

2017 NEI Plan: Final Addendum

Since the release of the [revised 2017 NEI Plan](#) in July 2018, there have been several minor changes to the code tables, and as a result of the shutdown, some minor changes to the overall 2017 NEI schedule and more substantial changes to the nonpoint data category component of the NEI schedule. This document will list out these changes, with references to sections in the 2017 NEI Plan where these changes take place. The revised 2017 NEI Plan document itself is not updated to reflect these changes.

This document is intended to assist State/Local/Tribe (SLT) data submitters for the 2017 NEI and refers to the Emissions Inventory System (EIS) and the NEI and NOMAD SharePoint sites for access to much of the information presented here. If you are an inventory developer and have questions about EIS and/or SharePoint access, please contact [Rich Mason](#).

This document also describes some issues discovered in the past several months relating to the NEI process.

2017 NEI Schedule Changes

No changes are expected to the plans for the Onroad Mobile, Nonroad Mobile and Event data category inventories for the 2017 NEI. However, there is a one-month delay of the overall NEI release, and numerous schedule modifications and refinements needed for the Nonpoint inventory.

Change to overall NEI Schedule

The 2017 NEI public release, including a functioning NEI data page with query tools, summaries and a Technical Support Document, will be available on April 30, 2020. This is a one-month delay from the March 31, 2020 public release reflected in Table 2-1 of the 2017 NEI Plan.

Refinements to the Point Inventory Development Schedule

The point inventory emissions and facility windows were closed for SLT agency submittal on February 1, 2019. We are working on a case-by-case basis with SLTs that failed to submit a complete 2017 Point inventory for the 2017 NEI. Table 1 lays out post-April 2019 milestones for EPA and SLTs for the 2017 Point inventory; for milestones already achieved, refer to Table 2-1 in the [revised 2017 NEI Plan](#).

Table 1: Refined 2017 Point inventory development schedule

2017 NEI Point Inventory Milestone	New Date	Old Date	Notes
SLT corrections based on EPA feedback due	6/1/2019	5/15/2019	Completeness and outliers checked
Draft release EIS date-stamped inventory, for internal review, (e.g., 2017draft_03jun2019...")	6/3/2019	6/1/2019	
EIS date-stamped inventory, for SLT review, (e.g., 2017draft_01ju12019...")	7/1/2019	7/1/2019	Will not include updated offshore oil platform data
Final 2017 Point Inventory in EIS	4/1/2020	N/A	

A draft release of the 2017 Point inventory in EIS will be available to SLT data submitters on approximately July 1, 2019 as a point inventory selection with a date stamp. This EIS selection will be constructed in a similar way as a final NEI point inventory is typically built. It will include SLT submittals, with Toxics Release Inventory (TRI) and 2017 Continuous Emissions Modeling (CEM) data blended in for Electric Generating Units (EGUs). In addition, we will process EIS HAP Augmentation on the SLT data to allow for complete HAP coverage of expected pollutants not submitted by SLTs or TRI. PM component gap-fills and PM species (e.g., Black Carbon, Organic Carbon) are also likely to be included. This draft version may not include some internal EPA-based data to fill in potential

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“holes” in mercury or other HAPs of interest; these components will be in later versions of the point inventory. This selection will also be our first real-world test of the EIS selection rules - see: [New Selection Rules Specifics](#).

EPA will then rerun the Point selection one last time and release the final 2017 Point inventory in EIS by April 1, 2020.

Significant revisions to the Nonpoint schedule

Table 2 lists several EPA and SLT milestones for the 2017 Nonpoint inventory; this level of detail was not provided in the 2017 NEI Plan but we think SLTs will find this very useful as it informs how EPA and SLTs will work to create the final 2017 Nonpoint inventory. The “Old Date” refers to either the date in the 2017 NEI Plan, or an original estimate via a relevant NOMAD committee or mass NEI email update. We use the term “Bin” here rather than “Category” (Cat) used in the 2017 NEI Plan. More information on the Nonpoint Inventory development process and the EPA Wagon Wheel training are available on the [Air Emissions Inventory Training site](#).

