

# **High Level Summary of Meeting with Industry June 1, 2012**

## Introduction

This summary describes ideas and thoughts expressed by industry stakeholders (IS) at the June 1 meeting with Environmental Protection Agency (EPA) staff regarding implementation of the 2010 primary 1-hour sulfur dioxide (SO<sub>2</sub>) National Ambient Air Quality Standard (NAAQS). While the discussion covered many topics, monitoring and modeling received the most attention, with the following general messages:

There was strong support for a hybrid approach which allows states flexibility to use monitoring or modeling to determine whether areas are meeting or not meeting the standard. Furthermore, a threshold should be established to prioritize the sources of interest. A phased monitoring approach is recommended to characterize air quality in areas initially designated as unclassifiable.

Only monitoring data should be used for nonattainment designations and characterizing air quality in unclassifiable areas. Models overpredict, while monitors show real data.

This summary below is organized into three broad topics consistent with the White Paper: monitoring, modeling, and implementation. In addition, key subtopics addressed are thresholds (monitoring/modeling), actual emissions (modeling), hybrid approach, guidance/rulemaking, and timing (implementation). A list of in-person participants is attached; a few additional IS representatives participated by the phone.

## Limitations

Please note is a high level summary, reflecting concepts EPA heard during the meeting. It is not intended to be a full transcript or include all topics discussed. As EPA moves forward with implementation of the 2010 SO<sub>2</sub> NAAQS, the Agency will be informed both by concepts contained in this summary as well as concepts not described in this summary. Like all of the SO<sub>2</sub> implementation-related materials produced by EPA to date (e.g., the March 2011 and September 2011 guidance memoranda; the April 12, 2012 letters to state agencies and tribal representatives; and the May 2012 White Paper) this summary does not constitute final or binding agency action. These materials are part of an overall work in progress toward developing practicable approaches to implementing the SO<sub>2</sub> NAAQS that assure expeditious protection of public health. Ultimately, this stakeholder outreach process may lead to revised guidance or additional rulemaking.

## Monitoring

Many IS stated support for monitoring over modeling in general because they believe that models over predict while monitors show real data.

Many IS stated that the next step is for EPA to issue guidance describing monitoring criteria for SO<sub>2</sub>. They recommend the guidance be flexible (so states can use common sense), clarify the number of monitors required, and consider population and meteorology. A few IS indicated there is also a need for monitors dedicated to tracking trends and to identify background concentrations.

Costs of monitoring are a key concern of the IS. One IS stated the monitoring costs were \$50,000 per site but that operation and maintenance is not that expensive. Some IS stated that, compared to costs of controls, monitoring costs are dollars well spent. A few IS noted that with network optimization and proper screening it may not be as hard as initially thought to deploy a sufficient network.

Who pays for monitors is also a key issue discussed. While some IS said they would be willing to discuss paying for new monitors, there was not a strong commitment to actually be willing to pay. They stated several points on this topic: EPA and other funding sources need to be explored; one option to consider is cost sharing; industry already gives the government tax dollars which the government should use to meet priority public health concerns; industry already pays for monitoring in many cases; and industry budgets also have been cut in many cases.

Many IS provided suggestions that could help optimize the SO<sub>2</sub> monitoring network:

- Relocating some monitors should be a first priority.
- Recognize future controls.
- Discontinue monitors showing lower levels.
- Mine data already in hand.
- Look at all the retired monitor data.
- Use a screening model to identify sources that do not need monitors.
- Shift the allocation of monitors from ozone to SO<sub>2</sub>.

Some IS felt that with proper placement, a few monitors, or even a single monitor could adequately characterize the air quality around a source. They noted that modeling can be useful in placing a monitor, but should not be the exclusive means of determining siting.

Many IS stated there is a need for a sunset provision for monitors, the network should change as sources change, and states should be given flexibility on implementation. Some IS stated that the limiting cost factor is operation and maintenance over many years. Some IS suggested the removal process could be supported by use of continuous emissions monitoring system (CEMS) data, historic data, and other pollutant monitors as surrogates (e.g., correlate PM and SO<sub>2</sub> data).

A few IS asked whether EPA is open to using data from industry-operated monitors. They noted that many sources already have industry-operated monitors. When these are considered, the burden of going to a monitoring-only approach might not be as great as initially thought.

### Thresholds

IS made several suggestions and points regarding the concept of focusing implementation on sources exceeding a particular threshold:

- Focus on sources over 5,000 tons per year, since it is harder for smaller facilities to afford monitoring;
- Establish thresholds by sector or source category;
- The higher the threshold, the more likely funding will be able to be found for monitoring;
- Consider using a population-weighted index as a factor in developing a threshold-based approach.

