# RHPWG Call Notes 10-31-19

1)      Welcome, Roll Call, Agenda Review

**Note Taker = Wyoming (Ben Way)**

Roll Call:

Arizona – Ryan Templeton

California – Mark Hixson, Tina

Colorado – Kevin Briggs, Westin Carlos, Shira

Denver – Amanda Brimmer

Nevada – Steven

Oregon – Brandy Alberton

Utah – Jay

Washington – Farren

Wyoming – Ben

EPA – Gail

FLMS – Mike Barna, Pat Brewer

WRAP – Tom , Mary

Pima County – Janice

North Dakota – David

Montana – Rhonda

Idaho – Pascal, Aislynn

Ramboll – John, Ralph

**2)      List of OTB/OTW inputs received from states (Farren)**

Today was revised deadline, but we are behind on the modeling so if people have OTW/OTB emissions to submit please get them to us and they will still be accepted.

* No change from NM.
* Some updates from AZ for quite a few sources.
* MT submitted updates;
* OR has a shut down – one facility.
* WA – a shut down and two facilities being updated.

Can use more updates.

**Q**: How long do we have to get you further OTW/OTB inputs?

**A**: Not sure that there is an exact date; if you need a couple more weeks is ok. Depends on how quickly Ramboll does their modeling.

**A/Tom M**: Before Thanksgiving, as a pretty firm deadline.

**3)      Rep Baseline Modeling status update (Ralph Morris, Ramboll) – see attached file:**

**(WRAP Shake-Out Phase III Update rhpgw 10-31-19.pptx)**

A lot of similar views to the Oct. 15 RTO Work Group meeting, with some updates of what has happened over the last two weeks.

**Slide 2** – summarizes Phase 1 and 2 work with 2014 v1 base case modeling with CAMx and CMAQ, and there’s documentation on the IWDW of that modeling. We did observe at least four performance issues:

* EPA’s GEOS Chem had some issues with the boundary conditions used; overestimated ozone
* Some coastal so4 overestimation
* NO3 underestimation
* Issues with MEGAN and BEIS biogenic emissions that we are investigating.

**Slide 3**

Talks about the final configuration we had with 2014 v1 modeling with CAMx v6.5 and CMAQ v5.2.1 (April 2018 releases). Both models have been updated since then.

We ended up using the WAQS WRF meteorological inputs, that’s the 36US you can see with the 12WUS domain, but not using the EPA 12US 2 domain (red X). But we do have CONUS modeled with the 36 km resolution.

So we had the 2014 v1 emissions … has some updates in the western states.

Ended up using the BEIS biogenic emissions because it had better organic aerosol performance. And I mentioned the GEOS Chem BCs (i.e., producing overestimated ozone).

**Slide 4**

Moving on to Phase 3. For the Shakeout tasks we have listed here; we talked about the first three tasks already, investigating the performance issues from 2014 v1 and redoing the 2014 GEOS Chem modeling; and doing the emissions modeling updates from 2014 v2. Since the last update we’ve done the Fire Plume Rise Sensitivity Modeling; we’ve reduced the scope of that; using the WRAP versus the EPA Briggs approach.

(Task 1.6) Done an initial 2014 v2 simulation.

(Task 1.7) Done the GEOS Chem portion of the natural (no anthropogenic) and ZROW simulations; ready for the CAMx simulation.

(Task 2.1) Done the Representative Baseline EGU Profiles.

(Task 3.1) And done the Dynamic Model Evaluation Scoping Study

(Task 5.1) We’re continuously doing the management…

**Slide 5**

Today’s topic is talk roughly about what we’ve done in Phase I and II.

* Phase I & II Tasks 1.1 (2014v1 Sens), 1.2 (2014 GEOS-Chem) and 1.3 (2014v2 EI)

Some reductions in scope because the 2014v2 took longer than had been anticipated.

* Reduction in Scope for Tasks 1.4 (Fire Plume Rise) and 1.5 (Additional Sens)

Did initial 2014v2 CAMx run and we found some performance issues in the emissions that we fixed.

