EPA's New National Ambient Air Quality Standard for Sulfur Dioxide (SO_2)

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July 13, 2010

Final Standard:

- New SO2 Standard (published June 22, 2010):
  - 1-hour SO2 standard - **75 ppb**.

- 1971 SO2 standards:
  - Annual average - 30 ppb
  - 24-Hour average – 140 ppb
  - Both annual & 24-hour average standards above have been discontinued.

Final Standard:

- Form of Standard –
  - 3-year average of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations.
- Changes to SO2 monitoring network & reporting requirements.
- AQI revised based on the new 1-hour standard.

Why a 1-hour standard

- New 1-hour standard would better protect public by reducing people's exposure to high short-term (5 minutes to 24 hours) SO2 concentrations.
- New 1-hour standard would continue to prevent SO2 concentrations from exceeding the old 24-hour and annual standards.
- Little health evidence to suggest an association between long-term exposure to SO2 and public health effects.

Compliance with the New Standard

- Hybrid monitoring/modeling approach to assess compliance with the 1-hour standard
  - Modeling approach for medium to larger sources
    - Refined source-oriented dispersion modeling to identify violations and determine compliance for sources or groups of sources with potential to cause or contribute to a violation of the standard
    - Draft Modeling and implementation guidance expected soon for:
      - Appropriately comparing the model results to the new SO2 standard
      - Identifying and appropriately assessing the air quality impacts of smaller SO2 sources that may potentially cause or contribute to a violation of the new SO2 standard
  - Monitoring approach for groups of smaller sources and sources not as conducive to modeling

Monitoring Network

- Current SO2 network not primarily configured to monitor locations of expected maximum short-term concentrations.
- EPA is setting specific minimum requirements for where states must place SO2 monitors.
- Number of monitors in Core Based Statistical Areas (CBSAs) based on a population weighted emissions index (PWEI). Additional monitoring in certain cases.
  - PWEI ≥1,000,000 = 3 monitors (Washington region)
  - PWEI >100,000 <1,000,000 = 2 monitors
  - PWEI > 5,000 <100,000 1 monitor
- All new monitors operational by Jan. 1, 2013

Designations & Potential Hybrid Monitoring/Modeling Approach

- Initial designations - based on data from existing monitors and, where provided by states, appropriate modeling
- Designation approach for areas:
  - Both monitoring and modeling results show no violation = Attainment
  - Either monitoring or modeling results show violation = Nonattainment
  - All other areas = Unclassifiable (initially)
  - Presumptive nonattainment boundary = County (unless state demonstrates otherwise)
    - "County-by-county" approach for nonattainment designation as opposed to "group of county" approach used for ozone & PM2.5
    - SO2 a local issue, not a regional issue like ozone and PM2.5
  - Current Highest Design Value (2007-09) = 36 ppb in Alexandria (VA)

Proposed Implementation Schedule

Milestone	Date
Signature – Final Rule	June 2, 2010
State Designation Recommendation	June 2011
EPA Designations	June 2012
Maintenance SIP (Attainment & Unclassifiable Areas)	June 2013
Nonattainment Area SIP	February 2014
Attainment Date	August 2017