2023 NEI Plan: Final, July 2023

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1 Introduction

This document lays out the EPA's plan for developing the 2023 National Emissions Inventory (NEI), and its intended audience is state, local, and tribal (S/L/T) emissions inventory developers. For more information on the NEI, please refer to the 2020 NEI TSD. The Air Emissions Reporting Rule (AERR) (40 CFR Part 51, Subpart A) provides the specific requirements for state, local, and tribal (S/L/T) agencies to follow in reporting their emissions. The rule *requires* submission of point sources, nonpoint sources, and mobile model inputs (with the exception of California). This plan provides additional details regarding EPA's preferences and principles for how S/L/T agencies should comply with the AERR. It is important that S/L/T agencies follow the principles of this plan to ensure that S/L/T-submitted emissions can be used in the NEI and to avoid missing emissions or double-counted emissions.

For experienced inventory developers, Section 1.1 provides key process changes with links to the sections where these changes are discussed in more detail. If you are an experienced developer, you may not need to review this entire document. We discuss the schedule, best practices for S/L/T inventory developers, the Emissions Inventory System (EIS), what feedback EPA will provide, and how EPA will develop the final NEI with the selection process.

1.1 General Plan: Status Quo and Key Changes

With potential budget constraints, we plan to replicate many of the successful 2020 processes for the 2023 inventory development process. Things that were successful and will be repeated for the 2023 process include:

- One version of the full NEI (no releases of multiple versions)
- Release of iterative quality assurance (QA) reports throughout the submittal period and final completeness reports to submitters, regional offices, and Air Directors following the submittal period
- Releases of data categories as they are completed
- All fires being stored and released in the nonpoint data category
- Requiring throughput for computing nonpoint industrial and commercial/institutional fuel combustion sources (ICI) where direct nonpoint ICI emissions are not submitted
- Using S/L/T-submitted point inventory emissions to generate "default" input templates for computing nonpoint Solvent Utilization, Publicly-Owned Treatment works (POTWs), and Stage 1 Gasoline Distribution estimates
- Using S/L/T-submitted point inventory fuel consumption data to generate "default" input templates for computing nonpoint ICI estimates
- Extended deadlines for submitting several nonpoint data category sectors
- The improved nonpoint survey from 2020
- The Wagon Wheel (WW) tool with Input Template submittals used for generating much of the nonpoint data category sources
- Using the NEI, NOMAD (Nonpoint Method Advisory Committee), and Fires SharePoint sites to share important information and resources. Email Lindsay Dayton to be added as a member to any of these sites. Sending NEI and EIS status update newsletters every 3-5 weeks for those subscribed to the NEI SharePoint site.

Where possible, the NEI development process has been streamlined over the last couple of cycles to reduce S/L/T submittal burden. For the 2023 NEI, we are taking additional steps to help reduce some of the inventory development burden on S/L/Ts, particularly for nonpoint sources. In addition, we are highlighting

a few key changes that are discussed in greater detail in this document (click the highlighted section to move directly to that area of the document):

- Wagon Wheel Input Templates absorbed into the EIS (Section 7.4)
- Updates to source classification codes (SCCs) for Residential Wood Combustion (RWC); introducing the ability for S/L/Ts to submit wood consumption in lieu of providing burn rates or appliance fractions; also updated emission factors (Section 4.1.2)
- More flexible nonpoint submittal schedule to allow S/L/T review of final activity data (Section 7.6)
- Documentation required when choosing to submit nonpoint emissions (Section 2)
- Reflection of iterative QA and Completeness Reports, implemented during the 2020 NEI cycle (Section 5)
- Introduction of EPA estimates and nonpoint survey entries for a few new sources, likely to include exempt (RWC) stoves, residential cooking, food trucks, asphalt roofing, structure fires, and motor vehicle fires (Section 7.2)
- Inclusion of dioxins and furans into NEI selection (Section 4.1.3)

The public release of the full 2023 NEI is expected to be March 31, 2026.

1.2 Suggested Roles and Responsibilities for EPA Regional Offices

As part of the NEI process, we would like to help guide how regional offices can assist with the requirements for completing the NEI on schedule. As a part of that process, we would like for the regions to assist us with the following items:

- Promoting requests for sending in activity data for all non-wagon wheel sectors that we have identified
- Making sure S/L/Ts provide inputs for the wagon wheel according to the schedule in the NEI plan
    - Specifically, ensuring S/L/Ts submit either direct emissions or input template data for nonpoint ICI fuel combustion
- Helping to make sure S/L/Ts complete and submit the nonpoint survey on time
- Helping us ensure that S/L/Ts review draft estimates and information and providing comments back by the timelines laid out
- Prompt review of new EPA emission-estimate methods or major updates to existing methods

We will make sure to keep the regions informed of any delays in the schedule as laid out in the NEI plan. As deadlines approach, it would be expected that regions would reach out to their member S/L/Ts and inform them of imminent deadlines.

2 Schedule

The public release of the complete 2023 NEI is expected to be March 31, 2026.

Significant changes to the overall 2023 NEI schedule (compared to the 2020 NEI Plan) are limited to the nonpoint data category where emissions and input template submittals will be due at varying times based on source category and availability of final activity data. Otherwise, the submittal deadlines for point, onroad mobile, and nonroad mobile are January 15, 2025, a “holiday” extension of the December 31, 2024 submittal deadline in the existing AERR. The March 31, 2025 deadline exists for the nonpoint survey to allow S/L/Ts to review all draft EPA estimates, and their 2023 point submittals (for nonpoint sources that utilize point reconciliation) to determine if they intend to allow EPA estimates to supplement their nonpoint emissions submittals. The March 31, 2025 deadline is also the final date for submitting emissions and/or input activity data (wagon wheel input templates) for nonpoint sources where final activity data or EPA estimates have been provided.

Table 2-1: 2023 Overall NEI Schedule

Item: Overall	Who	Details	Deadline
EPA finalizes implementation of changes to codes and QA routines for 2023	EPA	Code changes and QA routines to be reflected in EIS (and web services)	11/15/2023
EPA posts expected pollutants list to 2023 NEI website	EPA	Point and Nonpoint (including fires). Mobile source expected pollutants are defined by the MOVES model.	11/15/2023
Submission Window Opens for S/L/T submittals	S/L/T	All data categories. Point window will open by 3/1/2024 to accommodate CAERS submitters.	7/1/2024
EPA sends reminder to S/L/Ts to review EIS Completeness Reports for all data categories to S/L/Ts and Regional Offices	EPA	EPA will send final Completeness Report to Air Directors approximately 1 month after deadline and grace period ends (February 2025 for all data categories, except April 2025 for nonpoint)	12/1/2024
S/L/Ts last day for EIS submittal of Point, Onroad Mobile and Nonroad Mobile data category emissions, and all fires data	S/L/T	The regulatory deadline for emissions data and model inputs is December 31, 2024. However, the EPA provides a grace period because of the holidays at the end of the season. Any submittals after this date will not be evaluated for Completeness Report feedback and are not guaranteed to be accepted into the 2023 NEI.	1/15/2025
S/L/Ts last day to submit emissions and documentation describing emissions calculations for nonpoint source categories without EPA Tools	S/L/T	For source categories for which EPA does not estimate on its own. Check the expected pollutants list to know which sources have EPA tools.	1/15/2025
EPA sends final completeness reports to S/L/Ts, Regional Offices and Air Directors	EPA	For all data categories except nonpoint	2/15/2025
S/L/Ts last day for completing their nonpoint survey	S/L/T	For nonpoint data category	3/31/2025
S/L/Ts last day to submit input templates for EPA tools	S/L/T	Input templates for fires and Wagon Wheel categories should be submitted in EIS. For oil and gas, these should be submitted to ERG.	Whichever is later: 3/31/2025, or 30 days after each WW release
S/L/Ts last day to submit emissions, and documentation describing calculations, for nonpoint sources with EPA Tools	S/L/T	For sources which EPA does estimate, EPA prefers input template submissions so that a cohesive dataset for the nation is created. However, you do have the option of submitting emissions, as in previous years. Note that new for this inventory cycle is a requirement to provide documentation on how you created the estimated emissions for these sources.	Whichever is later: 3/31/2025, or 60 days after each WW release
EPA sends final completeness reports to S/L/Ts, Regional Offices and Air Directors	EPA	For nonpoint data category	4/30/2025

Item: Overall	Who	Details	Deadline
2023 Full Public release	EPA	Includes functioning NEI Data page with query tools, summaries, and Technical Support Documentation	3/31/2026

Table 2-2: 2023 NEI Schedule for the Point Data Category

Item: Point	Who	Details	Deadline
Submission Window Opens for S/L/T submittals	S/L/T	Point submittal window will open by 3/1/2024 to accommodate CAERS submitters.	3/1/2024
EPA 2023 landing/takeoff (LTO) data available for S/L/T review period	EPA	On 2023 NEI Documentation website or SharePoint	8/30/2024
S/L/T comments on EPA LTO data due	S/L/T		10/30/2024
EPA loads 2023 TRI data into EIS	EPA	The October 2024 TRI data that is used for the annual TRI National Analysis Report in Spring 2025 is loaded to matching EIS facilities	11/30/2024
S/L/Ts and EPA ROs review the on-line Point Data Completeness Report on EIS Gateway	EPA	All facilities listed as "OP" should have emissions reported or be in process of being reported. Update operating statuses as necessary	12/1/2024
S/L/Ts last day for submittal of Facility Inventory edits to EIS	S/L/T	EPA closes Facility Inventory window on 1/9/2025	1/9/2025
S/L/Ts last day for submittal of Point emissions to EIS	S/L/T	Any submittals after this date will not be evaluated for Completeness Report feedback and are not guaranteed to be accepted into the 2023 NEI.	1/15/2025
EPA loads EPA-estimated 2023 EGU emissions to EIS	EPA		1/15/2025
EPA sends final completeness report to S/L/Ts, Regional Offices and Air Directors	EPA		2/15/2025
S/L/Ts review completeness and outliers reports and submit edits to EIS	EPA	Completeness and outlier checks	3/31/2025
2023 NEI draft Point release in EIS	EPA	Draft point selection used to begin air toxic screening modeling	4/1/2025
2023 Final NEI Point release in EIS	EPA	Incorporates edits made by S/Ls in EIS and comments submitted based on draft air toxic risk modeling	2/28/2026

Table 2-3: 2023 NEI Schedule for the Onroad and Nonroad Mobile Data Categories

Item: Onroad and Nonroad Mobile	Who	Details	Deadline
Post instructions and 2023 default inputs for onroad and nonroad	EPA	On 2023 NEI Documentation website or SharePoint	8/1/2024
EPA sends reminder to S/L/Ts and Regional Offices to review EIS Completeness Reports	EPA	Except for California, states required to submit MOVES inputs. See checklist of data in Section 3.3.3	12/1/2025
S/L/Ts last day for submittal of Onroad/Nonroad activity input data to EIS	S/L/T	S/L/T provides CDB tables or notifies EPA to use EPA default data	1/15/2025

Item: Onroad and Nonroad Mobile	Who	Details	Deadline
EPA sends final completeness report to S/L/Ts, Regional Offices and Air Directors	EPA	Share record of CDB submittals	2/15/2025
EPA provides feedback to S/L/Ts on data quality and outliers	EPA	Window open on a case-by-case basis for activity data corrections only	5/1/2025
S/L/T corrections based on EPA feedback due	S/L/T	Activity data only	7/1/2025
EPA solicits corrections on case-by-case basis	S/L/T	Starting May 15, 2025	7/31/2025
2023 Final NEI Onroad and Nonroad release in EIS	EPA		9/15/2025

Fires (prescribed and wildfires), moved to the nonpoint data category for the 2020 NEI, will again be developed in a separate, though similar, process and are therefore split out into its own subsections in this document.

