**From:** Tom Moore <tmoore@westar.org>

**Sent:** Wednesday, January 16, 2019 10:34 AM

**To:** Herron-Thorpe, Farren (ECY); Payne, Rhonda; Baek, Bok Haeng; Tejas Shah

**Cc:** Ames,Rodger; Martin, Kristen

**Subject:** status check on MT additional source for emissions processing for 2014 Shakeout Modeling platform

**Importance:** High

Hi, all – it appears to me that you all are resolving the details on including the additional MT sources in the Shakeout modeling platform (thus the “Shakeout” terminology).

I will be meeting with Farren and the Shakeout contractor team early tomorrow afternoon, Thursday.  It would be great to get the remaining inputs from MT DEQ before then so we can assess overall progress on the+ Shakeout platform work and schedule.  Very appreciative of Farren and BH working these data into the regional process at this point.

Thanks to all.

*Tom Moore, WRAP Air Quality Program Manager*

*Western States Air Resources Council (WESTAR) | e:* *tmoore@westar.org* *| o: 970.491.8837*

*Western Regional Air Partnership |*[*www.wrapair2.org*](http://www.wrapair2.org/)

**From:** Herron-Thorpe, Farren (ECY) [mailto:fher461@ECY.WA.GOV]
**Sent:** Wednesday, January 16, 2019 10:05 AM
**To:** Payne, Rhonda <repayne@mt.gov>; Baek, Bok Haeng <bbaek@unc.edu>; Tejas Shah <tshah@ramboll.com>
**Cc:** Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>; Martin, Kristen <KMartin@mt.gov>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Rhonda,

OK And it sounds like I will need to split the first FF10 into two files as well.  Once you send the status of those missing points, I'll merge and split everything accordingly into two FF10 files.

-Farren

**From:** Payne, Rhonda <repayne@mt.gov>
**Sent:** Wednesday, January 16, 2019 8:52:17 AM
**To:** Baek, Bok Haeng; Tejas Shah
**Cc:** Herron-Thorpe, Farren (ECY); Ames,Rodger; Tom Moore; Martin, Kristen
**Subject:** RE: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Thank you for the explanation – I will add those fields to the missing points and resubmit that file to you shortly.

Thanks,

Rhonda

Rhonda Payne

Montana DEQ – Air Quality Bureau

Permitting Services Section

Phone:  406.444.5287

Fax:  406.444.1499

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Wednesday, January 16, 2019 9:39 AM
**To:** Tejas Shah <TShah@ramboll.com>
**Cc:** Payne, Rhonda <repayne@mt.gov>; Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>; Martin, Kristen <KMartin@mt.gov>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Thanks Tejas,

Rhonda, Tejas brought a good point whether there are any oil and gas point sources or not.  If possible, can you split these missing point sources into three sectors (ptegu, ptnonipm, and pt\_oilgas)?

BH

On Jan 16, 2019, at 11:36 AM, Tejas Shah <TShah@ramboll.com> wrote:

Hi Rhonda,

I am working with Farren and BH on updating 2014NEIv2 inventory for the 2014 Shakeout Platform.

IPM stands for “Integrated Planning Model”. It is used by EPA to generate future year projected emissions for EGU sources.

BH, do you want to further segregate non-EGU sources into pt\_oilgas (midstream O&G) and ptnonipm sectors to match with EPA Platform?

|  |
| --- |
| **Tejas Shah**Managing ConsultantD +1 (415) 8990735tshah@ramboll.com |

**From:** Baek, Bok Haeng <bbaek@unc.edu>
**Sent:** Wednesday, January 16, 2019 8:26 AM
**To:** Payne, Rhonda <repayne@mt.gov>
**Cc:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Tejas Shah <TShah@ramboll.com>; Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>; Martin, Kristen <KMartin@mt.gov>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Rhonda,

Practically, IPM means ptegu sector. Sorry for the confusion. It will be great if you can split these sources into ptegu and ptnonipm. That will help me to process them properly.

So, I want to double confirm that these point sources are missing ones from NEIv2. So I will simply add them into the current NEIv2.0 inventory.

Thanks,

BH

On Jan 16, 2019, at 11:07 AM, Payne, Rhonda <repayne@mt.gov> wrote:

Hello Farren and BH,

I don’t know what IPM means, but I can figure out whether the sources are ptegu or ptnonipm based on the type of sources. Do you need this info for the 80 additional point sources, correct? The rest of the added emission records should have that data.

We discovered an error in the scripts that pull our data from our internal database and create the file for the EIS submission. We uncovered that the a point with multiple segments only had the segment with the highest process rate reported to the EIS. So, our idea was to append those missing segments and associated data to the correct point. I believe we did that correctly, although there were a few points that didn’t appear in the file Farren had originally sent MT. Those are the ~80ish additions without any of the EIS identifiers.