* Initial CAMx 2014v2a 36/12-km under Task 1.6 (Annual 2014v2 Shake-Out Runs)

But we took that opportunity to fix that to re-map some of the emissions to take advantage of the new version of CAMx v7.0. That’s the version that EPA is using/used in the national RH modeling that was released 9/19/19; that’s the so-called 2016 Data-Prime platform. And one of the advantages is the explicit treatment of elements in CAMx v7.0.

* Re-mapping of emissions to take advantage of new CAMx v7.0
	+ Highlights from EPA’s national regional haze modeling released Sep 19, 2019
	+ Advantages of explicit treatment of elements in CAMx v7.0

Next steps are the final 2014 v2 Base Case modeling and the representative baseline modeling.

Path forward for Phase IV which is the Dynamic Evaluation, the 2028 modeling and model verification and support on the IWDW servers. That’ what we’re going to talk about today …

**Slide 6.**

This is part of Phase III work where we investigated the performance issues; one was the coastal SO4 over-estimation; second we looked at some bi-directional ammonia depositions to see where that improved performance; also investigated the new version of CAMx and CMAQ.

* Based on the those results in this Phase III Task 1.1 we have a new CAMx 2014 v2 model configuration and we’re using CAMx v7.0 vs v6.5 that we used in the v1 modeling.
	+ We now have a method that uses explicit DMS chemistry (dimethylsulfide emissions) which are the largest natural source of sulfur emissions—comes off the ocean. Previously we just renamed DMS as SO2 so now we have explicit chemistry.
	+ Now we’re using the BEIS Biogenic Emissions. MEGAN v3.1 was not ready in time although we’re looking at that still.
* The new CMAQ version is v5.3 that was released in August.

So, the first half kind of got us a new configuration of CAMx and CMAQ moving forward to 2014v2.

**Slide 7**

The second task in Phase III was the revised GEOS-Chem modeling using results, and these results from the inert runs using only boundary conditions we expect ozone concentration to be underestimated. The annual maximum 8-hour ozone for the Lava Beds in northern CA and the Canyon Lands in SE Utah … the EPA runs in the grey and the blue are over-estimating and we should be underestimating because there are no emissions, no chemistry. We did take care of that performance issue we had with the EPA 2014 GEOS-Chem run. So that was actually a successful correction of the modeling results.

**Slide 8**

Task 1.3 was the 2014 v2 emissions updates that includes the wholesale replacement of the CA emissions, as well as some minor updates to point sources in other states. The CA emissions mostly changed < 10%. The only one that wasn’t was ammonia; without on-road the NEI had emissions that were 418,000 tons compared to 243,000 tons in the CARB’s inventory, so ammonia came down almost a factor of 2. We don’t know the explanation for that, but that was the only huge change we saw in that update, at least in the total CA state emissions.

**Slide 9**

Task 1.4 -- This is the Fire Plume Rise Sensitivity task. That’s something we’ve done since October 15. We finished the simulation last week and we see similar modeling performance evaluation … (kind of ironic that we finished the plume rise simulation on Friday and on Saturday the power went out because of the fires in CA) … the performance that we’ve seen so far—I haven’t gone back—but we are looking at it, but it’s pretty much comparable model performance. We do see higher primary species, higher PM like EC (elemental carbon) and OA (organic aerosols) near the fires in the WRAP, and Briggs has more wide-spread fire impacts. But when you look at performance at the sites it is pretty much comparable. We’re tentatively going to select the WRAP Plume Rise approach because it is much more efficient. The SMOKE-Briggs Plume Rise with CAMx ends up generating about 6 TB of data that we have to turn into vertical stacks, which takes about two weeks compared to a few days to do the WRAP Plume Rise. Since we’re looking toward the representative baseline and 2028 fire sensitivities, we’ll have more efficient use of WRAP Plume Rise moving forward.

Task 1.5 – the **Additional Sensitivity Analysis Modeling** … we just canceled that task because we’re running out of time.

**Slide 10**

Task 1.6 – Phase III; this is the 2014v2 Base Case Modeling. We got all the emissions updates; that’s the CA complete wholesale changes and the new WRAP oil and gas for other seven WRAP oil and gas states. And then there were minor point source updates here and there.