Table 2-4: 2023 NEI Schedule for all Fires

Item: Fires	Who	Details	Deadline
Inform S/L/Ts on our overall plans for methods changes in the 2023 NEI for WLFs	EPA	Provide details on proposed changes	6/30/2024
EPA to request 2023 activity data from S/L/Ts and other local organizations.	S/L/T	The current plan is for EPA to provide instructions on how to submit activity to EIS. This includes activity for wildland fires and agricultural burns.	8/1/2024
Initiate fires workgroup	EPA	Collaborative workgroup on emissions inventory development process with calls at regular intervals	8/15/2024
Provide draft daily acres burned and emissions estimates based only on default fire occurrence and activity data along with documentation.	EPA	Documentation will include the methodology used to generate the draft Bluesky Pipeline (BSP) emissions estimates. Draft estimates will include agricultural burns and the methodology used create these emissions.	9/1/2024
Activity data and questionnaire due back to EPA	S/L/T	Due date for activity data submitted to EIS. Questionnaire will be a separate document to submitted directly to EPA staff.	12/15/2024
Review of draft BlueSky Pipeline wildland fire and agricultural burn emissions estimates	S/L/T	Due date to submit new inputs and/or comments on draft estimates and methods, per the data disseminated on 9/1/2024	12/15/2024
EPA communicate with S/L/Ts on the quality of the submitted activity data	EPA	This includes comments on activity data, answering questions about draft estimates, and cleansing the data so that we can use for final emission estimates	12/15/2024 - 3/15/2025
EPA sends initial submittal status to S/L/Ts and Regional Offices	EPA	Indicate whether S/L/Ts submitted emissions, activity data, or approved of EPA estimates; “completeness” definition differs from other source categories since fires submittal is not required by AERR.	12/30/2024

Item: Fires	Who	Details	Deadline
EPA sends final submittal status email to S/L/Ts, Regional Offices and Air Directors	EPA	"Completeness" definition differs from other source categories since fires submittal is not required by AERR.	2/15/2025
EPA posts revised data and documentation outlining changes from draft	EPA	Will reflect suggested revisions/comments from draft review as resources allow	5/15/2025
Final fire emissions results review by S/L/Ts	S/L/T	Only minor changes will be allowed at this stage of process due to resource limitations	7/15/2025
Develop final EPA-based WLF and agricultural burn emission estimates for the US, including final documentation, including updated trends, and data parsed by tribal land	EPA	These will be the final EPA estimates. See Section 9	8/15/2025
2023 NEI Fires release in EIS, public release to follow a month later	EPA	In nonpoint data category	9/15/2025

We have developed a more refined set of S/L/T submittal dates for the 2023 NEI nonpoint data category to align with the availability of 2023 activity data and EPA draft estimates. In general, we are extending S/L/T submittal deadlines for several wagon wheel sources: 30 additional days for wagon wheel input templates, and 60 days for emissions and documentation after final activity data are loaded into the wagon wheel. The new nonpoint submittal schedule is therefore refined as such:

- December 15, 2024
    - S/L/T due date for fires inputs or comments on draft fire estimates
    - Fires questionnaire due to EPA
- January 15, 2025
    - Commercial Marine Vessels
    - Rail (lines and yard) estimates
    - Emissions due for all sources not estimated by EPA tools/EPA datasets
- March 31, 2025
    - **Entire Nonpoint Survey**
    - Emissions for all stationary sources that are not in the Wagon Wheel (e.g., oil and gas, agricultural fertilizer application, portable fuel containers)
    - All emissions (and corresponding documentation) or input templates for source categories final in Wagon Wheel Version 2 (released on January 31, 2025)
- July 15, 2025
    - Final review of fire emissions due from S/L/Ts
- August 31, 2025 (or 30 days after release of Version 3 of the Wagon Wheel)
    - Input Templates **for sources where activity data updated in Version 3 of the Wagon Wheel (released on July 31, 2025)**. This will likely include at least the following sources: solvents, RWC, ICI, POTWs, road dust, asphalt paving, residential grilling, residential heating, nonpoint gasoline distribution, open burning, construction dust, composting, and non-combustion mercury.
- September 30, 2025 (or 60 days after release of Version 3 of the Wagon Wheel)
    - Emissions and documentation **for sources where activity data updated in Version 3 of the Wagon Wheel (released on July 31, 2025)**. This will likely include at least the following sources: solvents, RWC, ICI, POTWs, road dust, asphalt paving, residential grilling, residential heating,

nonpoint gasoline distribution, open burning, construction dust, composting, and non-combustion mercury.

The nonpoint survey is due March 31, 2025. For stationary nonpoint sources which have EPA tools, inputs/input templates are due whichever is later: March 31, 2025, or, 30 days after the EPA estimates are released; alternatively, emissions and the documentation for how you calculated those emissions are due whichever is later: March 31, 2025, or, 60 days after the estimates are released. For source categories that will not reflect final default activity data until the Version 3 release of the Wagon Wheel (tentatively 7/31/2025), inputs and emissions will be due 30 and 60 days later, respectively.

EPA strongly recommends that S/L/Ts start on their nonpoint submissions at least several months in advance of these deadlines.

We have developed a draft of when data inputs for nonpoint are going to be available and are basing our suggested milestones on that availability (see Section 7.3). For those nonpoint sources that do not rely on the Wagon Wheel for S/L/T feedback (e.g., commercial marine vessels, rail, oil and gas, ag fertilizer, ag livestock, agricultural burning), it is strongly recommended that S/L/Ts provide timely responses on requests for activity data, for review of draft methods, and other comments they may have on EPA-provided information. Please note that we have still spread out the work needed for collaboration on the nonpoint sectors and have multiple expected completion dates for different sectors. The details on the EPA nonpoint tools and input activity submittals are provided in Section 7.

- We provide a refined schedule for releasing data in EIS, which precedes the public NEI release by several months for the point and mobile data categories, and fires (in the nonpoint data category). Because there are usually at least some minor late changes in data, EIS release data should be regarded as "draft" until the public release data for the NEI. We provide the EIS data early with caveats because some data category inventories will be in their near-finalized state and thus available sooner than others, and because it takes a few weeks to build all data summaries and documentation that accompany the public release of the complete NEI. Only S/L/T and EIAG inventory developers, Regional Planning Organizations, EPA Regional Offices, and other EPA users have access to the EIS datasets, which are available in EIS when "finalized" but before public website dissemination can occur.
- Comments on draft 2023 NEI data will be focused on issues identified by EPA quality assurance. We do not permit S/L/T responses to these comments to be wholesale replacement data for an entire data category. In the past, allowing wholesale replacements had the unintended effect of delaying the NEI release by many weeks or months and needlessly increasing EPA costs and workload. S/L/T agencies will still be able to send data corrections during a QA period. We are not including a placeholder for a second version ("v2") of the 2023 NEI, since it is unlikely that a version 2 of the 2023 NEI would be scheduled after the full NEI release in March 2026.

Table 2-5: 2023 NEI Schedule for the Nonpoint Data Category

Item: Nonpoint	Who	Details	Deadline
Post list of nonpoint sectors where EPA will develop estimates, including any new methodology, along with 2023 activity data availability	EPA	See Section 7.3	7/31/2023
Final new methodologies provided to S/L/Ts	EPA	Discussed during NOMAD committee calls and posted on SharePoint.	5/1/2024

Item: Nonpoint	Who	Details	Deadline
Comments on new methodologies to EPA	S/L/T	Upload your comments to NOMAD SharePoint folder	6/1/2024
EIS Nonpoint Survey is opened with rest of S/L/T Production submittal windows	EPA	See Section 7.5	7/1/2024
EPA provides status update on all HAP Augmentation factors in EIS. These factors will be used to generate all nonpoint HAPs that aren't included in EPA tools or submitted by S/L/Ts.	EPA	The Wagon Wheel for 2023 will not produce VOC HAPs (same as 2020). So, S/L/Ts that use the WW to "test" for emissions can estimate resulting HAPs via these factors.	7/1/2024
All draft input templates available in EIS	EPA	Should closely resemble 2020 Input templates except for any new features (via NOMAD discussions) that have been put in place. Note that not all default data is final—see activity data tracker in Section 7.3 for more details.	7/1/2024
First Wagon Wheel Release	EPA	See activity data tracker (Section 7.3) for details	7/31/2024
EPA provides all CMV and rail estimates	EPA		11/15/2024
EPA sends reminder to review EIS Completeness Reports to S/L/Ts and Regional Offices	EPA	Nonpoint Survey summary report, list of submitted Input Templates, and list of sources with emission submittals	12/1/2024
CMV and Rail submittals due	S/L/T		1/15/2025
Emissions due for nonpoint categories that do not have an EPA tool	S/L/T		1/15/2025
Second Wagon Wheel Release	EPA		1/31/2025
EPA provides default input templates from S/L/T point emissions	EPA	For solvents, gas distribution stage 1, POTW, and draft ICI fuel combustion	2/15/2025
S/L/T deadline for submitting ALL portions of Nonpoint Survey (end of nonpoint grace period)	S/L/T	Ensure the Survey is marked as "Complete" (green button) in EIS, under "Nonpoint Survey"	3/31/2025
S/L/T deadline for submitting input templates or emissions for Wagon Wheel version 2 source categories	S/L/T		3/31/2025
EPA sends final Completeness Report to S/L/Ts, Regional Offices and Air Directors	EPA	Nonpoint Survey summary report, list of submitted Input Templates, and list of sources with emission submittals	4/30/2025
EPA provides feedback to S/L/Ts on data submissions	EPA & S/L/T	Window open on a case-by-case basis for emissions only. We will note where S/L/Ts submitted acceptable inputs rather than emissions	7/1/2024-9/30/2025

Item: Nonpoint	Who	Details	Deadline
Third Wagon Wheel Release	EPA	Includes second version that includes S/L/T inputs submitted through 7/15/2025. Some (default) activity data updates are possible through the end of 2025.	7/31/2025
Inputs for third Wagon Wheel due	S/L/T	Limited to SCCs covered by tool activity data updated in Wagon Wheel V3	8/31/2025
Emissions and documentation for third wagon wheel due	S/L/T	Limited to SCCs covered by tool activity data updated in Wagon Wheel V3	9/30/2025
Completeness reports sent to S/L/Ts and ROs for nonpoint only	EPA	This is to accommodate the third Wagon Wheel release late date and will not be sent to Air Directors	10/15/2025
Release Draft NP selection in EIS for all nonpoint	EPA	Should be close to final NEI except for some late-breaking activity data	10/31/2025
S/L/T provides corrections on case-by-case basis, starting 5/15/2025	S/L/T	S/L/Ts do not need to submit updated Input Templates. EPA will load the "latest available" data in late 2024.	11/30/2025
Placeholder for 4th Wagon Wheel release	EPA	Reflects all final EPA and S/L/T input templates and additional tool corrections	12/15/2025
2023 NEI Release in EIS for all nonpoint	EPA	Reflects all S/L/T data, including point inventory subtraction from input templates	2/28/2026

3 Best Practice Recommendations for SLT Inventory Developers

The section focuses on key items for S/L/Ts to consider when developing their inventories. It includes suggested timelines for activity, AERR requirements and best practices to follow. In addition, it will explain how pollutants will be evaluated for inclusion, exclusion, and/or supplementation by data category. Lastly, it will explain how data corrections will be handled between EPA and S/L/Ts.

3.1 Suggested SLT Inventory Development Schedule and EIS QA Checks

To assist you in allocating your time and resources to complete this requirement, we are including a suggested timeline by data category, Table 3-1 for the point inventory, Table 3-2 for the stationary sources in the nonpoint data category, Table 3-3 for commercial marine vessels and rail, Table 3-4 for onroad mobile and nonroad mobile data category sources, and Table 3-5 for fires. Note that for the nonpoint data category, we've included a column that indicates whether the suggested task applies if you submit emissions or input activity data templates.