Let me know if anything else looks odd and I’ll check into it right away.

--Rhonda

Rhonda Payne

Montana DEQ – Air Quality Bureau

Permitting Services Section

Phone:  406.444.5287

Fax:  406.444.1499

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Tuesday, January 15, 2019 5:21 PM
**To:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>
**Cc:** Tejas Shah <tshah@ramboll.com>; Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>; Payne, Rhonda <repayne@mt.gov>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Farren,

Sure, it won’t be a problem to add them into our shake-out modeling. Do you happen to know whether these point sources are IPM or not?  I was wondering whether I need to split the inventories into ptegu and ptnonipm or not.

BH

On Jan 15, 2019, at 7:09 PM, Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV> wrote:

BH,

I just received another file from Montana.  They would very much like to get it into the shakeout round.  They are all ADDs, no replacements.  It is a lot of data, and I haven’t looked that closely at the FF10 formatting but it looks OK to me.

Montana had a huge number of segments that didn’t get submitted to EIS which is why this looks like such a huge batch.   I think they will also have one more similar add file ready tonight for about 80 more lines of data.

Any chance you can still include them for the shakeout round?

Thanks,

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

Air Quality Program, Washington State Dept. of Ecology

P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Herron-Thorpe, Farren (ECY)
**Sent:** Tuesday, January 15, 2019 9:57 AM
**To:** 'Baek, Bok Haeng' <bbaek@unc.edu>; 'tshah@ramboll.com' <tshah@ramboll.com>
**Cc:** 'Ames,Rodger' <Rodger.Ames@colostate.edu>; 'Tom Moore' <tmoore@westar.org>; 'Richard.Grimaldi@pima.gov' <Richard.Grimaldi@pima.gov>; 'Ursula.Nelson@pima.gov' <Ursula.Nelson@pima.gov>
**Subject:** RE: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi BH

Looking at the Pima County point source files and the use of their generic release point/unit IDs, I think our best course of action for shakeout modeling is to only include the locomotives point sources.  Since those are zero in the NEI, you can just treat as an “add”.  But make sure to switch the longitude and latitude columns in the file, since it looks like Pima county has them backwards.  There is no way for me to match up the aircraft point source file… it looks like they may have taken all the emissions for each SCC and just added together and treated as one release point.  Pima county will need to give us more guidance or create corrected files for 2nd round of modeling.  The other facilty point source files look like a stack parameter update only… at least the emissions are the same for the bigger sources that I looked at.  However, since the IDs don’t match up to NEI, it is something Pima county should take care of before the 2nd round of modeling.  Otherwise I would have to go through each line individually to match to the NEI.  Furthermore, since it is a stack parameter update, they really should be updating all pollutants, not just VOC and NOX.

Thanks,

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

Air Quality Program, Washington State Dept. of Ecology

P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Herron-Thorpe, Farren (ECY)
**Sent:** Tuesday, January 15, 2019 9:25 AM
**To:** 'Baek, Bok Haeng' <bbaek@unc.edu>
**Cc:** Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>
**Subject:** RE: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi BH

Thanks for calling me back.

Looking at your comparison sheet, here are some notes:

-          it’s not surprising that the Pima county stuff doesn’t match up with the NEI, since those were done separately by the county.  Thanks for taking care of the area source stuff.  I’ll look deeper into the point source discrepancies.

-          Maricopa county point updates FF10 file was generated by the county themselves using EIS.  So it is possible they made corrections that include additions and not just replacements.

-          Montana Old Castle adds are completely new line items and aren’t in the NEI

-          Idaho identified missing pollutants in the NEI for RWC, so it makes sense that there are adds

-          All of California’s files were generated by California, since they are hard zeros only, I think it’s OK to just use what matches.

Stay tuned for Pima point source notes, I’ll look and see if I can match up the unit/release point IDs they used (generic) with what is in the NEI.

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

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P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Monday, January 14, 2019 6:12 AM
**To:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>
**Cc:** Ames,Rodger <Rodger.Ames@colostate.edu>; Tom Moore <tmoore@westar.org>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Farren,

I have attached the excel spreadsheet that shows the differences between WESTAR replacement inventory sources you provided and the NEI v2.0 inventory sources. We have gone through several iterations and I think this information is correct. There are quite bit of mis-matched sources between yours and the NEI inventory sources. I was able to find the most of sources from NEI but failed to find some which are listed in the spreadsheet.  I would love to go over the list of not-found sources with you to understand them and discuss what is our next step will be.

Can you give me a call at 919-966-2224 when you have some time to discuss?