… The CAMx 7.0 annual run; initial model performance and then we noted some high January ozone results in NE WY and found out that there was a faulty oil and gas temporal profile from EPA’s modeling platform … allocated all the oil and gas emissions to one month (January). So we need to go back and re-SMOKE the WRAP oil and gas emissions. Given this delay to re-SMOKE the 2014v2 oil and gas emissions, we decided to re-map the 2014v1 and 2014v2 emissions to take advantage of the new elemental species in CAMx including those used in the improved equation.

No new SMOKE modeling except for the oil and gas emissions that we had to re-run, but it is reprocessing of all the SMOKE output files which are in CMAQ format to get them into the CAMx format, and remapping these elemental species; I think there’s about 8 of them. Also this time we were able to pick up the SOA precursors – these are ?? *anthropogenic* ?? SOA alkanes, higher-order alkanes that was currently dropped by the CMAQ2CAMX emissions processor including what EPA’s modeling did. And to explain what that means, the …

**Slide 11**

Slide 11 talks about EPA’s national RH modeling because they also use CAMx 7.0, with the results released 9/19/19 (for the 2016 modeling year). They had a base case modeling performance evaluation and 2028 visibility projections and used source apportionment by source sectors, no geographic breakdown.

Some of the advantages of the explicit treatment of elements in CAMx is that now we can get Calcium Nitrate which we … can be important in the arid western US because of all the wind-blown dust that has Ca in the soil, and unlike ammonium nitrate it is non-volatile, so when it’s hot outside ammonium nitrate will evaporate and then the calcium nitrate won’t then we all see that we underestimate nitrate in the desert SW in the summer. This might help out this performance issue.

For the metals like iron … that’s the treatment in aqueous-phase Sulfate formation (*…???*).

As far as mapping the IMPROVE soils species we can do it using the same procedure that IMPROVE uses, and that’s the thing in the bottom of slide 11. So the soils in the model can now be a linear combination of these elements: aluminum, silicon, calcium, iron and titanium. Just like the IMPROVE monitoring data uses.

**Slide 12**

Just some examples of EPA’s modeling performance by regions. In looking at these regions … I think these are called ??? *something-grams* ??? on the bottom, they are the performance of sulfate on the left and nitrate on the right, by season on the x-axis and region on the y-axis, with the bottom 4 regions being the western US domains. Notice that the performance in the west, sulfate’s over-estimated and in the east it is not. For nitrate, the opposite is true; the bottom 4 regions it is underestimated in the west mostly, except for the northwest in the spring, and then nitrate’s overestimated in the eastern and central regions.

So this had led, in the third bullet, that we’re using some different configurations in our CAMx simulations then from what EPA used. The EPA beta-prime used the Rscale = 0 that had no surface resistance and they didn’t use any bi-directional ammonia depositions -- the release of ammonia from the soil. Whereas with WRAP we have Rscale = 1 which does have surface resistance so the ammonia deposition is not as great, and also using bi-directional ammonia so ammonia emissions are coming off, so that gives us more ammonia in the WRAP simulation, and that’s because of the underestimation of NO3 in the western US.

… EPA did sensitivity tests with ??? ??? they worsened they eastern US NO3 over-estimation; that’s one reason why we’re using slightly different configurations on the ammonia deposition and BiDi parameters. Interesting to note that TX doing their own CAMx modeling taking something in between the EPA. They have Rscale = 1 with surface resistance like in WRAP but they’re also not running it with BiDi … *??? missed this ???* …they’re kind of in between because they’re in between the west and the east.

**Slide 13**

This slide shows some of the EPA projections. Just for information purposes. Stuff that we can probably do when we get to that point, or something similar. For Canyon Lands they do have this adjustment of international emissions approach. They used source apportionment to get that adjustment. We’ll have international emissions contributions from both *???* and source apportionment initially.

**Slide 14**

This is presenting the path forward with the WRAP 2014v2 modeling. Phase III, Task 1.6.

We’re focusing on the CAMx v7.0 and we’re trying to finish the first 2028 simulation by the end of 2019. We’ll add the CMAQ the latest version as time permits as long as it doesn’t interfere with the goal of getting the 2028 modeling done by the end of the year.

We updated the initial CAMx 2a simulation to add those elements the SOAALK and other species; we did that last week.