Table 3-1: Suggested S/L/T Schedule for Point Inventory Development

Date	Activity
11/1/2023 - 3/1/2024	Update your data system to include new and changed reporting codes and QA checks to match what is in EIS.
3/1/2024 - 11/1/2024	Run EIS Facility Configuration reports and compare to your local system to ensure IDs still match and to identify new facilities, units, processes, release points that need to be created in EIS.
3/1/2024 - 11/1/2024	Develop facility inventory submission to update EIS with changes to status, new facilities, units, processes and release points.
3/1/2024 - 11/1/2024	If using staging tables; run embedded queries to check for widows and orphans prior to conversion

Date	Activity
3/1/2024- 11/1/2024	Submit facility inventory data to the EIS QA Environment. Check Potential Duplicates section of feedback report and resolve any real duplicates as opposed to actual new facilities that need to be added. Revise or add facility IDs in EIS as needed to allow EIS to recognize the correct facility when you submit to Production.
3/1/2024 - 11/1/2024	Check number of facility, unit, process, and release point records received on the Statistics tab of feedback report against number of records submitted.
3/1/2024 - 11/1/2024	Resolve all critical errors in facility feedback report
3/1/2024 - 11/1/2024	Submit facility inventory data to the EIS Production Environment. Note that you only need to submit data for items that have changed between your system and EIS. Existing facilities and units and release points do not need to have locations, unit types, release parameters, etc. reported to EIS each year if they are already in EIS and acceptable. If your system does not contain information on unit type or other data fields in EIS, do not include those fields in your submittal with "unclassified/miscellaneous" for existing facilities.
3/1/2024 - 11/1/2024	Check Potential Duplicates section of EIS and resolve any issues by contacting EIAG to add or merge facilities.
6/1/2024 - 12/31/2024	Download landing/takeoff data for review from 2023 website, available 8/30/2024
6/1/2024 - 12/31/2024	Develop emissions (point) inventory for submission to EIS
6/1/2024 - 12/31/2024	Submit point inventory to the EIS QA Environment
6/1/2024 - 12/31/2024	Check number of reporting period and emission records received on the Statistics tab of the feedback report against the number of records submitted.
6/1/2024 - 12/31/2024	Check EIS feedback report and resolve all critical errors
6/1/2024 - 12/31/2024	Review emission range warnings in EIS feedback report for possible outliers or incorrect entry
7/1/2024 - 12/31/2024	Submit data to the EIS Production Environment
10/1/2024 - 12/1/2024	Run suggested QA reports in the Suggested QA Checks for S/L/T Point Inventory Development (Table 3-6)
10/1/2024 - 12/1/2024	Review Completeness and Outliers Report to verify everything has been submitted and check feedback reports and run summary EIS reports to ensure everything has been loaded into EIS as expected
12/1/2024 - 1/15/2025	Address any last-minute adjustments (remember facility window closes 1/9/2025)

Table 3-2: Suggested S/L/T Schedule for Stationary Nonpoint Inventory Development

Date	Applies to Emissions or Input Template Submittal?	Activity
Now - ongoing	Either	Join NOMAD committee to attend monthly workgroup calls -generally 3rd Wednesday each month at 2pm Eastern Local Time. Email Lindsay Dayton to be added.
11/1/2023 - 3/1/2024	Emissions only	Update your data system to include new and changed reporting codes and QA checks to match what is in EIS
6/15/2024	Emissions only	Download expected pollutants list from SharePoint
6/1/2024 - 12/1/2024	Emissions only	Submit data to the EIS QA Environment

Date	Applies to Emissions or Input Template Submittal?	Activity
6/1/2024 - 1/1/2024	Emissions only	From QA Environment: check number of emission process, reporting period and emission records received on the Statistics tab of feedback report against the number of records submitted. The statistics should be equal.
6/1/2024 - 11/1/2025	Emissions only	Resolve all critical errors in feedback report
6/1/2024 - 1/1/2025	Emissions only	Review emission range warnings for possible outliers or incorrect entry
7/1/2024 - 3/31/2025	Either	EIS submittal Production window open for all nonpoint emissions, input templates, and nonpoint survey submittals. Review feedback report for outliers and resubmit activity data or documentation explaining why activity data is valid.
8/1/2024 – 1/1/2025	Either	Download first version of the 2023 Wagon Wheel, review draft activity data, run tool for your agency, determine if you plan to accept EPA estimates for Nonpoint Survey, or develop your own inputs or emission estimates. Note that most activity data will be updated prior to final NEI but estimates should be "close".
7/1/2024 - 3/31/2025	Inputs only	Submit, if not accepting EPA inputs/emissions, to EIS any inputs to EPA Wagon Wheel using provided EIS templates
10/1/2024 - 3/1/2025	Emissions only	Run suggested QA reports listed in the Suggested QA Checks for Nonpoint Inventory Development (Table 3-7)
10/1/2024 - 3/31/2025	Emissions only	Run completion report to verify everything has been submitted
2/1/2025 – 3/31/2025	Either	Download second version of the 2023 Wagon Wheel, review draft activity data, run tool for your agency, determine if you plan to accept EPA estimates for Nonpoint Survey, or develop your own inputs or emission estimates. Note that most activity data will be updated prior to final NEI but estimates should be "close".
3/31/2025	Either	Submittal deadline for ***most*** nonpoint sources: emissions, input templates, and the nonpoint survey
8/1/2025 – 8/31/2025	Either	Download third version of the 2023 Wagon Wheel -contains final default activity data. Review activity data, run tool for your agency, determine if you plan to develop your own inputs or emission estimates ***for the updated sources only***.
8/31/2025	Inputs only	Due date for submitting updated input templates for ***only those sources updated in the third version of the wagon wheel.***
9/30/2025	Emissions only	Due date for submitting emissions and documentation for ***only those sources updated in the third version of the wagon wheel.***
9/1/2025 – 11/30/2025	Either	Respond in a timely fashion (ideally under 2 weeks) to quality assurance issues provided by EPA: input templates and emissions

Table 3-3: Suggested S/L/T Schedule for Commercial Marine Vessels and Rail

Date	Activity
Now-indefinite	Rail and CMV emissions estimates will be posted to the NEI SharePoint for review. Instructions on where to send comments will be included. Announcement of availability will be made via the NEI newsletters and NOMAD calls. Additionally, CMV methods and updates on EPA developed emissions are discussed on MARAMA CMV calls and interested parties are encouraged to attend; contact MARAMA to be added to these calls.
6/15/2024	Download expected pollutants list from SharePoint
6/15/2024 - 12/1/2024	If choosing to NOT use EPA estimates, submit emissions to EIS QA Environment
6/15/2024 - 12/1/2024	If choosing to NOT use EPA estimates, resolve all critical errors in EIS feedback report
7/1/2024 - 1/1/2025	If choosing to NOT use EPA estimates, submit to EIS Production Environment
9/30/2024	Download commercial marine vessel shapefile fractions from 2020 website (line rail will be at county, not shape level for 2023 NEI)
1/15/2025	Due date to submit CMV and rail emissions
2/15/2025 – 4/15/2025	Download draft EPA CMV data, summaries, and documentation from SharePoint. Review, and provide comment to EPA on draft EPA CMV data
4/15/2025	Due date to provide comments to comments to EPA on draft EPA CMV data
4/15/2025 – 6/15/2025	Download draft EPA rail data, summaries, and documentation from SharePoint. Review, and provide comment to EPA on draft EPA rail data
6/15/2025	Due date to provide comments to comments to EPA on draft EPA rail data

Table 3-4: Suggested S/L/T Schedule for Onroad and Nonroad Mobile Inventory Development

Date	Activity
Now-indefinite	Join MJO-MOVES workgroup if interested. EPA methods and updates are provided on calls. Generally, the 3rd Thursday each month at 2pm Eastern Local Time. Click here to register.
6/1/2023 – 8/1/2023	Contact your state DOT to request vehicle inventory data, appropriate mix of older vs. newer vehicles
6/1/2024 - 12/1/2024	Download onroad and nonroad inputs and instructions from the EIS Gateway
6/1/2024 - 12/1/2024	Adjust inputs (e.g., VMT, inspection maintenance, etc.)
6/1/2024 - 12/1/2024	Package submission according to instructions posted on 2020 website
6/1/2024 - 12/1/2024	Run QA Tool posted on 2023 website
6/1/2024 - 12/1/2024	Submit to EIS QA Environment
6/1/2024 - 12/1/2024	Resolve all critical errors in EIS feedback report
7/1/2024 - 12/1/2024	Submit to EIS Production Environment
12/1/2024 - 1/15/2025	Address any remaining adjustments

Table 3-5: Suggested S/L/T Schedule for Fires

Date	Activity
8/1/2024-5/15/2025	Join Fires workgroup if interested, attend calls to understand EPA methods and provide comments on process via questionnaire. Email Lindsay Dayton to be added to the workgroup.
8/1/2024-12/15/2024	Work on questionnaire sent by EPA and work on submitting fire activity to EIS including wildland and agricultural fires.
12/15/2024	Due date for submitting all fire activity data to EIS and questionnaire to EPA staff

Date	Activity
9/1/2024	Download SMARTFIRE2-Blueksky draft wildland fire and agricultural burn emissions results from a NEI 2023 folder on EPA's ftp website. Specific directory location will be provided by EPA.
9/1/2024 - 12/15/2024	Provide comments on draft fire inventory data
5/15/2025-7/15/2025	Final wildland fire and agricultural burn emissions data results review

Table 3-6 provides suggested S/L/T EIS QA checks for the point inventory, and Table 3-7 for the nonpoint inventory development process. These are additional suggested QA checks, beyond the expected review of any warnings and errors provided in EIS feedback reports for submitted facility or emissions inventories. To best take advantage of these reports, your data will need to have been submitted early enough that you can check for data quality and adjust your previously submitted file. For nonpoint data, use the information in Section 7.3 to leverage the availability of EPA data with year 2023 activity input data for certain nonpoint categories; you can get a "near-final" EPA default estimate after EPA loads 2023 activity data to the nonpoint tools.

Table 3-6: Suggested QA Checks for S/L/T Point Inventory Development

Type	Report Type	Dataset(s)	Pollutants	Geographic Region	Checks
Emission Summary - By Geography	State or County Level	Your Agency Dataset	All Active Pollutants	Your State, County or Tribe	Check that state/pollutant combination totals in EIS equal the state/pollutant combinations that you intended to submit to EIS. This will assure that a) all your emissions data successfully made it into the xml file, and b) all the xml data were accepted by EIS. If there are significant differences, run a facility or unit or process level EIS report and compare to your system's summaries to EIS summaries to identify the source of the differences.
Comparison - Facility	Facility Level	Your current Agency Dataset; 2020 Agency Dataset; 2020 NEI	All Active Pollutants	Your state, county or Tribe	Compare your 2023 submitted and accepted emissions to either your 2020 submission or to the 2020 NEI. Look for large differences which might indicate reporting errors. Check that all pollutants reported in 2020 have been reported in 2023.
Emission Summary - By Facility	Facility Level	Your Agency Dataset	All Active Pollutants	Your state, county or Tribe	Sort for Top 25 facilities for each pollutant reported. Do they make sense?

Table 3-7: Suggested QA Checks for S/L/T Nonpoint Inventory Development

Type	Report Type	Dataset	Pollutants	Geographic Region	Checks
Input Template QA	S/L Feedback	You Agency Input Template	N/A	Your agency	Review EIS feedback report for identified outliers (vs EPA defaults)

Type	Report Type	Dataset	Pollutants	Geographic Region	Checks
Emission Summary - By Geography	S/L/T by Sector	Your Agency Dataset	All Active	Your state, county or Tribe	Check that the state (county or Tribe)/sector/pollutant in EIS are the same as the file you submitted. If there are differences, run the same report at the SCC level until you can highlight where the differences are coming from.
Emission Summary - By Source Category	S/L/T by SCC	Your Agency Dataset; 2023 draft EPA	All Active	Your state, county or Tribe	Check that the state (county or Tribe)/SCC/pollutant in EIS contain all expected pollutants and do not include unexpected pollutants. Compare to EPA draft estimates; if there are significant differences vs EPA estimates, determine whether they are valid or ask EPA to review.
Comparison	Sector	Your current Agency Dataset; 2020 Agency Dataset	All Active	Your state, county or Tribe	Compare your 2023 submission to your 2020 submission. Check that all pollutants and sectors reported in 2020 have been reported in 2023 (if you intended to report in 2023). If there are differences, run the same report at the SCC level to determine the location of the erroneous or missing data.

3.2 AERR

A significant change to the 2017 NEI was enforcing the AERR requirement (via Table 2b to Appendix A of Subpart A in 40 CFR 51.30) for throughput data necessary for computing nonpoint fuel combustion from industrial and commercial/institutional (ICI) sources when nonpoint ICI emissions were not submitted. We are again enforcing this for the 2023 NEI and it will be a part of the Completeness Reports.