Thanks,

BH

On Dec 28, 2018, at 5:00 PM, Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV> wrote:

Hi BH,

If there is time to include it, here is one last update for the shakeout emissions processing.  This is the North Dakota stack parameter update for a few of their PTEGU facility release points.  No emissions changes, just stack parameter updates.

I will not have time to create the California update file.  I think it’s OK to go ahead with the shakeout emissions processing without it.

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

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P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Herron-Thorpe, Farren (ECY)
**Sent:** Friday, December 21, 2018 11:04 AM
**To:** 'Baek, Bok Haeng' <bbaek@unc.edu>; Ames,Rodger <Rodger.Ames@colostate.edu>
**Cc:** Tom Moore <tmoore@westar.org>
**Subject:** RE: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi BH

Here is the second set of FF10s (attached).  The only things left after this part 2 update (as far as I can tell) for shakeout version are stack parameter updates for seven North Dakota point sources and Point Source / Stack parameter updates for 13 facilities in California.   I may have time to do those by the end of next week but I will be on holiday status for a few days.  If you need to go ahead with emissions processing before then, I think it’s OK and we can put the ND/CA stack parameter updates in version 2 of modeling.

Farren L. Herron-Thorpe

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Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Friday, December 21, 2018 9:36 AM
**To:** Ames,Rodger <Rodger.Ames@colostate.edu>
**Cc:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Tom Moore <tmoore@westar.org>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Rodger,

I have reviewed the report briefly and understood the situation. Based on the report and all GIS shape files, spatial allocation of Pima County inventory seems to be in a good shape. I will find out more detail once I start processing them later but looks like current NEIv2 spatial surrogates are suitable for Pima County. I check with our surrogates modeling runs for EPA to confirm whether these Pima GIS information are already accounted in the NEIv2 surrogates modeling run or not.

Thanks again for sharing the information. It is very nice working with the full documented datasets. Kudos to you all and thank you.

Until we talk in 2019, Happy Holidays to you and your family!

Best,

BH

On Dec 20, 2018, at 2:28 PM, Ames,Rodger <Rodger.Ames@colostate.edu> wrote:

Hi BH,

I’m available tomorrow if you want to talk.

Thanks,

Rodger

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Thursday, December 20, 2018 12:00 PM
**To:** Ames,Rodger <Rodger.Ames@colostate.edu>
**Cc:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Tom Moore <tmoore@westar.org>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Rodger,

Thanks for sharing the insight. I finally finished my proposal submission last night. So I am catching up all the emails. Let me digest the pima report before we talk.

How about tomorrow? I am open all day tomorrow. If you will be out of town tomorrow for the holiday, I can talk to you today.

BH

On Dec 20, 2018, at 11:48 AM, Ames,Rodger <Rodger.Ames@colostate.edu> wrote:

Hi BH,

Farren gets all the credit for the heavy lifting.

I added a zip folder called EI GIS Layer.zip to the google drive.  Look in the RHPWG\_EI\_MP/Pima\_County subfolder.  You should already have the report from ERG detailing the Pima County modeling study in the Pima\_County.zip.  You can refer to the report for details on the area covered by the Pima County study.  I’m not sure how to proceed with this, but it seems it would need to take place in emissions processing step after spatial allocations are applied so the appropriate “chunk” of data for Pima County can be replaced in the NEI.

[https://drive.google.com/open?id=1vc8ENJlusSvJLIyrScSAO0f015e6nUU4](https://na01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdrive.google.com%2Fopen%3Fid%3D1vc8ENJlusSvJLIyrScSAO0f015e6nUU4&data=02%7C01%7Crepayne%40mt.gov%7C43f35a4a86314728cbce08d67bd12645%7C07a94c98f30f4abbbd7ed63f8720dc02%7C0%7C0%7C636832535568821361&sdata=rtTzZMxEPOYUDSiZmehM%2B3IyuyguUZpvQ75tKrR1eik%3D&reserved=0)

I can chat with you all this afternoon if we want to follow up.

Thanks,

Rodger

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Wednesday, December 19, 2018 10:22 PM
**To:** Ames,Rodger <Rodger.Ames@colostate.edu>
**Cc:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Tom Moore <tmoore@westar.org>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Farron and Rodger,

Thanks for the inventories. Looks like you guys did all the heavy lifting for me. :) Thanks.

Yes, I would like to learn more about the Pima County to see whether I need to do anything special for these inventories.

Thanks,

BH

On Dec 19, 2018, at 4:22 PM, Ames,Rodger <Rodger.Ames@colostate.edu> wrote:

Hi Farren,

Pima county is a tricky one because the updates apply to a particularly study region in the eastern part of the county.  I have additional information I can send tomorrow.

Thanks,

Rodger

On Dec 19, 2018, at 12:45 PM, Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV> wrote:

Hi BH

Attached are the majority of the update files.  There will be a few more that I should be able to get to you on Friday.

