

# **SO<sub>2</sub> Update: Designations & Data Requirements Rule (DRR)**

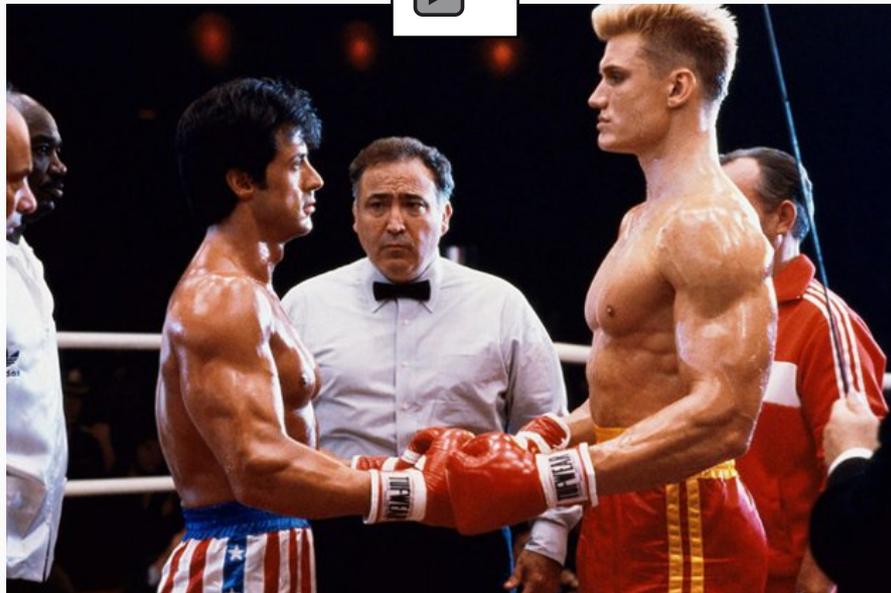
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# SO<sub>2</sub> 1-hour NAAQS (2010) Designation Rounds



- Round 1
  - July 25, 2013 – 29 nonattainment areas in 16 states
  - 29 nonattainment areas based on design values > 75 ppb (196.5  $\mu\text{g}/\text{m}^3$ ) calculated from 3-years of monitoring data
  - SIPs were due on April 4, 2015; attainment date is Oct. 4, 2018



# SO<sub>2</sub> 1-hour NAAQS (2010) Designation Rounds



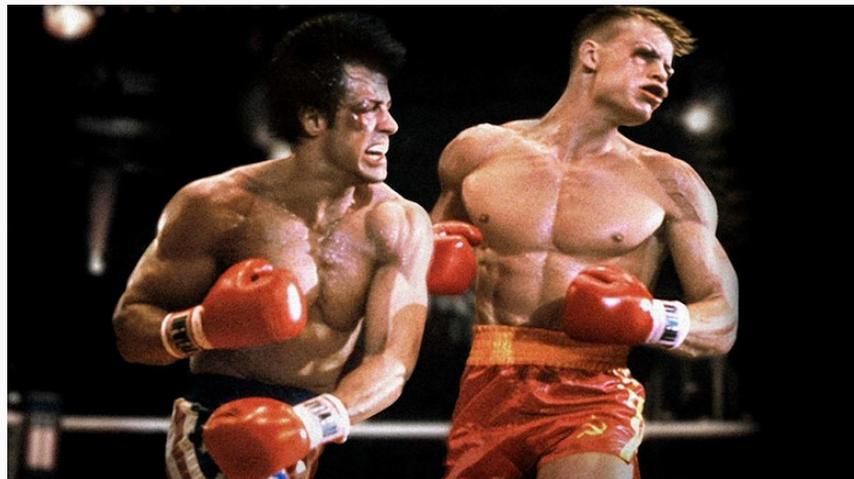
- Round 2
  - Per consent decree, on June 30, 2016, EPA designated an additional 61 areas (for 64 sources) in 24 states (this round is commonly called the CD round)
  - 4 nonattainment, 16 unclassifiable, 41 unclassifiable/attainment areas



# SO<sub>2</sub> 1-hour NAAQS (2010) Designation Rounds



- Round 3 designations
  - December 31, 2017 – Modeled areas plus all remaining areas, except where states have established new monitors per the DRR
  - See the July 22, 2016 memo from OAQPS to regional air directors, including the general approach and schedule for Round 3 (see <https://www.epa.gov/sulfur-dioxide-designations/area-designations-2010-primary-sulfur-dioxide-national-ambient-air>)



# SO<sub>2</sub> 1-hour NAAQS (2010) Designation Rounds



- Round 4 designations
  - December 31, 2020 – all remaining areas (presumably all areas where monitoring is conducted)