3.2.1 Point Inventory

Please refer to 40 CFR Part 51, Subpart A for the point source submission requirements. Key requirements for your attention include:

- The data fields required by the AERR are provided in Table 2a and 2b to Appendix A of the AERR. The field definitions are provided in Section 51.50 of the AERR.
- The point source reporting thresholds are specified as part of Section 51.50 definition of point sources. The emissions thresholds are specified as “potential to emit” emissions (except for lead) and are lower for sources within nonattainment area boundaries for ozone, PM10, PM2.5, and CO nonattainment areas. The reporting threshold for lead emissions as point sources is 0.5 tons per year of actual emissions.
- Although the reporting thresholds are potential to emit, actual emissions are required to be reported.
- Startup and shutdown emissions are considered routine and should be included with your reported emissions (these emissions may be optionally denoted separately with the XML schema, but doing so is not required)

3.2.2 Nonpoint Inventory

Please refer to 40 CFR Part 51, Subpart A for the nonpoint source submission requirements. Key requirements for your attention include:

- The data fields required by the AERR are provided in Table 2b to Appendix A. While EIS does not enforce the reporting of all required data fields, air agencies are legally obligated to report the required fields. The field definitions are provided in Section 51.50 of the AERR.
- Obtain the latest reporting codes from EIS prior to compiling nonpoint source data. For the 2023 NEI cycle, some codes will change (see Section 4.1).

We are again extending the S/L/T submittal deadline for the Nonpoint Survey and ***most*** stationary nonpoint emissions and ***some*** wagon wheel input templates, to March 31, 2025. These deadlines are well beyond the January 15, 2025, extended-AERR deadline. We believe the extended deadline for the nonpoint data category, particularly for sources that rely on point inventory activity or emissions data, allows for improved estimates via more updated activity data and more accurate point source subtraction.

In addition, new for the 2023 NEI, we are further extending the submittal deadline for version 3 Wagon Wheel sources inputs/emissions to August 31/September 30, 2025, respectively.

The EPA Wagon Wheel no longer supports nonpoint ICI emissions computed from point inventory ***emissions*** subtraction. However, we will again support flexible reporting options for S/L/Ts in the form of point activity data that can be used to reconcile with overall fuel consumption data from the Energy Information Agency (EIA). We will also work with local and state agencies that do not cover the entire state to craft nonpoint ICI estimates for their specific counties of responsibility. More information on this requirement is discussed in Section 7.7. It is important to note however, that the nonpoint (or point) ICI input activity data is not required if S/L/Ts submit nonpoint ICI emissions directly to EIS (by September 30, 2025).

3.2.3 Mobile Inventory

For onroad and nonroad, state and local agencies are required to submit MOVES model county data bases (CDB) inputs. They may choose to submit emissions in addition. The exceptions are tribes and California, who may submit emissions only.

3.3 Best Practices: How Should I Submit My Data?

For every data category, we have the following recommendations:

- Plan to start your submission process at least 4-8 weeks prior to the deadline, accounting for time away from the office for holidays.
- When submitting emissions, do not submit zeroes unless you know those pollutants are not emitted from those processes/SCCs. It is not necessary to submit zeros for entire SCCs or counties. Additionally, submitting zeros can cause issues in the NEI selection due to EIS Option Group Option Set (OGOS) rules. See Section 7.8 for information on OGOS. Use the nonpoint survey to indicate if your agency does not have emissions for certain SCCs or does not want to backfill additional counties. See Section 7.5 for more information.
- Submit data to the EIS QA Environment prior to submitting data to the Production Environment and make sure your feedback reports are clean prior to submitting to the Production Environment.
- Use EIS comparison reports as an additional QA step (see Section 10.3) to compare emissions to the previous NEI, latest available EPA data, as well as your previous inventory submittal(s).
- For particulate matter, please provide both PM10-PRI and PM25-PRI, and PM-CON if you can, or equivalently provide PM10-FIL, PM25-FIL, and PM-CON. You can report all five PM pollutants but note

that EIS QA checks will verify their arithmetic. If you cannot provide complete data, EPA will fill those gaps where needed by PM Augmentation within EIS.

- Verify that the emission totals in EIS agree with what you have in your agency's data system after submission to EIS Production.
- Run the EIS Completeness Report and update your submission to meet or exceed all completeness criteria.

3.3.1 Point Inventory

The EPA encourages the use of the following best practices when submitting emissions of point sources.

- Collecting data from facilities:
    - Request that facilities use stack test data, material balances, or other site-specific and reliable calculation methods to estimate emissions for their processes. Where such methods are not available, facilities can use the best available emission factors for similar processes.
    - Require that facilities use the latest EIS reporting codes. Download these as described above and make them available to your facilities.
    - For HAPs, encourage facilities to compare their HAP submissions to what has been submitted to TRI. While the EPA prefers the State-reported HAP emissions for the NEI because they should be at a more detailed process level, the facility-level TRI data and State-reported process-level data should sum to the same values. States should NOT report facility total HAPs to separate non-integrated process IDs, and States should NOT report TRI facility-level totals as their own data.
    - Do not use EPA's HAP Augmentation ratios or other means to report HAPs for a facility unless you are confident that you are accounting for all significant sources of any given pollutant for a facility in your submittal. Reporting only a portion of the HAPs for a facility in your Agency's EIS submittal will result in the TRI or other EPA dataset values for that HAP not being considered for selection for that facility, even though those other datasets might provide a much more complete accounting of that HAPs emissions than the HAP Augmentation approach.
- Building your inventory:
    - Use consistent identification codes from one year to the next (e.g., facility, unit, release point, and process identifiers). This prevents the creation of duplicate facilities or sub-facility records, which reduces the potential for double-counted emissions to be introduced either in State-reported data or due to the use of TRI or CAMD values. If needed, work with your information technology department to identify ID changes that have been made in your data system and update your agency IDS in EIS.
    - Provide control information whenever possible, making sure that it is complete. The control data are required by the AERR (when controls are present), and the EPA uses the control data to assess future possible controls as a demonstration of whether and how future NAAQS can be attained.
- Reporting best practices:
    - If possible, submit the facility inventory data for only those facilities or parts of facilities that have changed since the previous time the facility inventory data were provided.
    - Make sure to also submit updates to the "Operating Status Code" for facilities that are no longer operating or no longer required to report as point sources. This will impact your completeness report since facilities which have a Facility Site Status Code of OP (Operating) that have not submitted emissions will be counted as incomplete.

3.3.2 Nonpoint Inventory

The EPA encourages the use of the following best practices when submitting emissions of nonpoint sources.

- EPA's nonpoint emissions tools and input templates:
    - EPA encourages S/L/T agency staff to participate in the review and development of the nonpoint emissions tools, datasets, input templates for the tools, and methodologies. The EPA will be continuing Nonpoint Method Advisory (NOMAD) workgroups focused on method improvements and documentation in the tools, with particular focus on how to best obtain S/L/T-submitted activity data where available.
    - Focus on the expected delivery dates for nonpoint activity data (see Section 7.3): some default input data for year 2023 will be available much sooner than other, so you will be able to obtain activity for nonpoint source categories at different timeframes.
    - After the tools/datasets and input templates are released, the EPA encourages states to review the available documentation and use the input templates to estimate their emissions. S/L/Ts can directly load their input activity data in the Wagon Wheel and compare emissions to the default data. Alternatively, if no changes are needed to these EPA defaults, S/L/T air agencies can indicate to EPA (through their nonpoint survey response) their interest in allowing the EPA defaults to supplement their NEI emissions estimate.
- Provide an accurate and timely nonpoint survey response.
- Building your inventory:
    - Do not use old inventory documentation for nonpoint categories (e.g., hospital sterilizers). Instead, use the methodologies outlined in the 2020 NEI Technical Support Documentation, new methodology documents provided for the 2023 NEI on SharePoint, or, your own approach based on current information (your emission factors and activity data).
    - Provide control information whenever possible, making sure that it is complete. The control program data are required by the AERR (when control programs are present), and EPA uses the control data to assess future possible controls as a demonstration of whether and how future NAAQS can be attained.
    - Use the expected pollutants list (see Section 3.4.2) to help ensure complete coverage and reduce mixing of EPA and S/L/T-submitted data where possible.
    - Use the information provided to EPA in the 2023 nonpoint survey (see Section 7.5) to make sure to report those categories that you indicated you have in your state.
    - Focus on categories that require point/nonpoint reconciliation since the EPA can only estimate point emissions/throughput based on what S/L/Ts directly submit. EPA will develop default point emissions data for subtraction for all nonpoint sectors that rely on it; however, the ICI tool requires point activity (fuel consumption) data and therefore, submitting an ICI input template is critical. For ICI, *the default point fuel consumption estimates provided by EPA are based on throughputs submitted by* ***only those states that submit point input data*** *and are therefore a gross approximation for a non-submitting state's point fuel consumption*. These efforts will help prevent missing emissions or double counting of emissions.
- Reporting best practices:
    - Identify as early in the process as possible, those nonpoint sources that are most important for your agency ***and which sources you prefer to not accept EPA estimates***.
    - Focus on ICI fuel combustion, specifically, collecting point inventory fuel consumption data for point subtraction. For the 2020 NEI, EPA developed a default methodology for subtracting S/L/T point inventory fuel consumption data based on S/L-submitted ICI Input templates for point fuel

consumption. For the 2023 NEI, we will regenerate these defaults AFTER the 2023 submittal window closes (August 31, 2025); however, the quality of this default approach is: 1) directly related to a critical level of valid year-2023 S/L-submitted templates across all ICI fuels and sector combinations, and 2) will not be representative as direct S/L information. Regardless, it is critical to avoid possible double counting of ICI point/nonpoint that S/Ls submit either ICI Input Templates, or direct nonpoint ICI emissions. For S/L agencies that do not cover the entire state, there will need to be either emissions submitted, or a review of draft submitted throughputs versus EIA SEDS and ICI tool estimates.

- Refer to the Nonpoint Cheat sheet located on the NOMAD SharePoint site for helpful links, references, and requirements.

3.3.3 Mobile Inventories

The EPA encourages the following best practices when submitting onroad/nonroad mobile data:

- Join the monthly MJO-MOVES Sessions for information of latest inventory development issues.
- Look for and follow posted directions on how to submit mobile inputs. Inputs are required for all sources in MOVES: all onroad vehicles and nonroad equipment.
- Submit both the required input data, and any supplemental documentation, to help support and explain your input information. The EPA will provide instructions regarding how to provide any supplemental documentation prior to the opening of the EIS submission window.
- States may submit county CDBs for just vehicle miles traveled (VMT) and vehicle population (VPOP); or they may choose to submit additional county inputs (e.g., age distributions, VMT fraction (by month, day, and hour), average speed distributions, hourly average speeds, starts, and hoteling).
- Best practices include (but are not limited to):
    - Pulling age distribution fractions from your state DOT mid-year 2023 to get an appropriate mix of older vs. newer vehicles.
    - Speed distributions should reflect AM and PM congestion peaks. Weekday distributions should be the same as the weekend profiles.
    - If the VMT/VPOP ratio is too high (e.g., a rural county with little registered VPOP, but an interstate highway supplying high VMT), negative emission factors can result. Care should be taken to increase the VPOP to ensure good model results.
    - VMT fraction should vary by vehicle type and time of day, with peaks during high traffic times of the day.
    - State and local agencies do not populate their submitted CDBs with MOVES default data.

3.3.4 Fires Inventory

- Participate in planned workgroup meetings/conference calls. The workgroup will focus on wildland fire and agricultural burn emissions.
- Submit activity data so that the EPA does not have to use default data to identify and estimate emissions from fires occurring in your domain. Important parameters include acres burned, fire location/perimeters, start and ending times, fuel loading, and fuel consumption; however, acres burned is the most important activity data to submit. The activity will include wildfires, prescribed burns, and agricultural burns. The EPA relies on the default methods from satellite detections without more specific data. The importance of submitting activity data is especially true for prescribed fires because the EPA methods have a difficult problem identifying which fires are prescribed fires. At this time, we hope that activity data for the 2023 NEI fires will be submitted via the EIS Gateway. EPA will provide directions if those plans change.