Many IS supported the threshold concept but expressed concern about implementing the thresholds using today's source locations and emissions profiles, when that will be changing a lot over the next few years due to factors such as complying with the Cross-State Air Pollution Rule and the Mercury and Air Toxics Standards, and expected source retirements. They stated that industry is making these regulatory decisions now even though compliance dates are far in the future. They suggested states should have flexibility in this monitoring decision to site monitors based on future emissions in order to avoid the unnecessary deployment of monitors in places where there will not be a problem in the future.

### Modeling

Many IS stated that models are not a substitute for monitors. They stated it would be inequitable to spend hundreds of millions of dollars for controls based on modeling. Several IS provided claims to support their position, including the following:

- Current models are not representative of actual air quality, whether actual or allowable emissions are used.
- The SO<sub>2</sub> 1-hour standard is different than any other past standard in that there is now no room for conservatism.
- One attendee stated that in an analysis where actual hourly emissions data and on-site meteorological data were used, the results from AERMOD modeling were 3 times the monitored ambient air quality data from the same time frame.
- With higher concentrations, the difference between modeling and monitoring results gets larger.
- Models are conservative in low wind speed and downwash cases.
- Models are imperfect while monitors are the truth.

Some IS recognized that modeling may be useful in certain situations: where states and sources provide technical analyses showing the modeling is accurate; where modeling with conservative parameters, such as potential to emit, shows attainment; and to help site monitors. Some IS indicated that they would be willing to help states with modeling.

Some IS stated that model refinements are needed before the AERMOD model should be used, especially with respect to low wind speeds. They stated that revisions to Appendix W are needed and the next version of AERMOD needs to go through public review to address any unintended consequences of the revisions, especially downwash.

Some IS stated that any modeling approach must recognize that there are complex multi-source areas where a monitor is a more accurate and cost-effective approach.

Some IS stated that industry ideas for model improvement have not been acted on by EPA. They stated that EPA's model clearinghouse is too slow. Some IS stated they want more interaction with EPA and more expeditious action. They noted that Electric Power Research Institute model improvement activities are underway and improvements will be posted within one week of the June 1 meeting regarding a distance applicability study for steady state models and an emissions variability processor.

Some IS stated that AERMOD does not fit all cases and that EPA should allow use of alternative models, as is the case in SIP development. They also indicated that a less arduous process is needed for CALPUFF and other models.

Some IS stated EPA modeling guidance is needed to clarify issues related to the appropriate distance for low wind speed cases, meteorological data, background concentrations, and start-up emissions. Other IS stated that if on-site meteorological data are not available, then the results would not be realistic. Some IS stated that modeling should not include all other sources. A few IS stated the modeling should focus on base load units, not cycling units. They indicated concern that Canadian sources could cause problems.

Some IS stated that EPA should consider that the probability is low that the highest emissions would occur at the same time as worst-case meteorology, and that a person would be exposed to these concentrations at the location of maximum concentration. Some IS also stated concern over modeled impacts on an island or over water, since it is likely no one would be exposed at that location.

Noting concerns about the unrepresentativeness of certain meteorological data (such as airport meteorological data), some IS felt that any modeling approach would need to include provisions for on-site meteorological data collection before modeling could be done. Other IS noted that the cost and timing for meteorological data collection to support modeling may be similar to that of simply using a monitoring-only approach.

### *Actual Emissions*

Some IS stated that to represent current air quality, models should use actual emissions and actual stack heights. They asserted that the Clean Air Act (CAA) does not prohibit use of actual stack heights for modeling current air quality and, thus, good engineering practice stack heights should not be used.

Some IS stated that modeling for planning purposes (Prevention of Significant Deterioration and State Implementation Plans) is not the same as modeling for designations. They stated that including intermittent and small sources could strain the modeling process; e.g., auxiliary boilers with short stacks or low capacity units (< 10%). Some IS also noted that the likelihood of a unit operating at its permit limit for 8,760 hours per year is very low. Some IS suggested that emissions variability should be considered in the modeling, at least for electricity generating units with CEMS data. A few IS also noted concern regarding start-up emissions and felt EPA should consider ways to simplify treatment of these sources.

### *Implementation*

Many IS stated that designations should be made based on monitoring, not modeling.

Most of the IS who commented stated they do not agree with the section 110(a)(1) concept described in the White Paper (i.e. requiring near-term modeling and controls as necessary for sources in unclassifiable areas) because it would require SIP action in areas where a violation had not been identified using monitoring. Some object in principle to addressing unmonitored areas (or even areas with clean monitors nearby) with the same processes as nonattainment areas would use, even if more time were provided.