We did the test run of WRAP against SMOKE Plume Rise. And we’re kind of adopting the WRAP approach due to efficiency and not much difference.

We did have a delay in completing the task because of power loss in the Novato office where the Linux computers are running. Turned it off Saturday – Tuesday.

**Slide 15**

Task 1.7.

We’ve done all the GEOS-Chem modeling.

One change that we’re doing is that we’re planning to use the representative base case emissions for those CAMx runs rather than the 2014 v2 actual emissions.

Task 1.8

Same thing goes for the Task 1.8 where we’re trying to look at the anthropogenic vs. natural contributions and international vs. the US. Probably going to that for the representative base case modeling instead of the 2014 v2 actual emissions as originally planned.

Task 2.1 -- Representative Baseline EGU Emissions and Temporal Profiles

Kind of a conceptual plan of how we’re going to do that … finished that .

**Slide 16**

Task 2.2 – the Representative Baseline Emissions Modeling

The sources that we are doing there are the EGU … using the WRAP EGU emissions analysis project by ??? name ???.

The representative baseline oil and gas emissions from the oil and gas work group.

The representative baseline fire emissions from the fire and smoke work group.

This work in ongoing.

Task 2.3 – we’re doing the CAMx modeling for the representative baseline … which we can’t start until we finish the SMOKE emissions modeling.

Task 3.1 – the Dynamic Evaluation Scoping study

We have a draft plan. We talked that through with the co-chairs and the Regional Technical Operations Work Group.

Again, made more sense to us to use the representative baseline emissions for the Dynamic Evaluation Scoping Study than the 2014 v2 actual emissions.

**Slide 17**

Task 4: The Phase IV Work Effort … we are working with WRAP-WESTAR to cost and schedule to actually conduct the Dynamic Evaluation Study. So that’s where we backcast the 2014 anthropogenic emissions to 2002. And we hold natural emissions and boundary conditions constant at the representative baseline levels. And the biggest thing that effects is the fire emissions are representative baseline fire emissions rather than 2014 actual.

* CAMx 2002 modeling and dynamic evaluation:

And then we actually performed the CAMx 2002 modeling and we compared the *modeled* change in visibility to between 2002 and the representative baseline to the *observed* change in visibility from the 2000-2004 baseline to the 2014-2018 five-year planning period. That’s where we evaluated the model; how the model performs in terms of changes in visibility against changes in emissions.

Task 5: 2028 OTB/OTW Modeling

We got to do the emissions development for 2028.

Have to do the CAMx modeling then transfer the results

Task 6: WRAP 2014v2 Platform Verification on IWDW Servers

Is the new task to make sure that everything that is transferred to the IWDW … when you run the model on the IWDW servers that you get the same answer that we’re getting on our Linux computers here in CA.

And also support the IWDW in developing the RH SIP products.

**Slide 18:**

Issues with the representative baseline and 2028 emissions.

The way we project visibility is to use these relative response factors that are a ratio of the modeling results for 2028 to the modeling results for the representative baseline. And we use that to scale the observed visibility from the 2014-2018 five-year planning period to get the visibility for 2028. It’s important that the representative baseline and the 2028 emissions are consistent with each other. You don’t want a power plant to be off in the baseline and on in the future year, or vice versa.

*??? I missed some here …???*

… relative response factors *?? may not ??* be appropriate

Our representative baseline has fire impacts for the Most Impaired Days from the IMPROVE 2014 data. That would give us relative response factors that are close to 1 because they are not changing. So we need to investigate alternative approaches for relative response factors such as the modeled Most Impaired Days in the representative baseline.

In the next few slides I just focus on the available emissions for the representative baseline and 2028 modeling, and our recommendations for what sources of emissions we’re going to use in *??? ... slides ???*

**Slide 19**

This slide shows the data we have for sources of emissions:

* WRAP- 2014 v2.
* EPA has now released or is in the process of releasing their 2016 v1 emissions, and the 2028 v1 should be out in November we hope.
* The CARB has their complete replacement of 2014 v2, and the 2028 emissions; that’s what we’ll use for CA.
* WRAP has their EGU analysis study for 2028 and the representative baseline.
* WRAP is also doing the oil and gas study for the ?? 7 of 8 ?? WRAP oil and gas states for representative baseline and 2028. The 8th state is CA, for which we’re using the CARB complete replacement data.
* WRAP is also doing the 2028 onroad and nonroad emissions updates for the 12-KM western US domain.
* The WRAP Fire and Smoke Work Group is developing the representative baseline fire emissions that we’ll use for both the representative baseline and the 2028 OTB scenarios.

