**REGIONAL HAZE PLANNING WORK GROUP**

**CONTROL MEASURES SUBCOMMITTEE**

**Notes of teleconference**

**Monday, March 23, 2020**

**Action Items that resulted from the call**

* WRAP members should contact Tom Moore of WRAP providing feedback on what they would like to see as far as additional control measures modeling. Example: a second round of modeling might be done with data submitted by states by July 1.

**AGENDA ITEMS**

**1. Roll call**

Abq (Ed Merta), CO (Weston Carloss, Curt Taipale), ID (Aislinn Johns), MT (Chris Green, Rhonda Payne), NM (Cember Hardison, Mark Jones,), ND (David Stroh), NV (Steven McNeese), OR (D Pei Wu), SD (Rick Boddicker), UT (Jay Baker), WA (Gary Huitsing), WY(Amber Potts), WRAP (Tom Moore),

**2. Volunteer for note taking**

Ed Merta

**3. Approve meeting notes from last call**

The subcommittee approved the February notes without amendment.

**4. Follow-up on emission reduction projections each state provided to WRAP**

**5. Update on each state's four factor work**

***The above two items were addressed simultaneously on the call. WRAP had asked states to submit by March 16, 2020 the projected 2028 emission reductions they want WRAP to model, over and above the 2028 on the books/on the way (OTB/OTW) scenario.***

City of Albuquerque. Submitted 2028 emission reductions (NOx and SO2) to WRAP for a single Portland cement plant. Will need to request further information from the facility before deciding on possible modeling of additional reductions.

Colorado. For 2028 control scenario modeling, submitted the levels of emissions reflected in OTB/OTW scenario. OTB/OTW scenario envisions "pretty substantial" reductions, some of which are associated with retirement of coal fired power plants. Other types of facilities are implementing reasonable progress controls (i.e. non-BART) from first round of regional haze planning. Colorado unable to identify future reductions at this point due to fact that they are still going through four factor analysis process, that's why they went with OTB/OTW. Colorado has requested additional info from cement plants, but a lot of them are pretty well controlled, a few have multistage precalciner/preheater, selective non-catalytic reduction (SNCR), maybe they can run SNCR more -- Colorado is looking at that. That's probably the most reasonable control option Colorado has for those. Colorado still looking at updating state's regulation for natural gas fired engines, still meeting with companies about that, nothing finalized, probably a public hearing later this summer or in fall, still a little unclear on reductions from those activities. That uncertainty is another reason to stay with OTB/OTW for now.

Idaho. Has gone back and forth with sources on four factor progress, still waiting to hear back from three biggest facilities. Those three have sent state initial analyses but state is requesting more information. For control modeling scenario, Idaho submitted a best-case scenario for the three largest sources, they burn coal but have dual fuel emission units (i.e. dual fuel-natural gas). Best case for these sources is not burning any coal. Magnitude of reductions for these sources was about 1600 tons per year SO2, 800 tons per year NOx, everything else submitted by Idaho was OTB/OTW. Idaho not sure what will actually happen in reality as far as if state can actually do above reductions for the three sources. They're burning natural gas for the most part anyway but if state could get that in permit that would be great.

Montana. Not much of update from last month. Due to shutdowns we weren't looking to do too much in way of requiring reductions from our sources. We're on same path as last month. Lewis & Clark station did submit a four factor. Last month Montana was still figuring out how to handle them because they will be closing; Montana had assumed state could get federally enforceable shut down date, turns out that facility was not amicable to that, they preferred to have no date listed, so Montana asked for four factor, just received this last week.

Nevada. four sources doing four factor, as of last week received all four of their final drafts, state is reviewing those, requesting any necessary additional info. For modeling inputs for WRAP, Nevada submitted reductions for three sources. One cement plant assumes SNCR, "pretty solid" reductions; reductions also include low NOx burners at one facility, EGU reductions. Total of about 2,000 tons per year of NOx, SO2, PM10 combined. Of this, about 1100 tons is NOx, about 800 is SO2. Nevada chose to model most conservative options to give future wiggle room.

New Mexico. State included in this 2028 model run 21 point oil and gas sources, using cost threshold for controls of $7,000 or less. NOx reductions come to about 3600 tons from 50 or so pieces of equipment. SO2, a couple of pieces of equipment, at 1800 tons. Still looking at SO2. State has large nonpoint oil and gas source population -- for first model run, decided to test sensitivity of modeling for these sources by including potential 50% reduction from these for NOx and 30% reduction of SO2. Nonpoint sources account for "quite a bit of tonnage" of emissions, in thousands or tens of thousands. State is looking at first model run as a way to get sense of sensitivity that model run will have. New Mexico continuing to explore ideas, still need to do quite a bit of work on specific pieces of equipment, looking at wide variety of control methods for various sources. Farren from Washington is helping state look at EGUs.

