

Ames, Rodger

From: Wells - CDPHE, Dale <dale.wells@state.co.us>
Sent: Wednesday, October 03, 2018 1:05 PM
To: Tom Moore
Cc: Alison Eyth; fher461@ecy.wa.gov; Ames, Rodger; Emmett Malone - CDPHE
Subject: Re: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Tom and Alison,

In Colorado we think this is still an issue, since 2014 is our base year for regional haze and will remain uncorrected while 2016 and out years will have the age distributions corrected.

The 2014 NEI version2 age distributions are much older than the age distribution we have based on registration data and decoding by ERG.

Dale

On Tue, Oct 2, 2018 at 5:18 PM Tom Moore <tmoore@westar.org> wrote:

Thanks that's great. I will be quoting OAQPS a lot.

Tom Moore
office: 970.491.8837
mobile: 970.988.4055
WRAP Air Quality Program Manager / WESTAR

From: Eyth, Alison <Eyth.Alison@epa.gov>
Sent: Tuesday, October 2, 2018 5:16:27 PM
To: Tom Moore; Dale Wells
Cc: Farren Herron-Thorpe; rodger.ames@colostate.edu
Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Tom,

The 2014v2 age distributions are the latest available and were processed using the best methods we had available at the time they were created. The methods will likely be improved for 2016 / 17 as part of the CRC A-115 project.

Alison

From: Tom Moore [mailto:tmoore@westar.org]

Sent: Tuesday, October 02, 2018 7:13 PM

To: Dale Wells <dale.wells@state.co.us>; Eyth, Alison <Eyth.Alison@epa.gov>

Cc: Farren Herron-Thorpe <pher461@ECY.WA.GOV>; rodger.ames@colostate.edu

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Thanks, I appreciate the explanation. I will leave it to you all and other mobile emissions (modeling) experts, but could someone say definitively that 2014NElv2 age distribution inputs we have, are correct (or at least the latest available)? Thanks.

Tom Moore

office: 970.491.8837

mobile: 970.988.4055

WRAP Air Quality Program Manager / WESTAR

From: Eyth, Alison

Sent: Tuesday, October 2, 5:07 PM

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

To: Dale Wells

Cc: Farren Herron-Thorpe, Tom Moore, rodger.ames@colostate.edu

Hi,

The 2014v1 age distributions were based on 2011 VIN decoding, and those had a fixed 30+ year old bin of about 2-3 % and the rest of the fractions distributed to the other ages.

The state age distributions may have been derived the same way – some may only count vehicles 30 exactly years old in the 30+ bin (I can't tell from the excerpt of the data shown here).

There are a number of complexities regarding how age distributions are computed. This is what is being investigated in CRC A115 to see if the methods can be improved.

Alison

From: Wells - CDPHE, Dale [<mailto:dale.wells@state.co.us>]

Sent: Monday, October 01, 2018 1:34 PM

To: Eyth, Alison <Eyth.Alison@epa.gov>

Cc: Farren Herron-Thorpe <pher461@ECY.WA.GOV>; Tom Moore <tmoore@westar.org>; rodger.ames@colostate.edu

Subject: Re: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP)
Subcommittee call - updated agenda below

I did a spot check on two Colorado counties for passenger cars with the data in Alison's age distributions, the Colorado age distributions from registration data and a previous version of the EPA distributions (NEI Version 1 data?), and here are the results:

sourceTypeID	yearID	ageID	sum of ageFraction for 20170713	COUNTY	fips	sum of State ageFraction	sum of ageFraction for 20170404
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21	2014	0-5	0.206977	EI			
Paso	8041		0.262016016		0.2948824		

sourceTypeID	yearID	ageID	sum of ageFraction for 20170713	COUNTY	fips	sum of State ageFraction	sum of ageFraction for 20160803
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21	2014	0-5		Denver	8031	0.330952971	
5			0.2450741			0.3486945	

The Version 2 data seem to be skewed older than the State data and the version 1 data.

