented” Monitoring Sites
- “Core Based Statistical Areas” (CBSAs)
  - At Least 1 Monitor in 131 CBSAs Nationwide
    - Based on Population & SO<sub>2</sub> Emissions
    - 163 Monitors Total Nationally
- Changes Operational by January 1, 2013

# SO<sub>2</sub> Monitoring in Oklahoma

- 7 Current SO<sub>2</sub> Monitoring Sites
  - Most are Source-based
- EPA Would Require One in Oklahoma
  - Tulsa CBSA



- AQD Would Review Monitor Locations

# To Demonstrate Compliance, However ...

- Hybrid SO<sub>2</sub> Monitoring & Modeling Approach
  - “Nonattainment” for Monitored Violation
    - (2008-2010 Data)
  - “Attainment” if No Violations
    - Monitoring Data
    - Refined Dispersion Modeling
      - Medium to Larger Sources

# Otherwise ...

- All Other Areas Initially “Unclassifiable”
  - With No Monitored Violations
  - Until “Attainment” Demonstrated Through Refined Dispersion Modeling
    - Sources That May “Cause or Contribute” to a NAAQS Violation
    - Take into Account SO<sub>2</sub> Reductions from Other Regulations
      - Boiler & EGU NESHAPs, Transport Rule, e.g.

# Implementation Timeline

Milestone	Date
Signature – Final Rule	June 2, 2010
Published	June 22, 2010
Effective	August 23, 2010
State Designation Recommendations to EPA	June 2011
Final Designations	June 2012
SIPs Due	Early 2014
Attainment Date	Summer 2017

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

- Separate Review for Secondary Standard
  - Due by 2012
  - Effects on Welfare
  - Deposition of SO<sub>2</sub> & NO<sub>x</sub>
- High SO<sub>2</sub> => High SO<sub>x</sub> (PM<sub>2.5</sub> Precursor)

# Oklahoma Implementation

- AQD Permitting is Evaluating
  - Potentially Affected Facilities
  - Existing Modeling Protocols & Results
- Clarifying EPA Expectations
- Watching Texas Court Filing
- Reassess Role of SC 31

# Subchapter 31 – Control of Emissions of Sulfur

- OSDH Rule First Effective on July 1, 1972
  - Ambient SO<sub>x</sub>/SO<sub>2</sub> Standards for Existing Facilities
    - Current Subsection 100-31-7(a)
    - Also Applies to “New” Petroleum & Natural Gas Processing Facilities Built After December 1974
  - SO<sub>2</sub> Emissions Limits for Certain “New” Facilities/Equipment
    - Fuel-burning equipment
    - Sulfur Recovery Plants
    - Nonferrous Smelters
    - Paper Pulp Mills
  - SO<sub>2</sub> and Sulfuric Acid Mist Emissions Limits
    - for “New” Sulfuric Acid Plants

# Previous SC 31 Proposal

- Clarify Rule Language
- Require New & Existing Sources to Meet the Same Requirements
  - Subsection 100-31-7(a)
    - Drop 5-minute Standard
- Add “Alternative Fuels” Definition and Requirements

# SO<sub>2</sub>: Old vs. New NAAQS vs. SC31

	Current Standards (App. E & F)		EPA's Final Revision (75 FR 35520, 6/2/10)	SC 31 Requirements
	Primary	Secondary	Primary	(252:100-31-7)
5-Minute				500 ppb
1-Hour			75 ppb	460 ppb
3-Hour		500 ppb		250 ppb
24-Hour	140 ppb		Revoked	50 ppb
Annual	30 ppb		Revoked	30 ppb

<http://www.epa.gov/air/sulfurdioxide/actions.html>

# Subchapter 31 Options

- Reassess/Refine Objective
  - Support for NAAQS Compliance
  - Gap-Filling
- Ambient Concentration Limits
  - 5 Timeframes in 100-31-7(a)
    - 5-minute, 1-hour, 3-hour, 24-hour, Annual
- New and Existing Equipment Standards

# Possible SC 31 Approaches

- **Modify Current Limits**
  - Maintain/Adjust Ratio of Limits to NAAQS
    - Much More Stringent
    - More Facilities Affected
- **Eliminate Some Timeframes (or All)**
  - Facilities May Not “Cause or Contribute” to a NAAQS Violation
  - Planned Secondary SO<sub>2</sub> NAAQS Revision

# Current Equipment-Based Standards

- Subchapter 31
  - Part 3. Existing Equipment Standards
    - Sulfuric Acid Plants
    - Kraft Pulp Mills
    - Fossil Fuel-Fired Steam Generators
  - Part 5. New Equipment Standards
    - Fuel-burning Equipment
    - Petroleum and Natural Gas Processes
    - Pulp Mills