**Slide 20**

A busy slide …

Is what we’re going to use for representative baseline emissions for source sector – between western states and non-western states, as well as what we’ll use for 2028.

*??? missed some of slide 20 narrative …???*

**Slide 21**

The EGU sector.

We have the WRAP study from CNEE for the representative baseline and 2028. That’s for fossil EGUs with CEMs and without CEMs.

Non-fossil EGUs with just use EPA’s v1 platforms for 2016 and 2028.

The non-WRAP EGUs will also use the EPA’s platform for the 2016 v1 representative baseline and 2028 v1 for 2028.

**Slide 22**

Is oil and gas …

The WRAP study has oil and gas for 7 of the 8 oil and gas states, listed here. And then for CA we have stuff from the CARB. For the remainder of oil and gas emissions and non-oil and gas WRAP states, such as those states with minor oil and gas emissions like NV, and for non-WRAP states, we’ll get that from EPA 2016 platform for both the representative baseline and the 2028. Probably the most important emissions there are from TX and OK, given the amount of oil and gas emissions there and their proximity to the WRAP ?? study areas.

For the non-EGU point we are actually going to use the WRAP 2014 v2 emissions and the EPA 2028 v1 … because we have updates to those points in the 2014 v2 that we ??? in EPA ??? so this is an update that we need to make. But we are using the WRAP 2014 v2 for the representative baseline.

**Slide 23**

For the mobile…

The WRAP mobile study for onroad and nonroad will be used for the western US. For the eastern US we’ll be using an EPA platform, although it is suggested that for met conditions for 2016 the mobile sources in the east don’t really affect proximate areas in the west much at all. And then we use an EPA platform for Mexico and Canada sources.

**Slide 24**

This talks about the verification of the 2014 v2 platform. This is a new request. To make sure that the files are transferred to the IWDW and then we’re actually going to run the simulations for each transfer on the IWDW to make sure we get the same answers we get on Ramboll’s Linux system. And then we’ll make that available for distribution on the IWDW.

Also on task 6 we’ll also transfer a lot of the data and help the IWDW set up the RH SIP products that we need, like the technical support system TSS from the previous RH. We’re helping set that up so that everything will be on line, you can get the glide slopes and modeling results and all that … one stop shoping.

**Slide 25**

The next step for us is the Phase IV SOW, cost and schedule. There are three main tasks:

* Task 4: Conducting the Dynamic Evaluation;
* Task 5: doing the 2028 emissions and CAMx modeling
* Task 6: the verification that the 2014 v2 representative baseline and 2028 OTB ??? … on the IWDW servers and providing the IWDW support.

**Slide 26**

The schedule has moved thing out a little bit. We lost most of the week of Oct. 28 due to the power outage. Some of these things we had to move out because we need the representative base case run from task 2.3 in order to do the task 1.7 Natural and ZROW run and Task 1.8 anthropogenic and natural source apportionment.

**Q/Farren**: Wanting to confirm … With the representative baseline runs, we are going to be using the WRAP 2014 v2 plus any state updates?

A: Yes; for the non-EGU point.

**Q/Ryan**: It looks like the representative baseline is going to be used for the Dynamic Modeling Evaluation, and for the relative response factors. Could you speak a little more as to why that is being used instead of just the straight 2014 data set?

**A**: The plan was always to use the representative baseline for the relative response factors to make the 2028 projections. And that was because the feeling that we’re projecting the observed visibility from the five-year period from 2014-2018, and it was felt that the emissions we were selecting there—like the EGU emissions as well as the other sources and the fire emissions – are more representative in the five-year baseline than the actual 2014 were. So that was always the plan, but it occurred to us for the Task 1.7, for the Natural and ZROW modeling, it is probably more appropriate to use the representative baseline emissions, especially the representative baseline fire emissions, and also for Task 1.8 for the ?initial? source apportionment modeling we were going to use representative baseline because we need to identify the modeled most impaired days to make these projections from the representative baseline.