# DRR Milestones



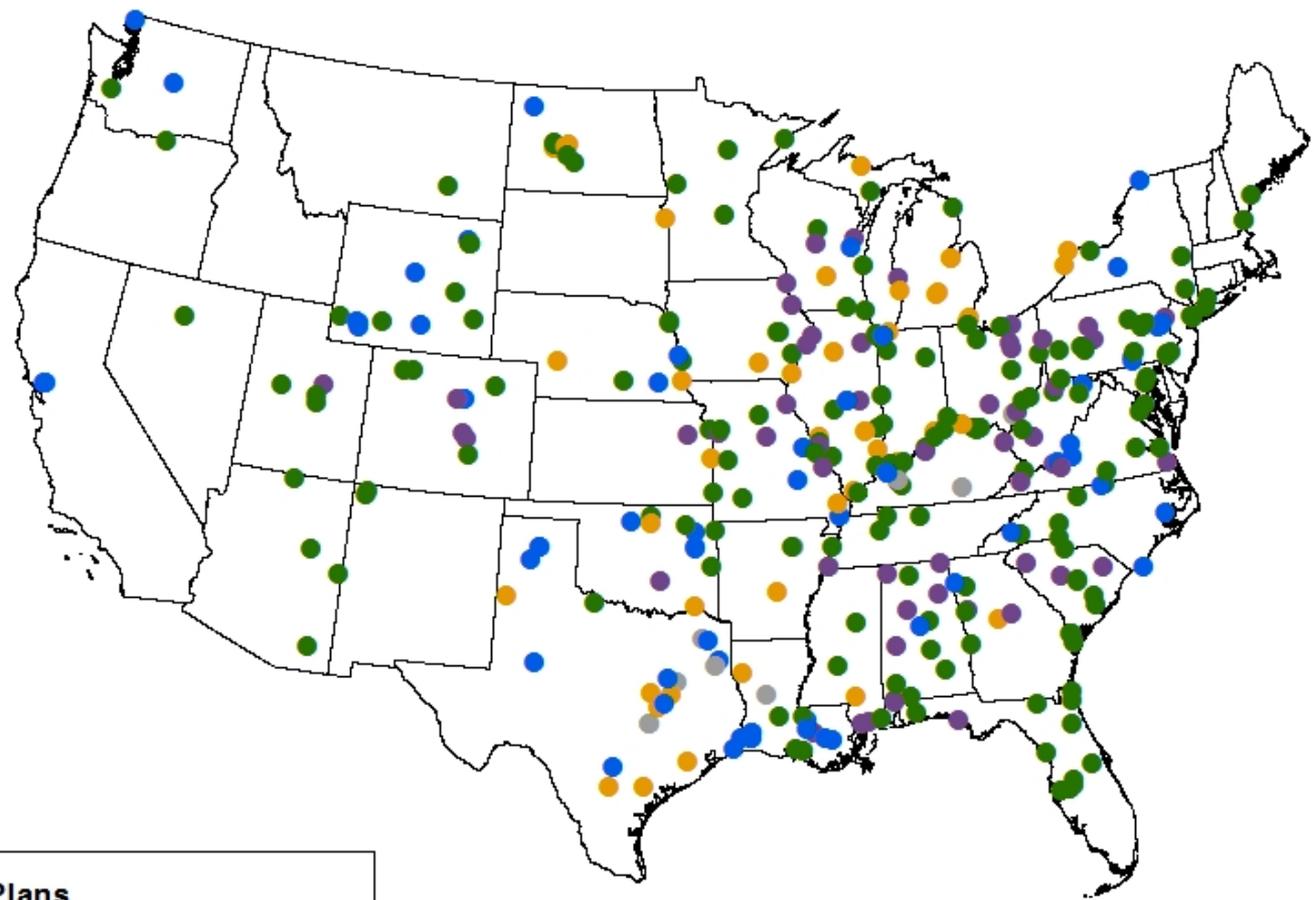
- January 15, 2016 – states required to identify sources exceeding 2,000 TPY threshold (states and EPA retain discretion to include sources < 2,000 TPY)
- July 1, 2016 – states inform EPA whether DRR-listed sources will model, monitor, or establish emission limits to comply with DRR area characterization requirements
  - Modeling protocols and SO<sub>2</sub> monitoring plans also due
- January 2017 – new monitoring sites must be operational by Jan. 1, 2017; modeling analyses and enforceable emission limits in place by Jan. 13, 2017
- May 2020 – certification of 2019 monitoring data; 2017-2019 design values can be calculated