Table 2: Refined 2017 Nonpoint inventory development schedule

2017 NEI (mostly Nonpoint) Milestone	Who	New Date	Old Date	Notes
EPA posts draft livestock waste estimates	EPA	2/22/2019	N/A	Uses an agreed-to combination of SLT and EPA 2017 livestock population data and 2014 Emission Factors from CMU model and literature-based Emission Factors for sheep, turkeys, goats and horses. Also includes estimates for Alaska based on literature-based EFs for all animal types (CMU model does not include AK).
EPA provides draft Oil and Gas tools to SLTs	EPA	4/5/2019	2/14/2019	This item was not in the 2017 NEI plan
EPA posts Bin 3 draft tools and input templates	EPA	4/30/2019	2/28/2019	Does not include Oil and Gas Tools (which will have been already provided)
EPA releases updated Wagon Wheel with latest activity data (all tools) on the NOMAD SharePoint site	EPA	4/30/2019	3/31/2019	We plan to load and release activity data and finalize input templates by 3/31/2019 for most, if not all, Bin 1 and 2a tools.
SLT comments on draft 2017 livestock waste estimates due	SLT	4/30/2019	N/A	This is a 2+ month review period for SLTs
SLT comments on oil and gas tool due	SLT	5/1/2019	N/A	4 weeks for SLT review
EPA finalizes and posts Oil and Gas tools	EPA	5/31/2019	N/A	4 weeks to digest SLT comments, update and finalize tools
SLT comments on non-Oil and Gas Bin 3 tools due	SLT	5/31/2019	4/30/2019	4 weeks for SLT review, reduced from 8 weeks in 2017 NEI Plan
EPA posts fertilizer and livestock waste emissions on SharePoint with 2017 inputs	EPA	6/15/2019	N/A	SLTs will have 30 days to review these estimates. This review is not expected to result in major changes or rerunning of either model, but rather, an opportunity to check for other errors that can easily be addressed before finalization.

2017 NEI (mostly Nonpoint) Milestone	Who	New Date	Old Date	Notes
SLT due date for Nonpoint: Survey, all inputs, SLT (non-CMV/rail) emissions	SLT	6/30/2019	3/31/2019	A 3-month extension for all emissions submittals and Bin 1, 2a and 2b inputs, but only a 1-month extension for Bin 3 inputs
SLT comments on livestock waste and fertilizer estimates (with 2017 inputs) due	SLT	7/15/2019	N/A	
EPA publishes Final Wagon Wheel tool for all Bins/source categories in WW	EPA	7/31/2019	6/30/2019	Will reflect SLT inputs submitted by 6/30/2019
EPA posts 2017 estimates in EIS for all nonpoint sources: Wagon Wheel and non-Wagon Wheel sources	EPA	7/31/2019	12/31/2018 to 8/31/2019	Old Wagon Wheel dates were: 12/31/2018 (Bin 1 & Bin 2a), 2/28/2019 (Bin 2b), 8/31/2019 (Bin 3)
EPA feedback to SLTs on their submitted inputs and emissions	EPA	7/1/2019 to 10/1/2019	5/1/2019 to 9/1/2019	EPA has 3 months to do this vs 4 months in 2017 Plan
SLT provides corrections on case-by-case basis	SLT	7/15/2019 to 1/1/2020	5/15/2019 to 11/30/2019	Submittal window opened on case-by-case basis
Release draft NP selection in EIS	EPA	11/1/2019	9/30/2019	
2017 Nonpoint release in EIS	EPA	4/1/2020	2/28/2020	Final EPA and SLT QA, likely restricted to Bin-3 inputs QA; NEI Technical Support Document development.
Full 2017 NEI Public Release	EPA	4/30/2020	3/31/2020	Additional time is needed for EIS data to go to web applications and final TSD

Overall Nonpoint Milestones

Except for commercial marine vessels and rail emission submittals that were due January 15, 2019, all nonpoint emissions and/or SLT inputs are now due on June 30, 2019. The Nonpoint Survey deadline is also extended from March 31, 2019 to June 30, 2019. This is a 1-month extension for the Bin 3 input submittals and a 3-month extension for the Nonpoint Survey and all non-Bin 3 tool inputs and emissions. The EIS submittal window for the Nonpoint data category will close on June 30, 2019.

