

REGIONAL HAZE PLANNING WORK GROUP CONTROL MEASURES SUBCOMMITTEE

Notes by Ed Merta, City of Albuquerque

Attendance: Abq (Ed Merta), AZ (Elias Toon), CA (Tina Suarez-Murias), CO (Curt Taipale, Jeremy Neustifter); FWS (Tim Allen), MT (Craig Henrikson), NM (Kerwin Singleton), NPS (Kirsten King), NV (Frank Forsgren), WA (Gary Huitsing), WESTAR (Tom Moore)

Action items that resulted from this call:

- Tom Moore agreed to connect Curt with members of the Oil and Gas Work Group in order to set up their participation in a future Control Measures subcommittee call. Details in notes below.
- Curt stated that he would draft “tweaks” to the Protocol based on today’s discussion, possibly also addressing some of the comments that the group couldn’t get to on today’s call.

Other decisions: The group agreed that the next call would discuss the additional comments on the draft Protocol that today’s call didn’t cover.

DISCUSSION OF AGENDA ITEMS:

1. Request a volunteer to take notes.

Ed Merta (City of Albuquerque) volunteered.

2. Discuss Comments on Draft WRAP RP Protocol Document from FLMs; WA; CA; and Albuquerque

Curt proposed to walk through the comments received on the draft Reasonable Progress Source Identification and Analysis Protocol (“Protocol”). The comments reflect suggestions for possible changes and additions to the draft document that Curt circulated prior to this call. In subsequent discussion, Curt noted that he would incorporate suggestions resulting from the discussion into a subsequent draft of the Protocol, as described below.

Comment #1: Calculate Q term (in Q/d) as PM10 + NOx + SO2 + SO4

This comment suggests adding SO4 to the other three pollutants, which are the standard pollutants for inclusion in calculating the “Q” in Q/d.

Curt stated that doing this would be easy, he invited additional comments.

There was extended discussion of whether SO4 should be treated as a component of PM or of SO2 and how the Federal Land Managers Air Quality Related Values Work Group 2010 report (“FLAG Report”) referenced in the draft Protocol dealt with SO4. There was concern over possible double counting of SO4 if it could be treated as a component of PM or SO2.

The discussion clarified that the FLAG report calls for four pollutants (PM10, NOx, SO2, SO4, with SO4 characterized as H2SO4) to be incorporated into the Q term in Q/d calculations.

Individual states might or might not call out SO4 as a separate pollutant in their own emission inventories.

Curt stated that his revisions to the draft Protocol would caution states to be aware of possible double counting when defining the pollutants in the Q term of Q/d.

There was a general consensus that states are free to take their own approach to defining Q, including defining it in a way that incorporates less than the four pollutants in the FLAG Report. However, it was also suggested that a wise default, for legal reasons, would be to follow the FLAG Report approach. If a state departs from that approach, it should explain its alternative in the SIP, per the 2016 draft EPA Guidance that advises states to explain how their chosen approach to Regional Haze issues fits their particular circumstances.

The discussion addressed the fact that the second Regional Haze planning period will not have the CALPUFF model available used in the first period, for budgetary reasons. CALPUFF was superior to Q/d in that it enabled the impact of specific pollutants on specific IMPROVE monitors to be assessed – Q/d, by contrast, rolls multiple (in most cases) pollutants together. CALPUFF allowed fine-grained assessment of specific factors like atmospheric chemistry and transport in assessing the visibility impact of particular pollutants. For the second planning period, states will simply have to make do in 2018 with the Q/d approach, augmented by a weighted emissions potential analysis. Modeling data will be available later in the WRAP Regional Haze planning process, but the Control Measures subcommittee can't wait that long – it needs to act now to define a protocol for screening sources that will be subject to a four factor analysis. That being said, the subcommittee is also a forum to entertain other ideas, in addition to Q/d plus WEP, in defining an abbreviated approach to this early phase of the screening process.

Comment #2: Using a Q/d of 10 would likely be problematic for some states. WRAP has such a variability on source size in different states, it's probably better to use the 80% of impact at a Class 1 Area ("CIA").