For the Dynamic Evaluation it also makes sense because we’re trying to look at 2002-2004 observed visibility to the 2014-2018 observed visibility, and then project it out to 2028, trying to look at all those three milestone periods, and the modeling results; and then for two of those periods we have actually observed changes. That’s why we’re kind of moving to representative baseline on those paths instead of the 2014 v2 actual emissions.

**Q/Gail**: I’m still concerned about the representative baseline scenario. It seems that is adds a lot of complexity when we’re mixing emissions from 2014, 2016, 2018. And we’re creating hypothetical fire emissions, and I don’t what if any impact that will have on the model results. I’ve mentioned before that I’m concerned that if we’re using a baseline ?centered? on the 2014 IMPROVE data, but we’re using representative baseline EGU emissions from 2016 or something else, that we’re not going to be taking full credit for all the emissions reductions that happened after 2014. So we may underestimating the progress that has been made from 2014 to 2028. And then I was kind of ok doing representative baseline as kind of a one-off, but now it seems like *everything* is representative baseline, and I don’t know how to interpret that and I don’t know if it has any effect on the results, and I don’t know how to explain to people why we’re doing this.

**Mike, with RTO**: I do think we need to have a bit of *think* about how we treat the representative baseline. And that’s probably going to be for another call. In my opinion … there is so much inherent uncertainty, e.g., with this Dynamic Model Evaluation. We’re projecting out to 2028. 2002 is going to be some sort of a “hind cast.” It seems like in keeping with that sort of general treatment of the state of play of emissions, in particular Sox and NOx emissions, I think I was ok with the idea of using the representative baseline for the Dynamic Model Evaluation, but clearly the RTO folks are going to have to scratch their heads and have a bit of a chat to make sure we’re all on the same page.

**A/Ralph**: If you look at the schedule slide 26 we do have a few weeks before we have to make that decision. We’ll have 2014 v2 there; if everybody agrees with the representative baseline for the 2028 projections, then it should be used for these other runs as well.

Concerning not getting credit for the controls after 2014, we’re actually projecting the observed visibility from the five-year period 2014-2018, so by using 2014 results we may be double-counting the emissions reductions from 2014-2018 when we use the 2014 v2 to make projections. So I can argue that both ways. I think this is something the RTO working group needs to talk about.

**Gail**: Why are we using 2014-2018 IMPROVE data instead of having it centered on 2014?

**Ralph**: because the 2014-2018 is the five-year baseline.

**Gail**: But it’s inconsistent with our baseline emissions.

**Tom**: The guidance required the use of the most recent five years of IMPROVE data. It is pretty clear that there won’t be 2019 data by the time we finish the regional analysis, because it takes almost a year for that to come in. It’s about that ’14-’18 time frame, and 2014 emissions are not very representative of what planning is going to take place. So that was the reason for all those projects in the WRAP work plan, was that we’d always anticipated having a representative baseline. I just wonder whether we’re actually missing anything; we’ll have an actual well-evaluated 2014 with a certain amount of visibility impact. We’ll have a representative baseline. So folks can compare that change. Then there’s a second change, which is the status quo to 2028 projections, which, again, have a lot of uncertainty in it. Maybe it’s a two-part thing instead of a single path, as to what the planning looks like.

**Gail**: Do we have a document that summarizes how the representative baseline fires differ from the actual 2014 fires. On a day-to-day basis, spatially, how much the fires have changed.

**Tom**: Yes. So we’ll bring that to the … it sounds like that would be informative to discuss as part of the representative baseline. So we’ll bring that to the call that Mike was suggesting that we need to have.

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We really only need to have one more item … on the mobile source emissions inventory projections. We’ll skip agenda item #4; we can talk about this more later. I’ve been assured that the decrease in sulfur emissions from ships is included in our representative baseline run.

**(Item 4)      Consider updating ship emissions for rep baseline (Farren)**

·         I’d like us to consider using EPA’s 2017 ship emissions for the Rep Baseline, especially since the ECA zone has low sulfur diesel now which lowers SO2 emissions by something like 90% compared to the 2014 NEI.  Not sure how this affects all states but would like to discuss during our next EIMP call.