All SLT inputs should be downloaded from the NOMAD folder "[Blank Templates for SLTs to Download and Edit](#)", renamed, edited by SLTs and then uploaded to the NOMAD folder "[SLT-Completed Templates—Please name with your postal code as first two letters of file](#)" by June 30, 2019, preferably sooner for Bin 1, 2a and 2b tools.

The draft version of all [Wagon Wheel](#) tools (Category/Bins 1, 2a, 2b and 3), [NEMO documentation](#), and associated [input templates](#) will be posted to the NOMAD SharePoint site on April 30, 2019. The SLT comment period on the Bin 1, Bin 2a, and Bin 2b tools has passed, so no new methodology changes are permitted for these tools. These draft tools will also reflect the latest activity data available as of late-March 2019, and for Bin 1, Bin 2a and Bin 2b tools, this activity data update will be the only difference compared to the tools currently on SharePoint. Note, if you want the draft version of the EPA tools, set to be released April 30th, to reflect your input data, then you should submit your input templates to the NOMAD SharePoint site by early April. Reasonable-value and properly-formatted inputs submitted earlier are most likely to make it into these draft tools.

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Comments on the Bin 3 Wagon Wheel tools are due by May 31, and EPA will finalize these Bin 3 tools with any SLT-submitted inputs by July 31, 2019. EPA will provide feedback to SLTs on their submitted inputs and emissions between July and September 2019. EPA will accept SLT-submitted corrections, on a case-by-case basis through January 1, 2020. A draft version of the Nonpoint 2017 NEI will be available in EIS by November 1, 2019, and a final version in EIS by April 1, 2020.

Sector-specific milestone details are provided below.

Livestock Waste

EPA posted draft [livestock waste estimates for the 2017 NEI](#) on the NOMAD SharePoint site on February 22, 2019. These draft estimates use EPA-based and SLT-reviewed year-2017 animal population data and 2014 emission factors from the Carnegie Mellon University (CMU) model for most animals and literature-based emission factors for sheep and turkeys. SLTs will have over two months to provide EPA comments on these draft estimates - due April 30, 2019. EPA will then post revised 2017 livestock waste estimates, reflecting year-2017 emission factors and SLT comments received prior to April 30, on June 15, 2019. SLTs comments on these estimates are then due to EPA by July 15, 2019, and EPA will post the final livestock waste emissions in EIS by July 31, 2019.

Agricultural Fertilizer Application

The Draft 2017 emissions and activity data used to develop these estimates were posted for review on the NOMAD SharePoint site under the [2017 NOMAD > Ag Fertilizer folder](#). The due date for comments on both has passed.

A new Community Multiscale Air Quality (CMAQ) model run with actual 2017 inputs -and any activity data already-submitted by SLTs- will be posted on SharePoint by June 15, 2019. SLTs comments on these estimates are then due to EPA by July 15, 2019, and EPA will post the final agricultural fertilizer application emissions in EIS by July 31, 2019.

Oil and Gas

A draft version of the EPA Oil and Gas Production and Exploration tools will be posted on SharePoint by April 5, 2019. SLT comments on the draft version of the tool are due by May 1, 2019 and EPA will finalize and post the tool on SharePoint by May 31, 2019.

Residential Wood Combustion (RWC)

EPA estimates will more closely follow the "Bin 3" schedule than the faster Bin 2b schedule because the multi-state survey used to gather updated appliance profiles and burn rates is still being analyzed. EPA will share analysis on the new RWC survey, with comparisons to other survey data and the 2014 NEI estimates in April 2019. EPA will collaborate with SLTs to determine an overall approach for 2017 EPA estimates during the spring.

Biogenics

We will wait for 2017 meteorology before rerunning the BEIS model used to create the EPA biogenics estimates. We expect to post EPA biogenic estimates in May 2019.

Agricultural Field Burning

Draft estimates were posted on [SharePoint](#) in October 2018. EPA has received additional activity data including updated VOC and VOC-HAP emission factors for sugarcane burning and will post final estimates by June 15, 2019. SLTs will have until July 15, 2019 to submit any comments on these estimates, which EPA will finalize in EIS by July 31, 2019.

