

Monday, September 23, 2019

Notes by Ed Merta, City of Albuquerque

Attendance:

Tim Allen (FWS), Jay Baker (UT), Rick Boddicker (SD), Aislinn Johns (ID), Ed Merta (Albuquerque), Tom Moore (WESTAR/WRAP), Amber Potts (WY), Kerwin Singleton (NM), Tina Suarez-Murias (CA), Curt Taipale (CO), Aaron Worstell (EPA Region 8)

The following were represented on the call but the note taker was not able to identify the individual by name:

Nevada
North Dakota
Oregon

Action items that resulted from the call

1. Aaron from EPA Region 8 will contact EPA headquarters to seek their views on how a four factor analysis should address excess emissions due to startup, shutdown, and malfunction.

AGENDA ITEMS

1. Approve meeting notes from last call

Approved without revision.

2. Volunteer for note taking

Ed Merta, City of Albuquerque

3. Discuss any questions on four factor analysis or Q/d screening tools

Kerwin Singleton of NM relayed a question from a consultant working on a four factor analysis - does this analysis need to consider excess emissions due to startup, shutdown, and malfunction (SSM)? Should SSM not be considered when the emissions are going to a flare? Are other states dealing with this?

Curt's reply: depends on state's regulations. We really want to focus on steady state of emissions, not transient, short term emissions from startup, shutdown, or malfunction event. Malfunction hard to predict; with startup and shutdown, you're not necessarily seeing controls during that period. Probably better to focus on typical, steady state operation. This is mentioned in EPA's BART guidance. Good to seek out EPA advice on this.

ACTION ITEM: Aaron from EPA Region 8 volunteered to pose this to EPA HQ and get back to group. The BART guidelines recommend normal operations be looked at. The guidelines say that with EGUs, 30 day rolling averages should include SSM events, i.e. everything should be looked at.

Tom: sounds like states are moving along on individual processes. Is there a second step for the control measures subcommittee on level of consistency and sharing of information on four factor analyses?

Curt: yes, it's been a while since we talked about the Protocol. Towards end of that document there is some write-up on the four factor analysis. The write-up is very general, aligns with the Draft EPA guidance on Regional Haze. Probably once you start looking at a specific source, a lot of questions come up. Colorado has shared its previous four factor and BART analyses from first planning period with a lot of states. Curt is happy to share these with others. These Colorado documents could be a template although not be all end all. Gives you a starting point. On future call we can talk more about question of consistency with one another on four factor, which hell help EPA -- establish "guardrails" to make sure we all follow similar approach.

Aislinn asked a question about cost-effectiveness threshold other states are using. How are other states going about choosing one? Idaho started with a BACT cost effectiveness threshold for San Joaquin.

Curt: in Colorado's BART rule, Regulation 3, part F, the threshold is \$5,000 per ton for NO_x controls. There are differences between SNCR and SCR, accounting for deciview impact. The 5,000 number is probably higher now due to inflation. It's up to individual state what the appropriate cost effectiveness threshold is; it could be tied to industry you're looking at, viability of economics, how many sources you're dealing with, questions around attainment status in your state. San Joaquin in ID is classified as a "serious" nonattainment area. Pretty high bar for cost there compared to other areas in attainment.

Aislinn: we figure about half of San Joaquin's thresholds might be our approach. For NO_x, it's \$24,000 per ton in San Joaquin, so perhaps Idaho's Regional Haze four factor threshold might be \$12,000.

Curt: I've heard numbers a lot lower than that from FLMs. Could take a look at EPA FIPs. At this point Curt asked for input of Aaron from EPA Region 8.

Aron from Region 8 replied, first emphasizing that he wasn't making a statement of EPA policy. He said that in general the numbers he's seen for cost effectiveness thresholds applicable in a four factor analysis have been much lower than \$12,000. A very loose rule of thumb might be thresholds in line with Colorado's \$5,000 per ton threshold in the 1st planning period.

4. Other source categories - area and mobile -should they be evaluated?

Curt: haven't been able to go completely through final EPA Guidance issued August 2019, but Colorado has question regarding how it handles mobile sources. The original 2016 draft EPA

guidance said that states shouldn't look at mobile sources in assessing reasonable progress, should keep focus more on point sources even if there are mobile source impacts at a Class 1 area. Final guidance doesn't get that specific, other than recommending generally that states look at PM species dominating at C1As -- thus, the final guidance seems like it doesn't preclude looking at mobile sources. Area sources are still a challenge → doing a four factor analysis for them is challenging if you don't have data on their emissions and specific source information. Colorado will be assessing mobile sources as part of Denver area control measures. It's possible that there could be a state with important mobile source impacts at a C1A.

Tina: California will certainly take credit for reductions obtained through mobile source rules. We won't do same kind of reasonable progress evaluation as we would for stationary sources, but we will still examine benefits of California programs on mobile sources, which are in SIP and thus federally enforceable → EPA says this is important.

Curt: on EPA reasserting controls over mobile sources, revoking California mobile source waiver -- WRAP modeling had assumed future improvements that EPA is now going to revoke, asks Tom if this will be accounted for in fleet turnover in modeling.

Tom: "That's a hard one." Says Curt is more of an expert due to nonattainment area planning in Colorado. Seems to Tom that fleet turnover in the long term is driven by regs adopted by California, other states adopting those standards. On the other hand there is some natural turnover due to consumer decisions. The hard thing to do with technical analysis about mobile source projections is to figure out what new projects you would change to for a model, regarding fleet turnover and the effect of mobile source standards. Tom has talked to Ramboll about that a little bit → Ramboll don't know how current modeling for Regional Haze would change as result of "very dynamic process going on now" in regard to EPA and California regarding mobile source standards. MOVES model has the existing mobile source standards (adopted prior to 2017) baked in. To change that you'd have to make decisions about which cars in fleet mix would see their emissions go up.