Some IS stated that areas that get designated as unclassifiable for SO<sub>2</sub> should be treated in a similar manner as unclassifiable areas for other NAAQS pollutants. Some IS stated that areas located far from sources should be designated attainment. A few IS recommended that future action be left to state discretion and stated this approach is consistent with the CAA. Other IS suggested the process could include comparing similar source sizes across the country.

Where a problem is observed, some IS suggested the state would, at that time, start a process to resolve it and felt it could be done without a nonattainment designation. One IS described a past case where an attainment area for particulate matter later recorded high readings, the state and others initiated a process and study, and emissions were reduced such that the problem was resolved within 18 months without a nonattainment designation.

A few IS commented that, if a state has a mechanism such as title V, it could work as an option for addressing violations, though modeling alone should not be the basis for identifying the violation. Other IS stated that a title V permit renewal process is not the

appropriate place to determine whether an area meets or does not meet the standard, nor to create new emission reduction requirements for sources in unclassifiable areas.

### *Hybrid*

Some IS believe that states need the flexibility which would be allowed in the hybrid approach. They suggest states should decide between monitoring and modeling.

### *Rulemaking or Guidance*

The IS stated that rulemaking with a comment period is necessary for defining requirements to address sources in unclassifiable areas; guidance alone would be inadequate.

### *Timing*

Many of the IS stated that EPA should not rush to adopt and implement additional requirements for addressing unclassifiable areas. They noted that SIPs are an iterative process which takes time. For unclassifiable areas, some IS suggested EPA should consider for the SO<sub>2</sub> program action similar to the NO<sub>2</sub> program, which provides sufficient time for a phased monitoring deployment approach.

Virtually all of the IS stated that only monitoring data should be used for nonattainment designations. They further stated that time is needed to deploy additional monitors. Several recommended EPA establish a phased schedule for monitoring in unclassifiable areas where the Agency thinks more monitoring is needed.

**ATTENDEES FOR SO<sub>2</sub> NAAQS IMPLEMENTATION STAKEHOLDER MEETING  
June 1 - Industry Representatives**

Baker	Jeff	Total Chemical & Refinery
Bond	Alex	National Mining
Caiazza	Roger	Environmental Energy Alliance of NY
Collins	Renee	Luminant Power
Coughlin	Patrick	Duke Energy
Cromwell	T. Ted	NRECA
Deason	Doug	Downstream and Chemical SH&E
Dupuis	Lenny	Dominon
Ellis	Howard	EnviroPlan Consulting
Feldman	Howard	API
Fleischmann	Laura	Winston & Strawn
Garrison	Mark	Environmental Resources ERM
Gesser	Ryan	Georgia Pacific
Gossett	Stephen	Eastman Chemical
Greco	Robert	We Energies
Guerra	Sergio	Wenck Assoc.
Hanning	Joseph	U.S. Steel
Hill	Jonathan	Trinity Consultants
Hirsch	Robert	Portland Cement Association
Ipanag	Sylvia	Guam Power Authority
Kacenjjar	Allen	ArcelorMittal,USA
Kaufmann	Robert	Koch Companies Public Sector
Knipping	Eladio	Electric Power Research Insitiute
Kuryla	Matt	Baker Botts L.L.P.
Langworthy	Lucinda	Hunton & Williams
Lebeis	Michael	DTE Energy
Lee	Max	Koogler & Associates
Lettrich	Jeff	ALCOA
Ling	Michael	Environmental Protection Agency
Long	David	American Electric Power
Lucas	Kyle	Black & Vech
Manousos	Pete	First Energy Corp. Consultant
Mastro	Donna	EPA Region 3
McCall	Colin	All4 Inc.
Morrison	Angela	<b>Note: Assisting Dr. Lee</b>
Pagano	Peter	American Iron and Steel Institute
Page	Steve	Environmental Protection Agency AECOM/American Petroleum Institute/American Iron and Steel
Paine	Robert	Institute
Pelan	Michael	Lafarge North America, Inc.
Pinkerton	John	National Council for Air and Stream Improvement, Inc.

Raasch	Clay	We Energies/Trinity Consultant
Sabangan	Lorina	Guam Power Authority
Scarpinato	Bill	Dominion
Schewe	George	Trinity Consultants
Shimshock	John	GenOn Energy
Smith	Ross	PotashCorp/PCS Phosphate Co. Inc.
Smith	Steve	Houston Regional Monitoring
Smithson	Stephen	
Stephens	Keith	Powersouth energy Cooperative
Summerhays	John	EPA Region 5
Walter	Justin	Southern Company
Warner	Brian	Wolverine Power Cooperative/NRECA
Wayland	Chet	Environmental Protection Agency
Willoughby	Patrice	Oxbow Carbon
Winston	Cynthia	Progress Energy
Wittliff	Dan	GDS/Consultant for East TX Electric Coop
Zavoda	Rich	ArcelorMittal,USA