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Updated Point-Nonpoint SCC crosswalk

The [Point-Nonpoint SCC crosswalk](#) has been updated for year 2017 on SharePoint to reflect changes needed for Bin 3 tools. Most of the proposed changes are limited to Solvents, with limited changes to the Oil and Gas and ICI Fuel Combustion sectors.

Additional Clarification on Events (wildfires and prescribed burning)

We are basically following the 2017 Plan for Event fires. We have received numerous SLT-activity datasets and we will work to incorporate those into the final NEI by the dates indicated in the 2017 NEI Plan. We will allow SLTs to review those estimates; however, this review will be more for identification of small errors that can be corrected easily, as will not have resources to re-run the models based on review comments. The NEI Plan also outlines that we may include Lead (Pb) emissions from these fires. A review of Pb test data is ongoing and we may include them for review in the final 2017 NEI, or, if the Pb emission factor test results cannot be vetted/reviewed in time, we will wait until the 2020 NEI to include these estimates.

SCC code changes

Refer to the EIS or public [Source Classification Codes web site](#) for the most up-to-date list of active SCCs. The following are some, but not all, key SCC changes made since the publication of the 2017 NEI Plan last summer:

Nonpoint

- New Oil and Gas sector SCCs: There are 7 new SCCs and 3 newly-retired SCCs. These updates will be reflected in the draft version of the EPA Oil and Gas tool and new OG/OS assignments are being developed
- Un-retirement of general freestanding woodstoves SCC (2104008300). The EIS Option Group/Option Set (OGOS) selection rule will prevent SLT-submitted estimates to this SCC from double-counting with EPA and/or SLT-submitted estimates for more-specific types of freestanding wood stoves.
- New and retired SCCs for Commercial Marine Vessels: The CMV SCCs for “port” and “underway” total diesel and residual fuel have been retired and replaced with SCCs that reflect fuel, location (port vs underway), vessel type (C1/C2 vs C3) and engine-based (mode vs auxiliary); these new SCCs conform better to current inventory development methods.

Events

- New SCCs for pile burns: 17 new SCCs for pile burning have been developed to reflect different or not elsewhere classified crop types.
- Prairie grass burning SCC moved from ag burning (nonpoint) to new Events data category (Prescribed fire) SCC: In the 2014 NEI, SCC 2801500170 was used in the “Agricultural Burning” sector in the Nonpoint data category to house all grass/pasture burning. Most of the activity in this SCC came from the “Flint Hills” fires that occur yearly in KS and parts of OK. After discussing the situation with KS, we will be moving these fires in the 2017 NEI to the Events data category, under the prescribed fire SCCs. More specifically, for all the activity associated with just the “Flint Hills” fires (as identified by KS), we will estimate the emissions and put them in a new SCC 2811021000 in the Events/Prescribed fire category.

Nonroad Mobile

- New and retired SCCs: Nonroad SCCs have been overhauled, aggregated to conform better with MOVES, in a manner that is similar to what was done for onroad mobile in 2014 NEI.

Important Specific Issues for Data Submitters

Pay attention to EIS feedback reports

Pollutant group and member submitted for same process: example, if you submit Cr3, Cr6 and total chromium, then the entire process (all CAPs/HAPs) will be discarded and will show up in your feedback report as a critical error (#2320) message “Process Emissions Data for a defined Group of Pollutants can contain either the pollutant representing the group total value, or any number pollutants representing the group member values, but not both.”

For point sources: if the last inventory year on the process has a date before 2017, you will get a critical error (#2319) message “Please review the Reporting Periods associated with the Emissions Process to ensure the Inventory Year of the Reporting Period is not greater than the Emissions Process Last Inventory Year.” on submittal, and the entire process will be discarded. There are two solutions: go into EIS and manually delete the last inventory year, or, set this value to a year beyond 2017 -if you know the precise date! Note: EIS currently limits this date to year 2049 or earlier.