**(Item 5)      Progress report on mobile projections for future (John Grant, Ramboll)** – see attached

·         [Mobile Source Emissions Inventory Projections Project](https://eur03.safelinks.protection.outlook.com/?url=http%3A%2F%2Fviews.cira.colostate.edu%2Fwiki%2Fwiki%2F11203%2Fmobile-source-emissions-inventory-projections-project&data=02%7C01%7Crmorris%40ramboll.com%7Cf2cf3289de5c416c640208d75e16a89e%7Cc8823c91be814f89b0246c3dd789c106%7C1%7C0%7C637081323726467468&sdata=qwFLEX5emILHZBCliSvnnhlcrfzatqFFl%2FevFl%2BXf9s%3D&reserved=0) link

Update on the status of the WRAP Mobile Source Emissions inventory Projection Project

This project task: to develop an improved WRAP region emissions inventory for mobile sources: onroad, nonroad, marine, airports and rail.

**ON-ROAD**

Had a teleconference on 10/17 in which Tejas summarized the on-road methodology and inputs, and specifically he went over a spreadsheet that allowd agencies to understand the activity data that were being used to estimate the on-road emissions under the 2016 v1 platform for 2028, looking at both absolute values of emissions in 2028 and ratios of emissions between base year 2014 and base year 2016, and 2028 emissions. We asked for input from agencies on these activity data so that we could use them when SMOKE MOVES is re-run to develop that improved inventory for 2028. Have received input from several states that will be used to update the SMOKE MOVES vehicle activity input files. You can see them listed: AZ, CO, WA.

I think that we have also received an email from UT, and we are not sure if UT is going to provide updates. We need updates on this by the end of the week (11/1) in order to keep going with the schedule.

We are going to move forward with the analysis. The next step…we’re going to re-run MOVES with those new inputs for 2028 to develop that on-road emissions inventory that has consistent meteorology with the base year on-road emissions.

**OFF-ROAD SECTORS**

As mentioned, this includes rail, marine, airports and non-road equipment for which emissions are estimated in the MOVES non-road model. What we are doing right now is performing a review of the EPA 2016 v1 modeling platform methods and emissions. The focus is on 2028, since this is a project with respect to the projections. We do expect to hold a call in mid-November. It will be similar to the on-road teleconference; we will present a summary of the methods, a summary of the emissions, and request input from agencies so that we can take whatever steps are necessary and feasible to improve the off-road emissions for 2028 in the WRAP region. And that request for data of the agencies will request that you provide that by late November. We’ll go ahead and implement the improvements we can based on the inputs that are provide to us. We will wrap up the inventory by mid-December so that it can quickly go to Ralph’s modeling group which will need this to do their future year modeleing.

See slide 4 where there is link to the project wiki page.

It had information from the meeting that was held in October for the on-road, including a recording of the meeting, as well as the spreadsheet tool; and work products on there, and a summary of the projects.

**Farren**: I don’t think WA provided any inputs; maybe on list because we forwarded information from AZ.

**John**: I had you on the list because I think you said everything was going to be “ok” and that there weren’t going to be any revisions from WA.

**Farren**: Q re the term “Off-road” mobile…? We’re using that to mean the same thing as “Non-road”?

**John**: We are referring to the non-road sector that you’re speaking of, i.e., construction equipment, lawn and garden equipment, industrial equipment, etc., whose emissions are estimated in MOVES. But we’re also referring to the rail, marine and airport sector.

**Ben Way**: … mentions rail yards now considered point sources.

**Farren**: this is affecting the 2017 NEI, but not sure if it is affecting the 2016 modeling platform.

**John**: We are in the process of reviewing the rail inventory to the extent we can. One issue that we’re having as we move through this is that the documentation is coming out steadily, but I think the rail documentation for the 2016 v1 is something that we’re still following up on and trying to get a hold of. Will try to provide an update on that as well.

**(Item 6)  Verify next call date and time**

**Farren**: strange month on November. Can’t meet on Thanksgiving Day.

What about one EIMP meeting in mid-December for both Novem and December, or still have both.

**Tom**: maybe meet on 12/5…?

**Decision: December 5 at 12:00 MTN (11:00 PAC).**