On Fri, Sep 28, 2018 at 1:05 PM Eyth, Alison <Eyth.Alison@epa.gov> wrote:

Hi,

The rep. county CDBs are posted here:

ftp://newftp.epa.gov/air/nei/2014/doc/2014v2_supportingdata/onroad/2014NEIv2_repCounty_CDBs_seeded_26sep17.zip

You can pull out the tables from those CDBs, or you can wait for me to see if we can get the age distribution data in a standalone table.

Alison

From: Herron-Thorpe, Farren (ECY) [mailto:fher461@ECY.WA.GOV]

Sent: Friday, September 28, 2018 10:20 AM

To: Eyth, Alison <Eyth.Alison@epa.gov>; Dale Wells <dale.wells@state.co.us>

Cc: Tom Moore <tmoore@westar.org>; rodger.ames@colostate.edu

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Alison, Yes we are interested in the representative/reference county distributions. The cross reference county list would be helpful too, though perhaps that is in the 2014 modeling files somewhere?

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: Eyth, Alison [<mailto:Eyth.Alison@epa.gov>]

Sent: Friday, September 28, 2018 4:55 AM

To: Dale Wells <dale.wells@state.co.us>

Cc: Tom Moore <tmoore@westar.org>; Herron-Thorpe, Farren (ECY) <fer461@ECY.WA.GOV>; rodger.ames@colostate.edu

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Hi,

What is meant by “the example counties”? Do you want to see the distributions for the representative counties?

ALison

From: Wells - CDPHE, Dale [<mailto:dale.wells@state.co.us>]

Sent: Thursday, September 27, 2018 4:58 PM

To: Eyth, Alison <Eyth.Alison@epa.gov>

Cc: Tom Moore <tmoore@westar.org>; Farren Herron-Thorpe <fer461@ECY.WA.GOV>; rodger.ames@colostate.edu

Subject: Fwd: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Alison,

The WRAP is reviewing 2014 NEI MOVES inputs, and we would like to see the vehicle age distributions, at least for the example counties. Would that be possible?

Dale

----- Forwarded message -----

From: Tom Moore <tmoore@westar.org>

Date: Thu, Sep 27, 2018 at 11:42 AM

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

To: Herron-Thorpe, Farren (ECY) <fher461@ecy.wa.gov>, Wells - CDPHE, Dale <dale.wells@state.co.us>

Cc: Rodger Ames Rodger.Ames@colostate.edu <Rodger.Ames@colostate.edu>

Farren – thanks for this explanation. I am planning to include processing of the mobile data as needed by the modeling contractor team as specified in the EI&MP Subcommittee’s review document. So the Subcommittee can drive in terms of specifying that.

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

From: Herron-Thorpe, Farren (ECY) <fher461@ECY.WA.GOV>

Sent: Thursday, September 27, 2018 11:14 AM

To: Tom Moore <tmoore@westar.org>; Wells - CDPHE, Dale <dale.wells@state.co.us>

Cc: Rodger Ames Rodger.Ames@colostate.edu <Rodger.Ames@ColoState.EDU>

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Dale,

I'm not a SMOKE-MOVES expert but will try to explain my understanding of this issue. The vehicle age distribution is not really an input to SMOKE-MOVES. Instead, standalone MOVES is run with the age distribution and then emission factor tables are developed for each reference county. Those emission factor tables are then used in SMOKE-MOVES. The 2014 NEI v2 does explain which states submitted vehicle age data and where the other data came from. You can see that here:

https://www.epa.gov/sites/production/files/2018-07/documents/nei2014v2_tsd_05jul2018.pdf

in section 6.2.1 and Table 6-2.