One of these is for “ADD” and the rest are replacements.  Except for the Pima files, I’m actually not sure if the Pima files are replacements or adds but I can figure that out if you need.

Let me know if there are any problems or questions.

Thanks,

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

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P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Tuesday, December 18, 2018 1:56 PM
**To:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Great! The timing is also great!  Thanks again for processing the inventories for us.

BH

On Dec 18, 2018, at 4:42 PM, Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV> wrote:

OK Thanks for the info.  I agree for tracking purposes it would be good to have the EIS IDs.

I should have most of the FF10 files for you on Thursday.

-Farren

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Tuesday, December 18, 2018 1:38 PM
**To:** Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi Farron,

The best practice for this kind of data merging is to hold any information available for us to identify them later. Even if they are new, it is always better for us to have them in place than assigning generic IDs. As you know, we will process the total emissions correctly for air quality modeling either way but I think it will benefit us in a long run.

If it will take a few days to hold off these EIS source information, you can send them the emissions with some generic IDs for now. We can always update them later.

BH

On Dec 18, 2018, at 4:29 PM, Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV> wrote:

Hi BH,

Quick Question:

Some states provided point source data to add for facilities that are missing from the model-ready NEI files.  Do you think we should get them to provide the facility, unit, release point, and process IDs that may be in EPA EIS?  Or, since they are new adds, can we just assign generic IDs?  I’m assuming that the facility\_id needs to be unique but the other IDs do not.

Thanks,

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

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P.O. Box 47600, Olympia, WA 98504-7600

Telephone:  (360) 407-7658

Email:  farren.herron-thorpe@ecy.wa.gov

**From:** Baek, Bok Haeng [mailto:bbaek@unc.edu]
**Sent:** Wednesday, December 12, 2018 7:01 AM
**To:** McClure,Shawn <Shawn.McClure@colostate.edu>
**Cc:** Tom Moore <tmoore@westar.org>; Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>; Ames,Rodger <Rodger.Ames@colostate.edu>; Baek, Bok Haeng <bbaek@unc.edu>; Ralph Morris <rmorris@ramboll.com>
**Subject:** Re: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Other than the kick off on Monday (12/17), I am open all day on Monday and Tuesday.  No Wednesday for me.

BH

On Dec 12, 2018, at 9:25 AM, McClure,Shawn <Shawn.McClure@colostate.edu> wrote:

I believe sometime next week would work better for me as well – my availability next week is relatively open. Thanks a lot.

Shawn

**From:** Tom Moore <tmoore@westar.org>
**Sent:** Wednesday, December 12, 2018 6:48 AM
**To:** fher461@ECY.WA.GOV; Ames,Rodger <Rodger.Ames@colostate.edu>; Baek, Bok Haeng <bbaek@unc.edu>; Ralph Morris <rmorris@ramboll.com>; McClure,Shawn <Shawn.McClure@colostate.edu>
**Subject:** RE: Emissions processing kickoff call for 2014 Shakeout Modeling platform

Hi, all – Rodger suggested we try to fit in a call this week to kickoff and coordinate the emissions processing for the 2014 Shakeout Modeling platform.  I have very limited availability except for the suggested time below on Friday this week and we are spanning 4 time zones.  If this is not a time that works for the 6 of us, then I will try again for early next week.

Thanks.

*Tom Moore, WRAP Air Quality Program Manager*

*Western States Air Resources Council (WESTAR) | e:**tmoore@westar.org**| o: 970.491.8837*

*Western Regional Air Partnership |*[*www.wrapair2.org*](https://na01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fwww.wrapair2.org%2F&data=02%7C01%7Crepayne%40mt.gov%7C43f35a4a86314728cbce08d67bd12645%7C07a94c98f30f4abbbd7ed63f8720dc02%7C0%7C0%7C636832535568831384&sdata=snxRKb%2FM%2BB6fQebeZmoJwKgV8vRogVNWEby55sfn39s%3D&reserved=0)

-----Original Appointment-----

**From:** Tom Moore
**Sent:** Wednesday, December 12, 2018 6:44 AM
**To:** Tom Moore; Farren Herron-Thorpe fher461@ECY.WA.GOV; Rodger Ames Rodger.Ames@colostate.edu; Baek, Bok Haeng; Ralph Morris; Shawn McClure Shawn.McClure@colostate.edu
**Subject:** Emissions processing kickoff call for 2014 Shakeout Modeling platform
**When:** Friday, December 14, 2018 1:00 PM-2:00 PM (UTC-07:00) Mountain Time (US & Canada).
**Where:** 800-768-2983 access code 4918837035

<Shakeout\_FF10s\_part1.zip>

<ND\_ptegu\_updated.csv>

<MT\_MissingData\_point.csv>