## Preliminary summary of July 1, 2016 DRR notification requirement

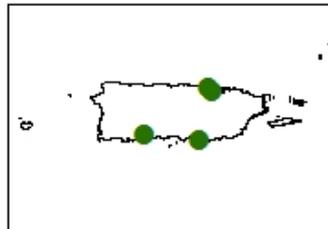
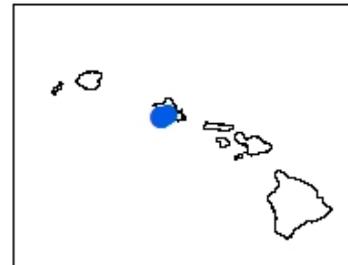
- 376 total sources, including 2 tribal sources (see: <https://www.epa.gov/so2-pollution/so2-data-requirements-rule-source-list>)
  
- State’s DRR pathway (Preliminary)
  - Model – 189
  - Monitor – 73
  - Limits – 55
  - Other – 59
    - 44 CD sources that met DRR source characterization requirements in Round 2 designations;
    - 11 sources haven’t announced their plan yet;
    - 4 sources in N/A areas no longer required to characterize under the DRR

# DRR Announced Implementation Plans Draft as of August 4, 2016



## Implementation Plans

- No Announced Plan
- Characterized Under Round 2 Designations
- Plan to Model
- Plan to Take Emission Limit
- Plan to Monitor



# DRR Facility Breakdown



## Number of sources per source category

EGU	267	70.8%
Pulp and Paper Plant	20	5.3%
Carbon Black Plant	11	2.9%
Primary Aluminum Plant	8	2.1%
Calcined Pet Coke Plant	8	2.1%
Mineral Processing Plant	8	2.1%
Portland Cement Manufacturing	8	2.1%
Chemical Plant	6	1.6%
Petroleum Refinery	5	1.3%
Other	35	9.3%
<b>TOTAL</b>	<b>376</b>	



- Most recent changes to the Modeling TAD to clarify:
  - Met. data for designations – minimum of 3 years required; use of 5 years is fine
  - Receptor exclusion – for monitor siting vs. modeling for designations
    - Designations – consider ambient air relative to each modeled facility, including the property of other facilities
      - Water bodies can be excluded
    - Monitor siting – use normalized emissions and follow the Monitoring TAD
- See: <https://www.epa.gov/so2-pollution/technical-assistance-documents-implementing-2010-sulfur-dioxide-standard>

# Ongoing Data Requirements for “Attainment” Areas



- For an area with ambient monitoring
  - Monitor(s) generally must continue operation. However, a monitoring site established specifically to satisfy the DRR may be shut down if it has a design value below 50% of the standard in the first 3-year period or second 3-year period of its operation.
  - After the fourth year of operation, a monitor may be shut down according to the generally applicable criteria of 40 CFR 58.14 (applicable for all pollutants, including a provision where the design value is below 80% of the standard and less than 10% estimated likelihood of violating).
- For an area designated attainment based on modeling
  - In the absence of monitoring data, the air agency is required to provide a report to EPA annually (by July 1 of the following year) assessing emissions changes.
    - Report must reflect the most recent quality–assured emissions data available for relevant sources in the affected area.
    - Must recommend whether updated modeling should be provided to characterize air quality.
  - If air agency provides modeling indicating levels throughout area are 50% of standard or less, then it will not be obligated to provide further annual reports assessing emissions changes.



## Can one monitor be sufficient in a network?

- Yes, in certain situations one monitor *can* be enough, but states need to demonstrate that the one site is at or near the area(s) of expected maximum concentration
- Issues to consider: emissions characteristics, topography, meteorology, other nearby sources

## Can my current SO<sub>2</sub> network be judged adequate without modification?

- There must be documentation to show siting at maximum concentration location(s). Since source emission profiles that initially influenced network design may have changed over time, the EPA will expect states to describe WHY their current site location are appropriate to characterize maximum concentrations
- This is explained further in the monitoring TAD



## Can industrial monitors be used to satisfy the DRR?

- The monitor needs to be “SLAMS-like” in its operation in order to satisfy the DRR
  
- The state is still the responsible party for ensuring data are handled, reported and certified (per 40 CFR Part 58) like SLAMS data, and that the monitor meets requirements described in Part 58 Appendices A (QA), C (methods), and E (siting)
  
- Site(s) must be:
  - Sited appropriately in ambient air
  - Utilize an approved FRM/FEM
  - Operate under an approved QAPP (can be the state/local's)
  - Subjected to routine QA/QC (including audits)
  - Meet applicable siting/spacing requirements