- Review draft NEI for Fires (including wildland fires and agricultural burns) soon after it is available. Ensure that submitted activity data were used appropriately. Provide comments in the comment time period specified in Table 3-5.
- If an Agency decides to submit actual fire emissions, provide documentation on the methods as much as possible.
    - For wildland fires, the Agency must submit day-specific, location-specific data suitable for use in air quality modeling platforms. Also, if an Agency submits emissions, ensure that the pollutant coverage is the same as what the EPA estimates using its methods. If emission factors are needed, please contact the EPA. The emissions data format used in previous NEIs for EIS Events can be submitted but SMOKE-ready format (FF10) is also acceptable. Please contact Jeff Vukovich via email to make emissions data submittals. EPA will take the day-specific, location-specific inventory supplied by an Agency and sum emissions by month and county and submit the emissions to the EIS nonpoint database. An Agency will not be able to submit wildland fire emissions directly to the EIS nonpoint database.
    - For agricultural burns, the agency can continue to submit emissions directly to the EIS nonpoint database; however, ideally, similar to wildfires and prescribed burning, as part of the documentation of any submitted emissions, the activity data -submittal of day and location-specific emissions (not in EIS)- should also be reported.
- Please plan on reviewing the draft estimates that will be provided by EPA and submitting appropriate comments. In addition, please work with EPA to submit and review your activity data as EPA processes them into emissions.
- Please inform EPA if you plan to accept EPA estimates anytime in the process.

3.4 Expected and Allowable Pollutants and Conditional Exclusion of SLT data

Like the 2020 NEI, EPA will provide a list of expected CAPs and HAPs by process (SCC) for the county-aggregate emissions data categories. Expected pollutants for these data categories are those that EPA calculates using its own estimation methods. While other pollutants can be reported by S/L/Ts, we would prefer that S/L/Ts who have pollutants outside of the expected pollutants list contact the NEI Team so that we can accommodate a complete list of EFs to use, and pollutant coverage is consistent throughout the US. For point sources the expected pollutants are defined at the facility level, and those pollutants are used as part of the Data Completeness and Outliers Report.

We do not plan to add GHGs to any expected pollutant lists even though we allow for their submittal in EIS. For the 2023 NEI cycle, the **EPA will be starting with a similar list of expected pollutants for both point and nonpoint sources that we've generated in the 2020 NEI cycle. However, method updates for any sector can include additional expected pollutants from an EPA reporting perspective**. In general, when EPA estimates emissions for a source, the expected pollutants are those that EPA estimates for those sources. While the list of allowable pollutants is a bigger set, submitting pollutants that are not expected could result in EPA tagging them out. Some new nonpoint SCCs are expected, and EPA will provide an updated expected pollutant list from that used for the 2020 nonpoint NEI prior to the submittal window opening on July 1, 2024. The current lists of expected pollutants will be made available on the National Emissions Inventory website and NEI SharePoint site for the county-aggregate data categories. Facility expected pollutants are available in EIS as a configuration report.

The reporting of criteria air pollutants (CAPs) is required under the AERR for all data source categories, while the reporting of hazardous air pollutants (HAPs) is not. For the county-aggregate data categories (mobile and nonpoint data categories), EPA prefers that S/L/Ts DO NOT submit HAPs and instead allow EPA to augment

these pollutants using our methods for a consistent set of HAPs for all SCC. For point sources EPA prefers that S/L/Ts do report HAPs wherever they have estimates. However, HAPs are critical to complete the NEI, and will be supplemented by EPA if S/L/Ts do not provide complete data, and therefore, HAPs are also included in these lists.

An important note on expected pollutants: If you are ***certain*** that a process does not have emissions for an expected pollutant, then consider the following:

- Let us know why this is the case. This will help us make sure the correct SCC has been assigned to a process and encourage a more-targeted emission factor review.
- You are encouraged to submit a zero value for that pollutant; do not leave it as "null". Otherwise, a non-zero value will possibly be picked up via EIS HAP or PM augmentation (generally on S/L/T-submitted VOC, PM or SO2 values), or another lower-hierarchy dataset. ***However, EPA may tag out your zero value if the expected pollutant was reported to TRI***.
- For nonpoint sources, if you are submitting emissions (not Input Templates -see Section 7.4) you also need to select "No" in the Nonpoint Survey to prevent EPA data from gap-filling this data.
- For nonpoint sources, do not submit zero emissions for all pollutants for a process, but rather, use the Nonpoint Survey to select "No". Doing so will prevent EPA estimates from backfilling and also avoid unintentional OGOS (see Section 7.8) blocking of desirable emissions for higher option set assignment SCCs.

An S/L/T's agency data submittal will not be considered unfinished (incomplete) if it does not voluntarily report HAP emissions, but it will be augmented with EPA estimates of HAPs using EPA data augmentation procedures. The purpose of the expected pollutants list depends on the data category. Each data category is discussed in the following subsections.

3.4.1 Point

For point sources, the expected pollutants list indicates where the S/L/T agency or the facility itself via TRI reports have reported non-trivial amounts of a pollutant for a facility in prior years. Expected CAP pollutants will be used to determine if a facility is "Complete" if the facility as a whole is required to be reported for the inventory year (triennial NEI years vs in-between years). Expected HAP pollutants are only used to calculate the "% Expected HAPs" metric, because HAPs are not required to be reported. The expected pollutants for a facility also include an expected range, and emissions values reported outside of those ranges are not counted as a valid report. S/L/Ts should review and either revise emissions values that are out of range or contact EPA to adjust the range if the reported values are confirmed to be correct.

S/L/T-submitted pollutants that are not in the expected pollutants list for point sources will usually be used in the NEI. We may however tag out pollutants which are clearly not only not expected, but also nonsensical, such as VOC or NOx emissions from rock crushing SCCs.

EPA will add HAPs to facilities where they are not reported by S/L/Ts by first using the TRI-reported data and second by relying on S/L/T-submitted VOC or PM values via HAP augmentation. EPA may use other sources of data, where available, including carrying forward previous-year data for gap filling. The database providing the HAP augmentation factors is in the Emissions Inventory System Gateway. This database is updated based on comments from the NATA reviews and may be further updated if new factors become available or if errors are found. S/L/Ts should use their existing emission factors, or preferably source tests, prior to the submittal deadline, and not rely on EPA's HAP augmentation dataset for inventory construction. The version of the HAP augmentation database to be used for the 2023 NEI will be finalized by 1/15/2025. As with the 2020 NEI, S/L/T-

reported chromium will be speciated into chromium (VI) and chromium (III) using chromium speciation factors provided in the HAP augmentation database.

3.4.2 Nonpoint

One of the goals in developing the NEI is to have a eurythmic picture of the air pollutants in the nation for a particular inventory year. To create this cohesiveness, EPA must treat data in a consistent way when emissions data submitted by states looks significantly different in comparison to the rest of the data. Because EPA creates estimates for many nonpoint sources, and thus has a rule of thumb for comparison purposes, we created a set of business rules for EPA to determine what data to select for the final NEI.

For the 2023 NEI, we are using the following set of business rules, first adopted for the 2017 NEI.

Table 3-8: Nonpoint Inventory Business Rules

Item	If an agency submits…	EPA will …	Unless…
1	Emissions that exceed EPA expected outlier check values	Use EPA estimates in lieu of S/L/T data	State provides supporting material on how the emissions were estimated, including activity and emission factor details where available
2	Pollutants not in expected pollutant list	Remove these pollutants (e.g., VOC from road dust, metals from evaporative processes)	S/L/T provides documentation on these unexpected (surmised) pollutants
3	VOC but no HAPs	Run HAP augmentation off the S/L/T-submitted VOC	The VOC submitted falls outside of EPA's expected outlier check
4	Total VOC-HAPs > VOC (the sum of all the HAPs that are VOCs adds up to more than the submitted VOC value)	Remove all state submitted VOC-HAP data and instead, use HAP augmentation off the S/L/T VOC value	The VOC submitted falls outside of EPA's expected outlier check
5	VOC and different VOC-HAPs than our expected pollutant list	Gap fill using HAPs generated by HAP augmentation off the S/L/T VOC value	The sum of VOC-HAPs adds up to more than the VOC value; (see 4 above); in this case, all S/L/T HAPs will be removed and replaced with HAP augmentation off the S/L/T VOC value
6	An incomplete set of expected criteria pollutants	Supplement using EPA tool data for the pollutants that are not submitted	S/L/T provides documentation to why those emissions should not exist
7	VOC data for different SCCs, but similar process characteristics to what EPA uses	EPA will augment VOC-HAPs with similar profiles	State also submits HAPs with that VOC

For item 1, regarding emissions greater than outlier checks, the intention is to prevent inconsistencies when looking at the nation as a whole and may be due to a mistake in calculations or data entry. EPA will initiate a dialogue with reporting agencies where submitted emissions exceed expected ranges, particularly for rapidly changing sectors, such as oil and gas. These outlier checks will be based on county-SCC-pollutant level statistical analysis of the EPA estimates generated from the 2020 NEI. Supporting documentation requirements are not intended to be onerous but can serve as a path for EPA to get confirmation that S/L/Ts intend for significantly larger than expected emissions to be included in the NEI, may help inform EPA's tools, and can allow EPA to

revise the outlier checks where needed. Outlier limits can be found by pollutant/SCC combinations in EIS under Reporting Code Tables, Emission QA Values.

Item 2, regarding unexpected pollutants, is intended to prevent inconsistencies or incongruent data from showing up in the inventory. Sometimes an agency submits pollutants that no other state agency reports, and this may appear as an anomaly on the map for a particular pollutant when looking at a source category as a whole. For example, one state agency reported lead as a pollutant from commercial cooking. While this may be a real pollutant from the restaurant griddles, it also may be a mis-assigned SCC or pollutant code. In any case, if EPA deems it an "unexpected pollutant," EPA may not have a good emission factor or may not have the data to support that a certain pollutant is part of a source category. In these cases, when comparing the EPA dataset to S/L/T datasets, a hotspot may show up, highlighting the submitting state, in this example, as the only place in the country where you could find lead being emitted from restaurants.

Furthermore, S/L/Ts are usually discouraged from utilizing AP-42 emission factors (outside of the expected pollutants for that source category) to estimate emissions for submission to the NEI. The exception to this rule would be for those sources for which EPA does not provide estimates. The reasoning here is that the EPA estimates (Wagon Wheel or otherwise) often include emission factors that are updated from those in AP-42, and EPA ensures that these factors are consistent with the HAP augmentation factors in EIS. By letting EPA HAP augmentation generate HAPs (based on S/L/T-submitted VOC or PM25-PRI emissions), we ensure complete and consistent HAP coverage. The exception would be if you have improved emission factors for your estimates.

The expected pollutants list for all 2023 NEI EPA estimates will include HAPs and CAPs that EPA will gap fill if these emissions data are not submitted by the S/L/T agencies. If EPA does not estimate emissions for a particular source type, there will be no expected pollutants, but rather allowable pollutants, as EPA acknowledges that those source categories that are not estimated on a national basis are not currently well-assessed by EPA.

For the expected pollutants list, all pollutants for each nonpoint SCC are provided. We will map expected pollutants to most active SCCs in sectors where EPA estimates exist for other like-process/fuel SCCs based on data in the existing EIS HAP Augmentation table.

Item 3, regarding VOC submitted without their corresponding HAPs, is straightforward; the goal is to fill in missing HAPs in the inventory where EPA expects them to exist, but they were not provided by the submitting agency. HAP augmentation on S/L/T-submitted VOC will be used when it does not exceed the outlier check and VOC is reported but VOC-HAPs are not. Item 1 would apply where the outlier check is violated.

Item 4, regarding VOC-HAPs summing to greater than VOC, is the broad check for where the sum of all S/L/T-submitted VOC-HAPs must be less than S/L/T-submitted VOC. EPA is conducting this analysis to prevent nonsensical data, since the parts should not add up to more than the whole. If a violation occurs, S/L/T-submitted VOC is retained, but all S/L/T-submitted VOC-HAPs are not used (tagged out) and replaced with HAP augmentation VOC-HAPs after scanning for obvious outliers.