Submitting emissions to retired SCCs

If you submit emissions to a retired SCC, the entire process will be discarded and will show up in your feedback report as a critical error (#90) message “Source Classification Code must match value in list of registered codes.” Refer to the “Map To” field in the SCC table to help choose an appropriate SCC for any retired SCC you submitted.

Nonpoint Survey Modified for new Oil and Gas SCCs

For the 11 SLTs that completed the Oil and Gas portion of the Nonpoint Survey prior to December 20, 2019, their status was changed to “in progress” so you can review the NEW oil and gas SCCs.

The option to “not accept” EPA estimates in the Nonpoint Survey does not prevent EPA HAP and PM augmentation from applying to the 2017 NEI selection. For example, if a SLT submits only PM2.5, EPA will generate PM10. Another example: if an SLT submits only some VOC HAPs (or none), and EPA HAP Augmentation has profiles that create additional VOC-HAPs, then SLT-based VOC will be used to create all expected VOC HAPs - see the [“Expected Pollutant List for Nonpoint SCCs”](#) for the complete list of expected HAPs.

Pollutant Group Rules

The information here supplements [Appendix 5 in the 2017 NEI Plan](#). **Use the information here over any that conflicts in Appendix 5; for example, the removal of within dataset pollutant rules for xylenes and cresols - highlighted below.**

Within Dataset Pollutant Rules

The following applies when S/L/T or EPA submits a dataset to EIS. EIS does not allow certain HAPs to be reported at the same process together if they are in the same group and may overlap. For example, you cannot report an individual PAH such as benzo(a)pyrene with “PAH, total” because “PAH, total” may include benzo(a)pyrene. EIS will give you a critical error (#2320) message (see [above](#)) and none of the data you submitted for that process will be loaded. The following is a list of the HAP and HAP groups that cannot be reported together:

- 1) Any individual PAH with “PAH, total” (130498292)
- 2) Any individual polychlorinated biphenyl with Polychlorinated biphenyls (1336363)
- 3) Any individual HAP glycol ether with the group of HAP glycol ethers (171)
- 4) Hexavalent and/or trivalent chromium with Chromium (7440473)

- 5) Any of the 25 specific PAHs that are in pollutant code N590 or “PAH, total” with” Polycyclic aromatic compounds (includes 25 specific compounds)” (N590) [this rule was added when we added pollutant code N590, which is a TRI pollutant representing a specific group of 25 PAHs]

We recently **removed the within dataset pollutant rules for xylenes and cresols such that we no longer assume there is double counting of an individual isomer is reported with the group.** Thus, you can report a specific xylene isomer with Xylenes (Mixed Isomers) (1330207) and you can report a specific cresol isomer with Cresol/Cresylic Acid (Mixed Isomers) (1319773). In any downstream summaries or processing the emissions would be summed across all pollutants in the group. For example, total XYLENE would be the sum of all isomers plus the Mixed Isomers.

Across Dataset Pollutant Rules

The following applies when a selection is performed in EIS (different datasets are combined using a pre-determined hierarchy for selecting a single emission estimate per pollutant/process). Because different datasets may represent overlapping pollutant emissions differently, we need to be sure we do not double count emissions. For example, a state may report “PAH, total” whereas an EPA dataset may have individual PAHs. To ensure we do not double count during a selection, we instituted EIS selection rules that exclude emissions from overlapping pollutants across different datasets. The rules will result in the highest priority dataset in the hierarchy being chosen no matter whether they report the more detailed pollutants or the broad group and the lower priority datasets with overlapping pollutants to be excluded. For example, for Cresols and xylenes:

- 1) If the higher priority dataset has the mixed isomers pollutant, then no individual isomers from any lower priority dataset will be used.
- 2) If the higher priority dataset has any individual isomers, then the mixed isomers pollutant from a lower priority dataset will not be used.

