**Monday, May 20, 2019**

**Notes by Ed Merta, City of Albuquerque**

**Attendance**:

Amanda Brimmer (Denver RACQ), Rebecca Case (Ramboll), Phil Genting (WA), Rebecca Harbage (MT), Brenda Harpring (NV), Craig Henrikson (MT), Aislinn Johns (ID), Mark Jones (NM), Rob Leteff (WY), Shawn McClure (CIRA), Ed Merta (Albuquerque), Tom Moore (WRAP), Ralph Morris (Ramboll), Kerwin Singleton (NM), Tina Suarez-Murias (CA), Curt Taipale (CO), Elias Toon (AZ), Emily Weissinger (Ramboll).

**Action items that resulted from the call**:

* Additional feedback on Ramboll Q/d and Four Factor tools should be directed to Emily Weissinger by the end of May.
* Tom said he would send out information about WRAP’s EGU Emissions Analysis Project, for comparison of a list prepared by Ramboll of sources with 4,000 tpy of emissions located 400 kilometers or more from the nearest Class 1 Area.

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

Approved.

**2. Volunteer for note taking**

Ed Merta from Albuquerque took notes.

**3. Discuss Q/d screening tools and questions**

Emily Weissinger walked the group through the latest revisions to Ramboll’s Q/d tools, based on feedback. The revised versions are available on the TSS at <http://views.cira.colostate.edu/tssv2/Emissions/QDAnalysis.aspx>.

Major points covered during Emily’s remarks:

* User can develop short list of facilities ordered by state instead of by Class 1 Area (C1A).
* Additional filtering options are now available.
* A bug that prevented display of items with letters beyond “T” has been fixed.
* A supplemental table referenced in the methodology memo now includes a list of 150 facilities that have Q > 4,000 tpy, d > 400 (i.e. are located > 400 kilometers from the closest C1A), and thus have a Q/d > 10.
* Emily is taking additional feedback the end of May, after which Ramboll will issue a final version of the tools.

Tom suggested that each participant on the call briefly describe their experiences so far in using the Ramboll Q/d tools. States on the call responded. Some had been able to go through the tools to varying degrees, others had not.

A key topic in the discussion was the extent to which sources with 4,000 tpy of emissions or more might be assessed for visibility impact at C1As. Aspects addressed including the following.

* Tom Moore stated that modeling the impacts of a source more than 400 kilometers away was a “very, very conservative approach,” even for a source with large emissions.
* Ralph Morris observed that modeling impacts at a distance greater than 400 kilometers was theoretically doable but uncertainty regarding trajectories increases with downwind distance. Historically, air quality analysis related to C1As has used a 300 kilometer radius, not 400 kilometers. Using the 300 kilometer radius with a Q/d > 10 seems like a reasonable approach for picking out the largest impacts.
* Tom noted that most of the sources fitting the category of “greater than 4000 tpy/400 km” are older electric generating units (EGUs). He offered to send out information produced by WRAP’s EGU Emissions Analysis Project, for comparison with Ramboll’s list of the 4000 tpy/400 km sources. Curt subsequently did send out this information by email on May 21, 2019, directing readers to <https://www.wrapair2.org/EGU.aspx>.

**4. RP Source notification**

Each participant on the call briefly described progress in their jurisdiction toward notifying sources that they would be subject to a Four Factor analysis and beginning the process of obtaining control cost information.

The table below sets forth the reports of call participants for their jurisdictions. Some of this information reflects follow up confirmation by the note-taker (Ed Merta) with some participants after the call. Curt Taipale also called other states not on the Control Measures Subcommittee to ascertain RP source notification status.