Item 5, regarding different HAPs being reported than EPA's expected pollutants, builds off item 4 in complexity, dealing with the messy scenario where we end up with a mix of S/L/T-reported VOC-HAPs and VOC-HAPs from HAP augmentation. Like item 4, the intention is to prevent nonsense data where the parts sum up to more than the whole. This happens when S/L/Ts submit VOC and some but not all expected VOC-HAPs, and HAP augmentation, based on S/L/T-submitted VOC, is used to "gap fill" the remaining unreported VOC-HAPs. It is understandable that S/L/Ts may only have emission factors for some VOC-HAPs and that the method may be different from the VOC emission factor. However, air quality modeling based on the NEI assumes a level of VOC-

HAP to VOC mass closure. Therefore, if S/L/Ts do not want EPA to generate "missing" VOC-HAPs, they should submit emissions for VOC-HAPs that are in the expected pollutants list. S/L/T could submit zero emissions if these pollutants are not emitted from these processes in a particular area due to controls, bans or other location-specific information.

Item 6, regarding missing criteria pollutants, is intended to provide a cohesive inventory; for example, if NOx is not submitted for a combustion category, EPA has the need to gap fill. This rule is simply a reflection of how the NEI has been built in the past: S/L/T data takes precedence over EPA-submitted emissions. If EPA data exist for pollutants that S/L/Ts do not submit, then EPA data "gap fills" and appears in the NEI selection. If S/L/Ts do not want EPA data, that are in the expected pollutants list, to appear in the NEI, they have a couple options, ranked in order of most to least preferred:

1. Ensure the Nonpoint survey response is "No, do not supplement my data."
2. Submit emissions, which could be zero if these pollutants are not emitted from these processes in your jurisdiction for these "expected" pollutants, to ensure EPA emissions data do not appear in the NEI, or,
3. Contact EPA to request removal (tag-out) of EPA emissions for these pollutants if they are not emitted.

Option 1 is the "cleanest" automated option and avoids potential Option Set/Option Group issues that can cause unintended removal of agency data in Option 2. Option 2 is a viable option when the zeros are for only some pollutants. Option 1 is absolutely the best option when you want zero (or null) emissions for all pollutants for a given SCC. This item is most important for CAPs and "high risk" HAPs. Option 3 was the standard approach prior to the 2020 NEI; however, it should be a last resort as it complicates QA and has led to numerous errors in the past.

Item 7, regarding running HAP augmentation on similar SCCs to those for which EPA has profiles, is also intended to fill missing pollutants in the inventory, and this has been standard procedure in previous NEI cycles. Where S/L/Ts report emissions for SCCs that EPA does not report, EPA data will be used if S/L/Ts do not report all pollutants, and this goes beyond just HAP augmentation for VOC-HAPs.

Voluntary reporting for HAPs, particularly, VOC HAPs, gets complicated for some nonpoint sources where EPA provides tools that include point source (inventory) emissions subtraction. For example, the Solvent tool only subtracts point inventory CAPs for some sources, and not VOC HAPs, when choosing to subtract point emissions and not activity data. The Solvent tool in this case will compute nonpoint VOC via point subtraction of emissions, and then EPA will then use HAP augmentation in EIS to compute nonpoint VOC HAPs. The reason EPA built the Solvent tool to not subtract VOC HAP point emissions is because the material balance for point subtraction (reconciliation) is ideally based on activity/throughput of the material being balanced. Emissions, or emission factors, from any source, have no validity in such a material balance. S/L/Ts are free to recompute their VOC HAP emissions for nonpoint solvents, and so long as these VOC HAP emissions satisfy the checks discussed above, they will be accepted.

None of these business rules impact what is stored in the EIS for each agency--only what will appear in the NEI selection. EIS reports run off S/L/T datasets will still capture what S/L/Ts submit. However, as is standard practice, the final inventory will reflect a converged set of data, with EPA tool data, S/L/T submitted data, and augmentation datasets included.

3.4.3 Mobile and Fires

Onroad and nonroad expected pollutants are the CAPs and HAPs generated by MOVES. For the state of California, the EPA uses onroad emissions provided by California based on their emission factor (EMFAC) model.

The expected pollutants for the Fires sources are those that we estimate in EPA's methods. It is expected that this list will remain the same as it was for the 2020 NEI. That list will be included in the nonpoint Expected Pollutants List, to be located in the NEI SharePoint site's Resource Library before July 2024.

3.5 How should I make corrections if EPA or I find a mistake?

EPA inventory developers will work with S/L/T agency staff to provide feedback on their data and allow corrections on a case-by-case basis. We recommend that S/L/T agencies first submit their corrections to the EIS "QA Environment" and ensure they receive a clean feedback report prior to submitting corrections to the EIS "Production Environment."

Make sure to submit the entire suite of pollutants for a point emission process or county-SCC combination! Submitting only one pollutant erases the entire set of pollutants for that process or county-SCC.

On occasion, an S/L/T has submitted data in error and has the need to remove previously submitted emissions. There are three methods for removing erroneously submitted data, with option 1 being the best and cleanest option:

1. **Use the Delete Reporting Period function in the bridge tool**: Use the EIS Bridge Tool new component "DeleteReportingPeriod" to remove all emissions, supplemental calculation parameters, and metadata for a reporting period. Refer to the document "Changes to the Consolidated Emissions Reporting Schema (CERS) for the 2020 National Emissions Inventory" on the EIS User's Manual page for more details.
2. **Submit zero emissions for a single pollutant:** Submit zero emissions for any single pollutant at the process. For nonpoint sources, this would be at the state-county FIPS, SCC (and shape ID if applicable) level. You may additionally answer your NP survey to say "do not supplement" to prevent EPA backfilling of this SCC, if that is what outcome you prefer.
    i. Do not submit zero for a pollutant unless you know it is not emitted from a process. Also, because of Option Set/Option Group reconciliation, it is important that if submitting zero for a single pollutant, that this pollutant be "non-essential" and not used for any other SCCs in the same Option Group.
    ii. For point sources, this would be at the emissions process level. This method will ensure that S/L/T emissions for this process are null. However, this method will not prevent EPA data from potentially gapfilling missing S/L/T pollutants at this process. S/L/Ts can either submit zero emissions for all expected pollutants or go with option 3.
3. **Ask EPA to resolve:** S/L/Ts contact EPA and request EPA "tag out" their submission (S/L/T tags). This method requires information on specific processes and is less desirable because it relies strictly on email transfer of information which has proven to be a resource drain during the NEI development cycle. In addition, these S/L/T tags will not prevent EPA data from potentially gap-filling the resulting missing S/L/T data unless S/L/Ts direct EPA to do so.

3.6 Why has EPA eliminated wholesale data replacements after the submittal due date?

EPA inventory developers do extensive QA on data received by the submission due date. Allowing wholesale replacements, or initial submissions long past the original due date, causes EPA staff to run the complete QA procedure on all data again. This process delays the NEI release, increases EPA's use of resources, and does not

provide the benefit of the draft review and correction process described above. This change places a lot of importance on the end of the submission grace period: January 15, 2025, for point, mobile and fires sources and, as discussed in Section 7.6, March 31, 2025 for most nonpoint sources. It is very important that S/L/Ts meet the submission deadlines with their best data in order that the QA review and correction process can proceed.

4 EIS Codes and Schema

This section examines planned EIS code and feature changes that are used in the NEI development.

4.1 EIS Reporting Codes and Schema Changes

EIS code tables that will be updated are listed below. We encourage inventory developers to download the latest version of the reporting code tables directly from EIS. Any late changes to the code will be distributed to S/L/T inventory developers every 2-4 weeks during the NEI development cycle via the existing NEI/NOMAD SharePoint listservs. Contact Lindsay Dayton if you are not on this member list.

4.1.1 CERS Schema Changes

The CERS schema changes were fully implemented in EIS prior to the 2020 NEI in January 2021. Please refer to the EIS User's Manual and How Tos Site document "Changes to the Consolidated Emissions Reporting Schema (CERS) for the 2020 National Emissions Inventory" for more details on these changes.

4.1.2 Source Classification Code (SCC) Changes

EPA updates the list of active SCCs in collaboration with inventory developers and regulatory actions. EPA refers S/L/T inventory developers to check the "Last Updated Date" on in the EIS Source Classification Code List, or the publicly available EPA SCC Search site. Both sites are refreshed nightly. EPA will need to create new SCCs when new inventory categories are developed and will retire SCCs for various reasons. These may include:

- Technology is in the SCC list but is included in an SCC that is too broad, and the process in question is unique, specific, and has a distinct emission factor and is being reported to other codes in an inappropriate way. This indicates the need for a new code or codes and potentially retiring the broad SCC.
- Technology is obsolete and the code has not been used for reporting in one or more previous inventory years. This indicates the need to retire the code.
- The code may be redundant. Is there another code that is essentially the same? If so, which one should be retired and why?

EPA will provide a list of active and proposed SCC changes as they become available. EPA will aim to lock in any changes (e.g., retirements with "map to" SCCs) by December 2023 -at least 6 months prior to the S/L/T submittal window opening in July 2024.

a. Point: There have been several changes to SCCs during and after the 2020 NEI development process; several of these changes occurred after the release of the final 2020 NEI Plan.
b. Nonpoint: We plan to overhaul the residential wood combustion (RWC) sector, likely combining freestanding and insert woodstoves and then disaggregating these, central heaters, and aesthetic burning appliances to new SCCs based on the availability of emission factors. We also plan to generate estimates for a few new source categories such as food trucks, residential cooking, and perhaps other sources.
c. Fires: No new SCCs are expected. Starting with the 2020 NEI, there are no longer any "event" data category SCCs for fires.
d. Onroad: No new SCCs are expected.

e. Nonroad: No new SCCs are expected.

4.1.3 Pollutant Codes

While the above is the extent of known retired and additional codes, new codes for these and other EIS datasets may be added later in the year if deemed necessary. No codes will be retired after the publication of this revised plan.

The following pollutant codes have been added or modified since this the 2020 NEI was released in March 2023:

a. 18 Dioxins/Furan compounds, while active pollutant codes, have not been selected in the previous couple of NEIs. We will resume including these compounds into the NEI for the 2023 selection. The EIS Pollutant Category Name for these pollutants is changing from "Dioxins/Furans as 2,3,7,8-TCDD TEQs" to "Dioxins/Furans (mass of congener, non TEQ)" to make clear that mass of each congener (rather than a TEQ) should be reported.
b. New pollutant 106945, 1-Bromopropane, also known as n-propyl bromide, added prior to the 2020 NEI cycle was assigned as a HAP on 1/5/2022.
c. Additional per- and polyfluoroalkyl substances (PFAS) compounds are being added in addition to the 180 PFAS compounds added prior to the 2020 NEI.
d. For the 2014 NEI, we added five PM2.5 species: EC (elemental or "black" carbon), OC (organic carbon), NO3 (nitrate), SO4 (sulfate) and PMFINE (remaining or "crustal" PM) and two diesel PM species to the NEI that are generated only by EPA through PM speciation. All of these pollutants will also be in the 2023 NEI, but as with 2014 through 2020, they cannot be reported by S/L/Ts as they are generated by only EPA and via EIS PM speciation.
e. Chromium trioxide (1333820) and Chromic Acid (7738945) have been retired. Users should use Chromium III (16065831), Chromium VI (18540299) respectively, or total Chromium (7440473) if the valence is unknown.
f. New pollutant Dibenzo[a,e]fluoranthene (5385751) added

4.2 Pollutant group business rules to prevent double counting of overlapping pollutants

EPA will again apply the business rules developed to allow different datasets in a selection to be blended together while avoiding double-counting due to overlapping HAPs. There are several HAPs that belong to pollutant groups or represent a pollutant group itself. Therefore, EPA has developed a set of business rules to prevent both individual pollutants and a group of pollutants from different sources being in the inventory for the same process or facility. For some pollutants, the rules apply both within an individual dataset (when S/L/T submit) and to across datasets (when they are blended together); others apply only to cross-datasets. For example, a rule that applies only to cross datasets is for PAHPOM code 250. This pollutant can be submitted with other specific PAHs in an individual dataset but cannot be combined with any PAH across datasets. A rule that applies to both within agency and cross agency datasets is PAH, total, code 130498292, this pollutant cannot be reported at the same process with any individual PAH within a dataset. It also will not be selected across datasets if it is from a lower priority dataset in the selection hierarchy.

A complete list of these business rules are provided in Appendix 1 "Business Rules: Selecting data with overlapping pollutants across different datasets" on the 2023 NEI web site.