Curt led off the discussion by suggesting a “step down” approach – if a Q/d of 10 yielded zero sources to evaluate for four factor analysis, then it would probably make sense to adopt a threshold Q/d of lower than 10.

One response was to ask whether different states having different Q/d thresholds might lead EPA to disapprove SIPs for inconsistency. Perhaps the Protocol could create a method for how to do a “step down” to thresholds lower than 10.

A different response asked how states should square their choice of a Q/d threshold with the EPA Guidance advising that a screening process account for 80% of visibility impacts at a CIA.

A subsequent observation stated that the EPA Guidance is in draft form only and the 80% threshold is essentially arbitrary. The Guidance for states excludes analysis of mobile sources, which are the regulatory responsibility of EPA but nevertheless have a significant impact on CIAs. This is a frustrating aspect of the Guidance, which by setting the 80% threshold may set an unnecessarily high bar for states to achieve. The Guidance points to modeling as a way to achieve the threshold, but realistically modeling is not available at present for the subcommittee.

Further discussion suggested that states had sufficient flexibility under the Regional Haze rule to choose Q/d thresholds lower than 10. States are free to write SIP provisions that address their particular circumstances so long as they explain those circumstances. For example, some states have more emissions or more CIAs than others, and thus choosing a higher Q/d threshold might capture a sufficiently large portion of sources for a four factor analysis. In the first planning period, states had such flexibility and they should be able to make use of it this time around.

The discussion pointed out that the Protocol adopting a Q/d threshold of 10 does not foreclose a state from choosing a different threshold. States are free to adopt a different approach to suit their own circumstances and needs, so long as they can explain their approach adequately.

Another key concern raised in the discussion was the fact that sources impacting a CIA area in one state might be located in a different state. Dealing with this will necessarily complicate the screening process. Tom Moore suggested that “we need some way to think through this.”

There was discussion of how the FLAG report treats the Q/d threshold. It includes a threshold of 10 but this was not intended to be a hard and fast rule. A lower threshold may be called for, as when a FIP imposed on Montana incorporated a Q/d of 1.

Tim Allen stressed that the screening process is less about defining a certain Q/d threshold and more about choosing an approach that can reasonably be characterized as capturing a “majority” of sources contributing to visibility

impact at a C1A. In this regard, the 80% threshold is not a “rock solid” requirement – the foundation of the screening process, rather, should be making sure you brought enough sources forward from the screening process into four-factor analysis to make sure you captured enough of the visibility impact. EPA gives a lot of latitude for as far as how states accomplish this overriding goal. Such latitude means that the Q/d technique can be used at the front end of the screening process, with different thresholds chosen if they can “look at enough sources” for the four factor analysis.

Curt pointed out that Colorado used a Q/d of 20 in the first planning period, based on use of the CALPUFF model for BART sources. Colorado picked 20 because equated 0.2 deciviews and thus was a sufficiently stringent approach. Without CALPUFF, getting a fix on the relationship between a Q/d threshold and the 80% threshold is much harder.

Tim Allen reiterated the flexibility that states have in such matters. The 80% threshold can be thought of in two different ways. You can think of it as 80% of the sources or as 80% of the visibility impact, which are two different things. Also, it’s legitimate, when choosing a Q/d threshold, to consider the need to avoid overwhelming staff with the number of sources being looked at. If you choose a Q/d of 10 and this yields no sources to examine, then you can move down to a Q/d of, for example, 5, and if that yields 5 sources for four factor analysis, that’s great – you can get your biggest contributors onto the table. Keep in mind that a Q/d that yields five sources to be examined doesn’t in itself mean that controls on those sources will be required. As far as out of state contributions, the state to state consultation process can account for these. Finally, it’s important to remember that the planning process is about making progress, not imposing absolutes. Progress is key to how the Regional Haze rule works.

Comment #3: Has the subcommittee consulted with the FLMs? – They requested going to a lower Q/d =1 or 2?