Oregon. For 2028 control measures run, looked at over 30 facilities that received four factor request letter, of those focused on 15 that had older controls or had a process that was susceptible to controls, identified 46 emission units which potentially could have controls. Total emission reductions state came up with was about 3400 tons per year NOx, 1100 tpy PM10, 460 tons SO2. State was applying OTB/OTW to 2017 emissions, then on top of that, applied the numbers above as potential reductions for 2028. Oregon has unique permitting system, facilities identified for four factor were based on plant side emission limits, for this run we focused on facilities whose actual Q/d > 5.

South Dakota. For WRAP first modeling run, submitted emissions equivalent to OTB/OTW. These applied to three facilities (one lime production, one Portland cement, one other), not a lot of facilities to look at now.

Utah. State is in process of getting four factors back from sources, reviewing those. For WRAP control measures emission reductions projection, Utah submitted the OTB/OTW scenario, in part because state anticipates pretty significant reduction from EGU shut downs, that should be close to 10% of overall statewide reduction, working within that project. Still getting four factor analyses back; state has ten sources that will be submitting additional analyses. One of these is Portland cement plant.

Washington. State submitted on OTB/OTW as scenario for 2028 control measures run , still working through four factor analyses, including those for seven pulp mills, five refineries, a few other types of facilities, e.g. aluminum. State has coal plants shutting down. Over 10,000 tons of combined NOx/SO2 reductions. State is pursuing other reductions, getting cost info, e.g. from pulp mills. Where state agrees with what's been sent by facilities, e.g. remaining useful life, state is trying to arrive at good cost data, looking at $5,000 to $8,000 per ton range as threshold for cost effectiveness. State had benefit of learning that one of pulp mills installed low NOx burners and SNCR in past, we're looking at those costs to inform analyses.

Wyoming. Has asked 20 facilities for four factor analyses, has received some of these, deadline is March 31. In the meantime, for WRAP control measures modeling, state submitted OTB/OTW to for a large portion of the 20 facilities. If state gets some updated info in the meantime, will pass that along. There may be some coal EGUs shutting down, Wyoming just kind of has to play that out.

**6. Other business?**

Gary (WA): suggestion to other states -- if you learn of new controls put on in last few years, you should request those costs, don't let facility leave that out. Low NOx burners at one pulp mill came out to around $8,000 per ton, so it will be difficult for other pulp mills to say that threshold not reasonable when one already is putting that threshold into practice. EPA says these costs are very difficult to obtain so we're glad we got that info.

Curt (CO): says Gary's idea is a good one. If facility puts on new controls they might not report it to state, it's hard to get those costs but it can be very useful to get them.

Tom (WRAP): gives the group a status report on next steps. We will process the March 16 submittals line by line, planning to crank out those results in first part of April. In meantime Tom is working with Farren doing quality assurance and quality control on the data, to get it handled in a consistent way going into modeling. Tom will provide summary by state of SOx/NOx changes relative to OTB/OTW. If WRAP affiliates are interested in doing more of this sort of "what if" modeling, we're willing to look at additional emissions control modeling runs, funded by savings from not having to hold in person WRAP meetings.

Ed (Abq): asked if there should be a formal vote on this call regarding state preferences for additional round (or rounds) of modeling. After some discussion, the group agreed no vote was necessary and the group proceeded with discussion of Tom's update on possible additional modeling runs.

Curt (CO): asked Tom -- what will be the timing of new modeling runs? Colorado won't know what controls it's deciding on until later in fall, so it will be good to have a sense of when modeling would be done.

Tom (WRAP): we at WRAP work for the WRAP states so it's not up to me, Tom says. We have the modeling platform fully set up, so you can see from this first control measures run what the results are for visibility. If people find that useful, maybe we could set a due date for the next round of modeling. That might be useful for states that didn't submit for the March 16 deadline, or did but will have additional information about four factor sources available later. If we can get such new data from states by July 1, 2020, WRAP could do a second modeling run by end of summer. We're trying to see what members want.

**ACTION ITEM**: Tom would like to hear from WRAP members what they would like to see as far as additional modeling. Please contact Tom with feedback on this topic.

Mark (NM): New Mexico would like to see a second run.

D (OR): for the March 16 deadline, we took an educated guess, we'll have much better info by June/July. It would be really be helpful to have a second run.

Curt (CO): Colorado favors second run also. Additional info would help us if we could get a run over completed over the summer.

Curt noted that this subcommittee would talk about the topic of an additional model run more on next call. It will be an agenda item for next call, gauging interest in new model run.

Curt set the date and time for the next call as Monday, April 27, 10:00 a.m. Curt will send calendar appointment for that.