4.3 EIS QA Checks

1. A list of QA checks performed on data submittals can be found in the Emissions Inventory System Gateway. There have been 283 new or updated EIS QA checks since the 2020 NEI Plan was released in 2020. Filter on to the "Last Updated On" to find the most recently updated EIS QA Checks.

2. We will be absorbing the Wagon Wheel Input Templates into EIS by July 2024. New QA validation checks will be developed to ensure the proper formatting and allowable data are provided for import. Additional QA warnings will likely be developed to provide tolerances for S/L/T-submitted data versus the provided defaults.

5 EPA Data Completeness Feedback

5.1 EIS Data Completeness Reports

S/L/T agencies will be able to run data completeness reports using EIS at any time during the NEI cycle, and EPA will send a reminder of these completeness reports about a month before the submittal window closes. For point sources the Data Completeness and Outliers Report is refreshed each night and S/L/Ts can review or download the report at any time. Allowing S/L/T agency staff to run these reports themselves will provide S/L/Ts with the greatest possible time to address any incomplete findings in advance of EPA's notice (Section 5.3).

The completeness checks will be based on the following criteria:

Point:

1. All expected CAPs at all required facilities have been reported within expected ranges (i.e., no outliers).
2. In addition to the above "Complete/Incomplete" designation, the percentage of expected CAPs and the % of expected HAPs submitted within expected ranges is also provided in the report.
3. The on-line EIS Report shows any facilities with outliers, regardless of whether the pollutant is expected or not.

Nonpoint:

1. Completion of a nonpoint survey. For more information on completing the nonpoint survey, see Section 7.5.
2. If emissions were submitted by an agency, the number of missing Expected Criteria Pollutants. If an agency does not submit emissions, and accepts EPA estimates via the nonpoint survey, this check is omitted from the report.

Onroad/Nonroad:

Completeness is based on an agency either submitting inputs or accepting EPA estimates. EPA plans to develop a list of key desirable MOVES inputs required by the AERR for each agency.

5.2 Nonpoint Iterative QA Reports

For the nonpoint data category, iterative QA reports will be sent out once a week to those S/L/Ts who have submitted the previous week, during the submittal window opening (see Table 2-5). This iterative QA report will be emailed out to the agency members designated as points of contact (or to receive notifications) for the nonpoint data category in EIS. This report is intended to help the inventory submitter understand how EPA determines completeness and assures quality emissions submissions to the nonpoint data category. The report builds on any previous submissions and includes action items on how to correct identified issues, or whether supporting documentation for their submissions is required.

Feedback included in the iterative reports will include:

1. Submissions dates
2. Number of sectors, SCCs submitted

3. Nonpoint Survey Status (Goal: 100%)

(**Note**: Checks 4-7 are based on the Nonpoint Expected Pollutants List)

4. Missing Criteria Pollutants – two types of omission:
    a. Complete Omission – pollutant is missing for all counties in an agency's jurisdiction for the entire SCC
    b. Partial Omission – pollutant is missing for at least one county in an agency's jurisdiction for a SCC
5. Unexpected Criteria Pollutants
6. Unexpected Hazardous Pollutants (if HAPs were submitted)
7. Missing Hazardous Pollutants (if HAPs were submitted)
8. Zero Emissions
9. Review table by SCC/pollutant with a count of the number of counties submitted to the pollutant/SCC combination vs the overall SCC.

New information in reports for 2023:

1. List of Input Templates submitted to EIS with a flag to indicate if the nonpoint survey answers contradict this submission. There are two checks associated with this QA:
    a. Did the S/L respond with "No" in the Nonpoint Survey, but also submit an input template? Doing so would prevent the emissions generated in the Wagon Wheel, using the S/L input, from being included in the NEI.
    b. Did the S/L click the checkbox "Did your Agency Provide and Input Template for this Category?" in the Nonpoint Survey and then fail to provide an input template?
2. Feedback/documentation already received from a S/L/T on previous submissions

5.3 Formal Completeness Letters

After the NEI submission deadline and grace period, EPA staff will compile summary reports combining the findings from the EIS Data Completeness Reports and the Nonpoint Iterative QA Reports. Figure 5-1 provides an example of the first page of the overall completeness report, showing a summary of completeness status for each data category. The remaining pages in the completeness reports show the metric discussed in the previous sections (5.1 and 5.2), with each agency receiving their own report.

Reports include both mandatory data as per the AERR as well as voluntary data such as submittal of activity inputs for mobile and nonpoint sources. EPA will notify regional offices and state/local Air Directors as to the status of the state/local submission. S/L agencies will only be able to see completeness reports for their own agency and delegated agencies. The targeted dates for the Completeness Letters to Regional Offices and Air Directors are also provided in Table 2-2 through Table 2-5, above. We will not be developing a formal completeness report for Fires as their submittal is voluntary; however, we will include a thank you to those agencies that submit timely and useful emissions, activity input data, and/or approval of EPA draft estimates.

Figure 5-1: Example of First Page of Completeness Letter sent for 2020 NEI

Point:
Complete

Nonpoint:
Complete

Onroad:
Complete

Nonroad:
Complete

MEMORANDUM

Subject:	NEI 2020 Status Completeness Report
From:	Rich Mason NEI Team Lead Air Quality Assessment Division Office of Air Quality, Planning & Standards
To:	EPA Regional Offices, Emissions Inventory Leads and State and Local Air Directors

Under the Air Emissions Reporting Requirements Rule, or AERR, 40 CFR part 51, states and local agencies are required to collect and submit emissions data to the EPA.

Data for the triennial inventory year 2020 were due by January 15, 2022 for point sources and by March 31, 2022 for all other data categories. Agency staff were notified of their completeness status for point sources on April 20, 2022. For nonpoint sources, agencies were notified at Nonpoint Method Advisory (NOMAD) Workgroup calls as well as upon submission to EIS of their completeness status, on an individual basis, through the Nonpoint Iterative QA Summary Report. This memo serves as a status update of completeness for each data category according to the parameters outlined below.

An addendum graphing each agency's status in regards to others in the region is also included.

Agency:

May 24, 2022

6 Point sources

6.1 Overview

Air agency point source data are the predominant source of point source data in the NEI. Point source reporting includes both the "facility inventory" and "emissions" as separate submittal steps, each with their own set of tables defined for electronic reporting. The following subsections provide a road map to the requirements from the AERR, best practices for submitting data, and detailed information on point-source specific practices for the 2023 NEI, including a discussion on how EPA intends to include Greenhouse Gas (GHG) emissions for 2023 and treatment of fugitive release point parameters in EIS for modeling.

As in past NEI cycles, the EPA intends to augment state point source emissions when needed. These procedures are explained in Section 3 of the 2020 NEI technical support document (TSD). There are two types of augmentation: 1) using state-submitted emissions to estimate non-reported pollutants, and 2) using other datasets to add emissions.

The first type of augmentation includes PM augmentation (e.g., estimating condensable PM if only primary is reported), HAP augmentation (applying factors to ratio HAPs from state-reported CAPs) and chromium speciation (estimating hexavalent chromium and trivalent chromium from state-reported unspeciated chromium). HAP augmentation profiles may be updated during the 2023 cycle. More specifically, EPA will work on adding more profiles based on the SPECIATE database as an additional source of HAP to CAP ratios. Any S/L/T data that does not meet the submittal deadline may not be augmented and therefore may end up incomplete in the NEI.

The second type of augmentation includes the use of data from the TRI (also explained in the 2020 NEI TSD, and Section 6.4 in this document for more details). There may also be situations where we use other EPA datasets such as data developed from an information collection request for regulatory efforts. These may be used ahead of state emissions or for gap filling where these data are collected.

6.2 Inclusion of Greenhouse Gas Emissions for Point Sources

EIS has included an emissions data set containing the point source GHG (CO2, CH4, N2O and SF6) emissions as reported by facilities to the EPA GHG Reporting Program (GHGRP) beginning with the 2013 emission year. These GHGRP emissions were not included in the 2014 NEI but were included for the 2017 NEI and 2020 NEI for those four GHGs in the published NEI. We plan to do the same for the 2023 NEI. The primary source of the selected GHG data will be the direct facility reporting to the GHGRP. We will also use S/L/T reports of the same four GHGs if they have been reported for facilities which do not appear in the 2023 GHGRP data. We expect that any such S/L/T reports which are so used will be for smaller emitters of GHGs, given the reporting requirements of the GHGRP. We will use the GHGRP data preferentially over S/L/T-reported data because the GHGRP data is required of the facilities, the calculation procedures have been prescribed by regulation, and the facility-reported data is reviewed by the EPA GHGRP to be EPA's authoritative source of GHG emissions for those facilities. Note that we are not requiring S/L/Ts to report GHGs to EIS for any facilities, but we plan to include any voluntarily reported S/L/T point source data in the NEI if it appears to be valid and if we do not have any GHGRP data for that facility.

For 2023 we plan to use the facility-level totals for each of the four GHGs from the EPA GHGRP. We will also store in EIS and use in the NEI the facility-level biogenic CO2 emissions as reported to the GHGRP. Biogenic CO2 is reported as a separate element to the GHGRP. As with the earlier years, we will convert the values as published on the GHG Reporting Program Data Sets website from CO2-equivalent (CO2e) mass to actual mass, for consistency with the rest of the NEI and its applications. The conversion factors used for the 2017 and 2020

NEIs will be used again for the 2023 NEI. These were obtained from Table 1 of the IPCC's Fourth Assessment Report (25 for methane, 298 for nitrous oxide, 22,800 for sulfur hexafluoride), per the documentation given on the GHG Reporting Program web page.

A crosswalk of which GHG facility IDs correspond to which EIS Facility IDs for the purposes of writing the GHGRP emissions values into EIS is available in EIS. The GHGRP facility IDs are stored as Alternate Facility IDs for each EIS facility. These Alternate Facility IDs can be seen on the EIS Gateway screens for a particular facility, or a bulk report can be obtained from EIS by using the Facility Configuration reports, Alternate Facility IDs, and filtering for Program System Code = "EPAGHG". In some cases, more than one GHG facility was matched to a single EIS facility ID. In those cases, the sum of the multiple GHG facilities will be written to the EIS facility. Based on the 2021 reporting year, 95 percent of the total CO2 reported to the GHGRP is matched and stored to an EIS facility.

6.3 Release Point characterization

With the new schema discussed in Section 4.1, there are additional options to represent stack and fugitive release points. In addition to the current approach of the circular stack, we added the ability for a rectangular release. Fugitives can now be characterized in several ways, including the current length and width option, a new end points option and a volumetric option. These approaches are detailed in the schema document.

6.4 Quality Assurance of TRI vs SLT-submitted data

EPA standard practice is as a starting point, to select S/L/T-submitted HAP data over TRI data, regardless of the completeness of the S/L/T HAPs submitted. To compile as complete a HAP inventory as possible, EPA has manually selected TRI data to supplement and/or replace S/L/T-submitted HAP emissions in previous NEI cycles to remedy the most obvious deficiencies in S/L/T-submitted HAP data. For the 2023 NEI, EPA will again analyze TRI vs S/L/T HAP data, and if possible, establish a more automated process for supplementing and/or replacing S/L/T-submitted HAP data.

EPA will load into EIS the 2023 TRI data when it is released publicly in the Fall of 2024. S/L/Ts can run EIS comparison reports against their S/L/T-submitted HAP data to review for large differences between the two datasets and reconcile them prior to the final submittal deadline, if possible. If States do not think that their inventory process accounts for all significant sources of a HAP for a facility, they should not report that HAP for the facility; ***i.e., do not allow auto-calculations to create records for just the processes and SCCs that happen to be in your auto-calculate file***. States should also not report TRI facility-level data as their own, because the EPA process will bring in that TRI data and maintain its source identity.

6.5 State total fuel consumption throughput needed

The AERR has a requirement for submitting activity data (throughput) information of point sources. This throughput is necessary to reconcile industrial (I) and commercial/institutional (C/I) fuel combustion in the nonpoint data category. If S/L/Ts do not provide point throughput by fuel type (e.g., natural gas, distillate oil, coal) and sector (I versus C/I), then EPA will seek to obtain point throughput (and a valid Calculation Parameter Unit of Measure Code) by fuel type, and 2-digit aggregated NAICS code which will be used to assign the I vs C/I sector. More information on this request is in Section 7.7.