Table 6-2 shows that Colorado did not submit MOVES inputs to EPA, so they used:

“... data purchased from IHS Markit (IHS). Under contract with EPA, ERG purchased the mid-year 2014 vehicle registration database from IHS, which contains a county-level summary of all registered vehicles in the US. IHS retrieves its information from each state DMV, compiles it in-house, decodes the vehicle identification numbers (VINs), and assigns each record a MOVES source type code. The database IHS provided did not include VINs or identify individual vehicles, but rather provided a summary count of the population in each county by parameters including make, model, model year, gross vehicle weight (GVW) class, and other fields. In total, there were over 44 million records in the IHS database that identified 277 million vehicles registered in the US as of July 1, 2014. ERG analyzed and made minor changes to the database, then wrote a program to calculate county-level age distributions and fuel type fractions, to populate the MOVES CDB tables `SourceTypeAgeDistribution` and `AVFT` (i.e., Alternative Vehicle and Fuel Technologies), respectively [ref 2].”

However, as stated here:

ftp://newftp.epa.gov/Air/emismod/2014/v2/README_2014_2015_2016_v7.2_platform_package.txt

“The full set of emission factor tables is too large to permanently store on the FTP server and instead are furnished upon request.”

I think that's something the contracted modelers will request, or perhaps they have their own MOVES runs to use.

Since the age distribution data was obtained as a purchase from IHS, I don't think EPA will share it with us. Perhaps they can share some type of summary. I'll try to contact someone at EPA or CMAS and see what they say.

Farren L. Herron-Thorpe

Modeling & Emissions Inventory Scientist

Air Quality Program, Washington State Dept. of Ecology

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

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

From: Tom Moore [<mailto:tmoore@westar.org>]

Sent: Thursday, September 27, 2018 5:52 AM

To: Wells - CDPHE, Dale <dale.wells@state.co.us>

Cc: Herron-Thorpe, Farren (ECY) <fer461@ECY.WA.GOV>; Rodger Ames
Rodger.Ames@colostate.edu <Rodger.Ames@ColoState.EDU>

Subject: RE: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP)
Subcommittee call - updated agenda below

Hi, Dale – Farren is far better than me to reply and discuss this with you, he has been getting this figured out for the 2014 NEIv2 data review. I copied him.

Tom Moore, WRAP Air Quality Program Manager

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

From: Wells - CDPHE, Dale [<mailto:dale.wells@state.co.us>]

Sent: Thursday, September 27, 2018 6:49 AM

To: Tom Moore <tmoore@westar.org>

Subject: Re: RHPWG Emissions Inventory and Modeling Protocol (RHPWG EI & MP) Subcommittee call - updated agenda below

Tom

The MOVES inputs don't include the vehicle age distributions.

Are these available?

Dale

On Tue, Sep 25, 2018 at 11:11 AM Tom Moore <tmoore@westar.org> wrote:

wiki page link: <http://views.cira.colostate.edu/wiki/wiki/9191>

Agenda Items:

Welcome, Roll Call, Agenda Review – Farren

Notes from July and August calls – no comments. Who is our note taker for this call!? Volunteer please! - Farren

Completing the 2014 NEIv2 data review - Farren

States still need to provide updates for minor-source inclusion table (starting table in last meeting notes).

States need to check with local agencies for any remaining emissions updates needed

MOVES input file submittal for 2014 – each state to check and send as needed (and county air districts as applicable)

(data displayed at these links is in a different format than when it was submitted to EPA NEI)

- <ftp://newftp.epa.gov/Air/emismod/2014/v2/2014fd/emissions/>
- ftp://newftp.epa.gov/Air/emismod/2014/v2/2014fd/emissions/2014fd_inputs_onroad.zip
- Map shows in dark blue which counties submitted to 2014 NEI v2

Last call for base-case RH Modeling emissions updates (relative to 2014 NEI). Final Due Date is Oct. 5.

Re-organization format for wiki page – Rodger

Upcoming: checklist for what states need to review (base and future) - Farren

Upcoming: document that summarizes the subcommittee recommendations and emissions updates - Farren

Next Call 11 am Pacific; Oct. 25 (Thursday) - all

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Dale Wells

Modeling, and Emission Inventory Unit

[Technical Services Program](#)

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[To learn about ground-level ozone in Colorado visit our ozone webpage](#)

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