Comment #4: The FLAG manual includes H₂SO₄, we suggest it should be included in the Q/d analysis especially if sulfuric acid causes haze producing particles

Curt thought that the discussion to this point had already addressed these two questions, so the discussion moved on to Comment #5.

Comment #5: Suggest not including GHG through the RH process.

Curt pointed out that this issue was not addressed in the first planning period. Should the Protocol address greenhouse gasses?

Discussion noted that some states may have specific GHG legal requirements that they will have to follow as part of the Regional Haze planning process. California, for example, has to address GHG co-benefits. Others may have guidelines to follow, such those issued by Colorado’s governor.

The discussion concluded that states have flexibility to address GHGs as their own requirements dictate.

Comment #6: Discuss mobile source emissions and compare to total emission inventory.

Curt led off by suggesting it’s important to address mobile sources. He recommended being able to include them in the inventory and in the assessment of whether or not EPA’s 80% threshold is met. Otherwise, getting to 80% may be hard.

Arizona will be looking at mobile sources. There may be mobile source related actions that are possible, such as addressing available fuel types.

The discussion of mobile sources then led to a broader, extensive conversation about area sources, especially oil and gas. This conversation dealt with the extent to which the Protocol should address area sources, not just stationary (i.e. point) sources.

As part of the area source discussion, Tim Allen noted that federal land managers (“FLMs”) are very concerned about oil and gas development. Kirsten King echoed this view. Amidst the oil and gas boom, FLMs are seeing increasing oil and gas related signatures at monitors near CIAs. The oil and gas sector may see even greater growth in the future, depending on trends in global markets.

The conversation on area sources addressed possible opportunities for controls on oil and gas. Cited examples included controls on Reciprocating Internal Combustion Engines (“RICE”) and leaking valves; both kinds of controls are now in effect in Colorado.

Area sources were addressed somewhat in four factor analyses in the first Regional Haze planning period but implementing controls on them is a real challenge. Emissions from a particular source may be individually small but collectively the emissions add up. A general rule affecting the sum total of a category collectively seems like a good approach.

The discussion noted that oil and gas sources on U.S. Bureau of Land Management lands may need to be treated differently, since they are subject to a federal leasing process that is separate from the state air quality permitting process. BLM controls mineral estates on BLM lands and as a result BLM approval for large number of leases can lead to attainment issues in states that have extensive BLM oil and gas holdings. Discussion noted that air permits for oil and gas sources on BLM land still come from states. A conversation about across the board controls on oil gas that could be shown to be reasonable (other than BACT and RACT) should be part of the Regional Haze planning process.

Tom Moore noted that control measures on oil and gas are a work plan deliverable for the WRAP Technical Steering Committee’s Oil and Gas Work Group. A future conference call of the Control Measures subcommittee might include a discussion with members of the Oil and Gas Work Group, in order to get a briefing on how that Group will be addressing control measures for the oil and gas sector.

ACTION ITEM: Tom agreed to connect Curt with members of the Oil and Gas Work Group in order to set up their participation in a future Control Measures subcommittee call.

The discussion moved on to how control measures for area sources, including oil and gas, would relate to EPA’s 80% threshold. EPA’s 2016 Guidance says that in assessing how to meet this threshold states should look at non-mobile sources. EPA isn’t necessarily clear on whether meeting the 80% threshold means looking at sources on a facility-by-facility basis or, alternatively, in terms of broad source categories. When assessing oil and gas as part of the 80% threshold evaluation, do we look at oil and gas sources facility by facility, or in terms of the source category as a whole, or do we draw a circle around a CIA and look at influences inside that circle?

Complicating the attempt to answer such questions is the fact that different states have different reporting thresholds for emissions of particular pollutants from particular types of sources – e.g. one or two tons per year (tpy) for VOCs in Colorado.

Also, a particular type of machinery or process might qualify as a point source in one state but an area source in another (e.g. in Colorado a certain type of heating device emits less than one ton tpy of NOx and is treated as an area source). In general, bigger sources qualify as point sources but it all depends.