Below is a list of overlapping pollutants that these rules address:

Pollutant Group	Overlaps
Cresols	Individual isomers (o-, m-, p-) with Cresol/Cresylic Acid (Mixed Isomers) (1319773)
Xylenes	Individual isomers (o-, m-, p-) with Xylenes (Mixed Isomers) (1330207)
Glycol Ethers	Individual compounds with glycol ethers group (171)
PCBs	Individual compounds with Polychlorinated biphenyls (1336363)
Chromium ¹	Hexavalent chromium with chromium trioxide or chromic acid
Nickel	Nickel with Nickel Subulfide, Nickel Refinery Dust or Nickel Refinery Dust
PAHs ²	Individual PAHs with “PAH, total” or ”PAH/POM unspecified” ² PAH/POM unspecified with PAH, total Members of Benzofluoranthenes group with Benzofluoranthenes PAH, total or PAH/POM unspecified with” Polycyclic aromatic compounds (includes 25 specific compounds)” (PAC) Individual compounds comprising PAC with PAC

¹ -rules apply after chromium speciation is done in EIS

² -PAH/POM unspecified does not overlap with individual PAHs within a dataset (it was added to allow agencies to report a mix of known and unknown PAHs at the same process) but it can overlap individual PAHs across datasets

New Selection Rules Specifics

We will be using several EIS selection rules for the first time for the 2017 NEI Point and Nonpoint data categories. These rules should greatly-limit the amount of “tagging” of SLT and EPA data that have been used for past selections. There are three components of these rules for point and nonpoint selection:

Point

- 1) Pollutant grouping (parents/children): Refer to the Section “Pollutant Group Rules” above.
- 2) EPA EGU unit-level rules: EPA develops estimates for a suite of pollutants for many Electric Generating Units (EGUs) based upon throughput values reported to the Clean Air Markets Division’s CEM database and average emission factors. These emission estimates are used to gap-fill in the NEI selection where S/L/Ts have not reported the pollutant. The EPA estimates are for the entire emission unit, but the emissions must be reported at a process, similar to all other EIS emissions. EPA tries to load these unit-level emissions at the existing EIS process (created by the responsible S/L/T agency) that accounts for the bulk of the S/L/Ts emissions, if reported. But even for cases where the S/L/T may have reported some emissions across several emission processes within the emission unit, this selection rule will exclude from selection the EPA estimates for any pollutant where the S/L/T has reported that pollutant at any process within the emission unit. This is the same logic and exclusion that has been followed in earlier NEI years by means of “tagging out” the EPA EGU values.
- 3) TRI site-level rules: EPA loads the Toxics Release Inventory emissions values to EIS facilities. These values will be used to gap fill in the NEI selection where S/L/Ts have not reported that pollutant. EPA loads these TRI facility-level reported values to one of two emission processes created by EPA at each facility – one for stack releases and one for fugitive releases. This rule will exclude from selection any TRI value for a pollutant that the S/L/T has reported at any one or more emission processes within that facility. This is the same logic and exclusion that has been followed in earlier NEI years by means of “tagging out” the TRI values.

Nonpoint

- 1) Pollutant grouping (parents/children): Refer to the Section “Pollutant Group Rules” above.
- 2) Option Group/Option Set (OGOS): There are no changes in the functionality of this EIS feature. Refer to [Appendix 6](#) in the 2017 NEI Plan for more information. EPA and SLT workgroups will likely modify, by late-March 2019, the OGOS assignments for several SCCs in the Oil and Gas and Solvents sectors. Please familiarize yourself with this document and [associated training materials](#) (beginning on slide 44). Submitting emissions to potentially overlapping “general” and “specific” nonpoint SCCs will not be prevented or show up in an EIS feedback report; however, both types of SCCs may not be selected in the NEI depending on OGOS assignments.
- 3) NonPoint Survey: No changes in function or details other than Oil and Gas SCCs. Refer to Section 5.4.6 in the [2017 NEI Plan](#) for more information.

Chromium speciation changes resulting from new NAICS assignments

Chromium speciation by NAICS code is most common for the Toxics Release Inventory (TRI) portion of the Point Inventory. Per Section 3.2, NAICS codes changed in the 2017 NEI, and the speciation profiles (from total chromium to hexavalent chromium in particular) are not the same between the old NAICS codes used in the 2014 NEI and the active, and in many cases new, NAICS codes in the 2017 TRI/NEI. This may result in new elevated risk estimates, and [Madeleine Strum](#) is working on this analysis.