|  |  |  |
| --- | --- | --- |
| **Jurisdiction** | **Has notified sources?** | **Notes on methodology** |
| Alaska (phone call with Molly) | No | Tentatively, using Q/d>10 with Q>25 tpy. Tentatively identified 7 sources, including an airport and AFB |
| Albuquerque (Ed) | Have begun discussion with the one reasonable progress source identified for Albuquerque-Bernalillo County. | Albuquerque working in concert with New Mexico for unified statewide analysis. See entry for New Mexico, below. |
| Arizona (Elias) | Has held stakeholder meeting. | Q/d 20, excludes airports |
| California (Tina) | [pending; emailed Tina] | Will identify more than 100 sources, probably based on Q/d of 10. |
| Colorado (Curt) | Has started the process. 22 sources identified, have been notified by letter. RH stakeholder meeting in June. | Using Q/d threshold of 10 based on Q over 25 tpy. Currently 22 sources identified. |
| Hawaii (phone call with Mike Madsen) | 8 sources identified. | Using Q>25 tpy and Q/d threshold of 10. 8 sources identified, two airports screened out and sugar mill shutdown. |
| Idaho (Aislinn) | Have not yet contacted facilities. | Used Q of 25, Q/d of 2. Initial list identified 12 sources. The list was reduced to three sources by excluding an airport and running a CALPUFF visibility impact analysis. |
| Montana (Rebecca and Craig) | Have notified all screened sources by letter and phone call. | Q/d of four, looking at NOx and SO2 only. Identified 17 sources |
| Nevada (Brenda) | Have not begun notifying sources | Q/d of five, which initially identified seven sources, one of which is an airport which will be excluded. |
| New Mexico (Kerwin) | Have not begun notifying non-Albuquerque sources as of date of call, will be notifying them by letter soon. | Q/d of 10, resulting in 13 sources for New Mexico outside Albuquerque-Bernalillo County. One source was identified for Albq-BC. Thus, 14 sources statewide. |
| North Dakota (based on email from David Stroh) | 10 sources notified by letter. | Using Q/d of ~10. PM10 excluded from Q. |
| Utah (based on email from Jay) | Contacted 4 sources | Currently evaluating whether to use a Q/d that is less than 10. |
| Washington (Phil) | Drafting letters to local air quality agencies that will go out the week after date of this call; letters to sources will go out the following week. | Q/d of 6.5, about 18 sources, excluding airport. |
| Wyoming (Rob) | Have not begun notifying sources. | Still finalizing Q/d analysis. |
| **The following states were not represented on the call but were contacted later:**  Alaska, Hawaii, Oregon, South Dakota, Utah  All but Oregon and South Dakota have responded. | | |

The following additional topics emerged during discussion of each state’s progress in notifying sources.

* The group discussed excluding airports from Q/d analysis. The key questions was whether airport emissions result primarily from takeoffs and landings, which are beyond the jurisdiction of state agencies, rather than from ground support equipment, which could be within state jurisdiction. The discussion noted that conversion of this equipment to electric batteries could reduce emissions.
* The group discussed how and whether states could assess PM transport in visibility impacts analysis. Aspects of the discussion touched on how to assess boundaries of transport and how seasonal variation in transport could affect visibility impact.

Curt urged anyone with questions about the four factor analysis process to email him after the call. He noted that Ramboll’s memo on analysis of existing, recent control technologies at facilities can assist with a four factor analysis.

**5. Four-factor work; and 6. Other Topics?**

Discussion at a general level on the four factor analysis process, and related topics, addressed the following.

* Dealing with sources in special categories, including military bases, railyards, airports, and coal mines. Curt stated that sources in these categories may not have a lot of activities that could reasonably be subjected to controls. The key in the process is to focus on sources that do provide good opportunities for controls.
* Once Q/d has identified a facility for analysis, how does one decide which pollutants from which particular sources within that facility should be subject to analysis? Curt said that the focus should be on individual emission sources within the facility that offer the most opportunity for control over total emissions. Here, the discussion used “emission source” to refer to a sub-unit of a facility, rather than to the entire facility. Curt suggested that a state will have to identify a threshold for particular emission sources within the facility (e.g. one stack for one sub-unit within a larger plant) that is separate from the facility-wide emissions threshold use din Q/d analysis. This would result in an emission source by emission source determination of whether enough pollutants are being put out to merit a four factor analysis.
* Tina noted that, in terms of choosing potential control measures, restrictions on operations (e.g. reducing hours of operation) might be chosen in place of retrofitting an existing plant with new technology.
* A discussion of the weighted emissions potential (WEP) modeling that WRAP will conduct indicated that WEP results should be available in late summer, once modeling of projected 2028 emissions is performed, working from a 2014 baseline.
* There was a discussion of how to provide emissions data requested by the Emissions Inventory and Modeling Protocol subcommittee. The focus was on how 2014 emissions data will be used to project 2028 emissions, based on data provided by states in the necessary format.