Another issue is whether there is potential for a general rule applied to area sources or whether permit conditions should be the means to implement controls.

Compressor stations are an example that illustrates some of the issues involved. In Colorado, they emit maybe 40 tpy of NOx and require a permit. They use natural gas and are running a lot of the time. Do they represent an opportunity for post combustion controls such as Selective Catalytic Reduction technology? Probably not. Smaller stations don’t emit enough heat to use SCR effectively. A cleaner engine might be another option but in general the opportunity for controls seem limited. By contrast, it’s much easier to find new controls for really big sources, like power plants.

A different approach would be to create new controls for sources that will come into existence later – this would be an example of source controls on the basis of category rather than on a facility by facility basis. For example, there could be control requirements for engines that are new sources – they would have to meet different control requirements than existing engines that might have been manufactured in the 1970s or 80s.

The above types of issues would be on the agenda for a Control Measures subcommittee discussion with members of the Oil and Gas Work Group.

Comment #7: Address sea salt – important for coastal areas.

Curt said this topic could be added to a list of concerns that certain states might need to examine if their circumstances call for it – e.g., being on a coast means looking at sea salt.

Comment #8: Discuss ammonia limited environments

Discussion began with an explanation of the meaning of this comment. In some areas, atmospheric conditions are such that an air quality authority might reduce ammonia emissions substantially but nitrates would still form – driving down the ammonia emissions will not result in significant air quality improvement. In those circumstances, it would be better to look at NO_x emission in Regional Haze planning. The bottom line is that states need to be familiar with their own emission sources so that they can analyze control measures that will make a difference. In some cases, states may find it difficult to directly regulate ammonia as a means of controlling particulates.

Curt said that this issue could be noted in the protocol as a potential concern for states to look at.

Comment #9: Some states with NAAs [“nonattainment areas”], the major source threshold is < 100 tpy, may want to set lower threshold.

Curt noted that the Protocol could mention that this would be a concern for some states to look at. California and Colorado are examples.

Comment #10: Add SO₄ and VOC to Q [in Q/d]

SO₄ as a term in defining Q was discussed earlier in the call.

In regard to VOCs, Curt noted modeling in CMAQ and CAMx indicating that anthropogenic VOCs don't really contribute much to particulate formation. If changing VOCs in a model doesn't affect such formation, then controls on VOCs wouldn't really affect visibility. So the need to incorporate VOCs in Q doesn't seem compelling.

States are free to do so if they can find a rational reason for doing so, of course. Nothing in the Protocol would prevent a state from doing this.

Comment #11: Allow for an additional screening step that reduces the number of facilities subject to extensive four-factor control analysis.

Discussion of this comment centered on whether a screening process to decide on sources that will be brought forward for four factor analysis can exclude sources already subject to controls in the first planning period, via BART or four factor analysis that was applied either facility by facility or to individual sources. The discussion noted that BART only applied to 1962 to 1977 sources. If you have a facility that has sources post 1977 but hasn't been judged for RACT levels since 1990, what do you do?

Tim Allen felt that states should consider re-examining sources subject to BART or four-factor analysis in the first planning period. The approach would be to examine how control decisions were made the last time and ask whether there are reasonable controls available today that wouldn't have been available or wouldn't have been reasonable a decade in the past. This would be especially true if the analysis during the first planning period ended up not implementing controls for a lot of sources.

Curt noted that the Protocol could include additional explanation addressing these issues.

3. Group discussion of changes to RP Protocol Document

See the above notes.

4. Next Steps

The hour allotted for the call ran out before the discussion could get to additional comments.

Tina suggested that the results of today's call be presented on the Regional Haze Planning Work Group call scheduled for Tuesday, October 2.

ACTION ITEM: Curt stated that he would draft "tweaks" to the Protocol based on today's discussion, possibly also addressing some of the comments that the group couldn't get to on today's call.

DECISION: The group agreed that the next call would discuss the additional comments that today's call didn't cover.

5. Next Call October 24th (Wednesday).