Curt: for now we probably have to go with what MOVES tell us, accept the baked in emission factors while litigation plays out, which could take years. High degree of uncertainty. But it is important for all planners to understand that the improved (pre-2017) standards are hard wired into MOVES.

Tom: in a few months, if there's greater certainty about the California-EPA situation, maybe WRAP could have some slightly higher emissions rates incorporated into additional control strategies run. Tom notes=d that the mobile source standards focus on greenhouse gasses (GHG), so maybe the proposed revised EPA emission standards (post-2017) are not necessarily a big driver on NOx, VOCs.

Curt: yes, although many GHG measures like the ones for lighter weight vehicles can result in lower NOx emissions as a byproduct.

Tom: important to remember WRAP is getting California emissions data for 2028 directly from California. Also, we'd need to account for California cars traveling to other states, and we'd also

need to account for states that have adopted California standards. These kinds of nuances are all really hard to account for in modeling, so probably best for now to leave MOVES as it is.

Curt: we can revisit this topic later when we have more clarity.

5. EGU retirements - how do we account for useful life in the four factor analysis

Curt: for facilities that have a retirement date in mind; want to measure amount of time between date control is required vs. when retirement date is. Facilities want to understand how we measure "useful life." In Round 1 of Regional Haze planning, state rules had an effective date for controls, and the Regional Haze Rule itself said controls had to go into effect within five years of EPA approval or "as expeditiously as practicable." This time, we don't have a timeline that is as well defined. So we have some latitude on estimating useful life and when control installation is required. Controls are very expensive, e.g. \$100 million to \$200 million. Shortened time frame can elevate the cost substantially. A 20 year life for a facility would be a cost effective time horizon for controls, but shorter time frame is much more expensive. We need a consistent WRAP approach on this, for sure. Curt wants to get conversation started on this call.

Tina: some quick math says that if controls should be online and operating within five years from the date of EPA approval then it's reasonable to say controls should be in place by beginning of 2028. If 20 year lifetime, is there value in saying 2028 minus 20 years = the year 2008? Can you adjust the period by counting back from 2028?

Curt: a lot of facilities probably realize that 5-10 years beyond 2028 is probably the maximum of their useful life, although they're being coy about it. So key is what assumption do you make in four factor analysis about how much longer the facility will be in existence? In past, Colorado said that if your permit has a retirement date, we will assume 15-20 years, probably not a big difference in cost analysis. But this time, there's a lot of uncertainty in useful life of coal fired EGUs, 15-20 years could be much too long even if no formal announcement by facilities.

Tina: in cases involving several glass manufacturing plants, the facilities rebuild furnaces every 15-20 years, the districts that have these facilities gear their rules to the rebuild cycle. So it depends on type of facility you're talking about. For coal, decisions have to account for the fact that that increasing numbers of customers won't take coal fired electricity delivery.

Curt: we can have another conversation about this on next call; or people can email Curt after today's call to talk about this subject.

Tom: PacifiCorp Colorado, Wyoming, Utah, has started public outreach on their Integrated Resource Plan (IRP) roadmap for future electricity production and operation of generation capability. PacifiCorp is operator of BART units in Wyoming and Utah, which are still in litigation. IRP proposes some very interesting changes, just released in last two weeks. Public utility commissions in each state have to receive these IRPs, review them -- the IRPs are not enforceable but they are a potentially useful roadmap for what to expect. Also: consequence of having a SIP deadline is that all a state can do is take a snapshot of that point in time. The electric power industry is really undergoing tremendous change, likely there will be closures or operational changes that aren't in SIPs because such events were not decided at the time of SIP

adoption. This is a good for air quality/emissions reductions but no way to make the predictions for visibility improvement.

6. Update on each state's four-factor work

Albuquerque: has received draft four factor analysis from the only source required to submit one. Albuquerque is reviewing the draft and will provide comments to source.

Arizona: has contacted all sources, created four factor screening methodology and posted this to agency web page. State has looked at a list of processes for each facility, identified based on screening methodology which processes are already effectively controlled, thus identifying what remaining process facilities will need to do four factor analysis on. For the four factor analysis, Arizona has told sources they have until this coming Friday, September 27, to let state know they will prepare their own four factor analysis, which is due to the state by December 1. For these reports, state will review and decide if it agrees, disagrees. For other sources, the state will do the four factor in house. Arizona do model files by the WRAP deadline. Also, Arizona is looking at nonpoint sources based on analysis of monitor data, focusing on the largest categories, e.g. paved/unpaved roads, mining/quarrying, nonresidential construction dust. For these sources the state will do a four factor in vein of RACM analysis.

California. No EGUs, primarily larger emitters being looked at, confirming if they have best level of control already.

Colorado: focused on 20 sources, have put out request for four factor analyses by end of September. None in yet, just questions and requests for extensions. Developing four factor of engines, expect to share details on this for next call of Control Measures subcommittee.

Idaho: has contacted all sources (there are nine of them), had individual meeting with each. Four factor is due by December 1. Check in call October 1 to answer questions.

Nevada: four factor is being worked on by their sources, state will be in contact through that process, with a December deadline for submittal. Nevada would like more discussion in future about agenda item 5 (EGU retirements) -- this has come up in Nevada's four factor process.

New Mexico: has done a follow up group call with their sources, some calls with individual sources, to answer clarifying questions. An EGU has asked for additional time. New Mexico deadline is November 1. New Mexico is holding internal discussions on how to respond.

Oregon: no updates yet. Hopefully on next call.

Wyoming: in process of communicating with sources, hope to have that done soon, then four factor letters will go out.

7. Other Topics?

Curt: to send out Doodle poll on scheduling of next call