7 Nonpoint sources

7.1 Overview

Air agency nonpoint source data is an increasingly significant contributor in the NEI, particularly for those nonpoint categories that have overlap with point sources. Nonpoint sources include (but are not limited to) fuel combustion categories; oil and gas production; industrial, commercial and consumer solvents; residential wood

combustion; road and construction dust; and agricultural emissions sources. Most of these sources are covered by an emissions estimation tool called the Wagon Wheel.

It should also be noted that the Wagon Wheel does not generate emissions for every nonpoint source that EPA estimates. EPA has a separate Oil and Gas tool, and provides estimates for commercial marine vessels, locomotives, agricultural field burning, portable fuel containers, ag livestock waste emissions, ag fertilizer emissions and biogenics. Starting with the 2020 NEI, and continuing for the 2023, wildfires and prescribed burning emissions are provided in the nonpoint data category. However, the data collection and development steps for wildland and agricultural fires are unique and discussed separately in Section 9 of this plan.

As in past NEI cycles, the EPA intends to augment state nonpoint source emissions when needed. The nonpoint tools that EPA develop also serve a secondary purpose: to provide fallback data for the EPA to use where S/L/Ts do not submit adequate data to the inventory. Further, augmentation of S/L/T data also includes PM augmentation, HAP augmentation (factors to ratio HAPs from CAPs), and chromium speciation.

The nonpoint data category has the most complicated set of data sources. Therefore, we plan to continue to use the EIS feature called Option Group/Option Set (see Appendix 6 in the 2017 NEI Plan) and business rules for cross-dataset pollutant selection (Appendix 1). These two EIS functions help eliminate double-counting and automates the process of selecting data based on overlapping SCCs.

We anticipate limited resources for revising methods for existing tools for the 2023 NEI. Therefore, with a couple of notable exceptions, the 2020 NEI TSD will be a fairly complete and useful starting point for understanding how the existing EPA nonpoint tools were developed. The primary focus will be on updating activity data into input templates for the 2023 NEI, and more importantly, migrating the input templates into EIS. States and Locals will still have the ability to import CSV input templates into the Wagon Wheel -a function introduced for the 2020 NEI- and create draft emissions for comparison. We still strongly suggest that S/L/Ts submit input templates where possible.

7.2 New Methodologies

Any new nonpoint modules will be accompanied by new NEMOs (Nonpoint Emissions Methodology and Operating instructions) and input templates. New methodologies can encompass many things for a given sector: introducing emissions with new methods for the first time, improving current methods, improving the EFs associated with the process, improving the activity data associated with the process, and updating speciation which could result in improved/revised HAP estimates. The proposed new methodologies for estimating nonpoint emissions include:

- Abandoned oil and gas wells
- Commercial (existing but needs upgrade) and residential cooking, and food trucks
- Roofing asphalts
- Structure fires
- Motor vehicle fires
- Stage 1 gas distribution
- Residential wood combustion, including campfires
- Including agricultural livestock waste into the wagon wheel
- Switching from the Fire Emission Production Simulator (FEPS) database for WLF EFs to Smoke Emissions Repository Application (SERA) in the emissions modeling process
- Inclusion of Wildland Urban Interface (WUI) fires, likely will only effect CA if they occur in 2023
- Adding dioxin/furan estimates for as many sources as data allow

- Splitting agricultural fertilizer emissions into an anthropogenic component and a biogenic component in EPA's estimates

EPA plans to have these new/revised methodologies completed for S/L/T review before the submission window opens in July 2024.

7.3 The Wagon Wheel Tool

We will again utilize the Wagon Wheel central database to house all inputs and calculate emissions for most nonpoint source categories. The Wagon Wheel Tool is a nonpoint emissions estimation tool for most EPA estimates for this data category. An S/L/T can update existing default activity data to create local level emission data with EPA methods and factors. The Wagon Wheel tool, illustrated in Figure 7-1, will undergo minimal updates for this NEI cycle.

Figure 7-1: EPA Wagon Wheel and some of the associated modules used to generate nonpoint estimates

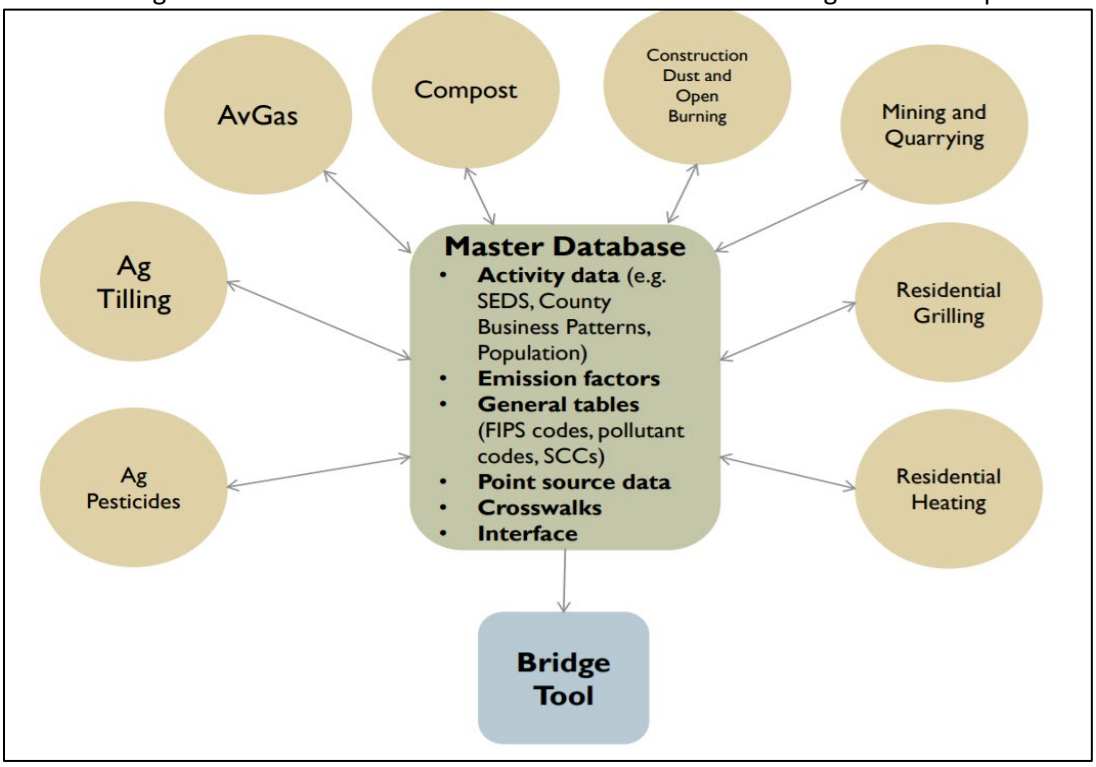


Table 7-1 provides the estimated deliverable date for each wagon wheel category based on last-available activity data. For S/L/T inventory developers, we will provide wagon wheel releases in three "natural breaks" batches that can be used to compare final default activity data with your own activity data. See the activity data tracker on the NOMAD SharePoint site for the latest information. Note that it is often uncertain when activity data will be available for some tools. Wagon wheel default input data will remain year 2020 until it is refreshed prior to the first release in July of 2024 with primarily year 2022 data for ***some*** activity data such as County Business Patterns and SEDS. A limited set of activity data will be updated to year 2023 prior to the first wagon wheel release -likely limited to landfills, commercial cooking, and publicly owned treatment works. Year 2020 or year 2022 activity data will continue to be used until year 2023 activity data is available, reflected in Table 7-1. A final wagon wheel, version 4, will absorb all quality-assured S/L/T input template data submitted to EIS.

Table 7-1: Estimated deliverable for each wagon wheel category based on last-available activity data

Tool	Month	Year	Limiting data
Publicly Owned Treatment Works (also in pt)	March	2024	Population*
Landfills	April	2024	EPA LMOP Database
Commercial Cooking	July	2024	Hoovers restaurant data
Wagon Wheel Release 1 July 31, 2024			
Agricultural Tilling	August	2024	USDA Ag Survey
Dust from Hooves	September	2024	GHG Inventory Livestock Counts
Agricultural Livestock Waste	September	2024	GHG Inventory Livestock Counts
Agricultural Silage	September	2024	GHG Inventory Livestock Counts
Wagon Wheel Release 2 January 31, 2025			
Composting	April	2025	County Business Patterns
Other Mercury	April	2025	County Business Patterns
Construction Dust	May	2025	FHWA Highway Statistics
Open Burning	May	2025	FHWA Highway Statistics
Aviation Gasoline	June	2025	SEDS
Residential Heating	June	2025	SEDS
Industrial/Commercial/Inst. Fuel Combustion (also in Point)	June	2025	SEDS
Residential Wood Combustion	June	2025	SEDS
Residential Grilling	June	2025	American Housing Survey Housing Estimates
Asphalt Paving	June	2025	MOVES VMT
Road Dust	June	2025	MOVES VMT
Stage 1 Gasoline Distribution	June	2025	MOVES CO_2 Emissions, MOVES Benzene Emissions
Solvents (also in Point)	June	2025	MOVES VMT
Wagon Wheel Release 3 July 31, 2025			
Agricultural Pesticides (in Solvents Tool)	Unknown	2025	USGS County Pesticide Use
Cremation	Unknown	2025	CDC WONDER Database
Mining and Quarrying	Unknown	2025	USGS Minerals Yearbook
Wagon Wheel Release 4 Unknown, dependent on lagging data releases			

* Assumes that new Clean Water Needs Survey data will not be released, and we will continue to grow 2012 data

EPA is encouraging states and locals to provide inputs to the Wagon Wheel Tool (see next section). This prevents rework on the S/L/T's part if there is an update to the Wagon Wheel tool. By having one tool that EPA uses, we hope to eliminate errors in a cohesive way, and ensure that the data is consistently calculated by all data submitters.

7.4 Input Templates into EIS

New for the 2023 NEI development cycle is an improvement to the process for submitting input templates for the Wagon Wheel. Input templates are a series of activity data within given sector categories that are collected from S/L/Ts, to be used in lieu of provided default activity data, as inputs to the calculations of the Wagon

Wheel. These input templates for the most part represent “activity,” and will create the baseline numbers which, in combination with EPA nationally recognized emission factors, will create the 2023EPA_NONPOINT dataset. In the past, agencies have varied in their use of these nearly 100 available templates. There were states who submitted no templates, but most averaged around 6 or 8 templates, while a small handful submitted several dozen.

Input templates will be collected in the Emissions Inventory System (EIS). Benefits include:

- These activity data will be available in EIS along with the final emissions.
- An S/L/T will be able to run a report in EIS to download previous activity year data, or view other S/L datasets, for comparison.
- A batch of a complete inventory cycle year’s input template data can be retrieved by EPA staff or contractors for input into the Wagon Wheel.
- Data can be validated within EIS.
- This is one additional step towards absorbing the entire Wagon Wheel in EIS.

Each S/L agency will only be able to submit input templates for their own agency jurisdiction. For example, in the State of Tennessee, there are multiple jurisdictions. Several metropolitan areas such as Shelby County, Knox County, and the Chattanooga and Nashville metropolitan area report their emissions, and the Tennessee state agency reports the rest of Tennessee. When creating input templates, only the counties associated with the jurisdiction under which those emissions fall will be available for input submissions.

Furthermore, only one option for the Industrial/Commercial and Institutional Fuel Combustion (ICI) will be allowed: point inventory fuel consumption by sector and fuel. Previously this option was referred to as “option C.” Option A and B ICI input templates are simply more-granular (NAICS/SCC and NAICS respectively); agencies that generated inputs at this resolution simply need to aggregate to sector/fuel to convert these to Option C. We are discontinuing the ability to provide Option D (nonpoint fuel consumption) as there are several adjustment assumptions that are lost in translation when we receive only Option D inputs -for example, the fraction of fuel consumed by nonroad mobile sources and the fraction of fuel used by industrial processes where it is not combusted (e.g., chemical feedstocks, lubricants, solvents).

A mockup screenshot of what the Input Template homepage and selected tool detailed view page might look like in EIS are included in Figure 7-2 and Figure 7-3, respectively. Note that these are draft and are likely to change.

Figure 7-2: State/Local Nonpoint Input Templates Homepage in EIS

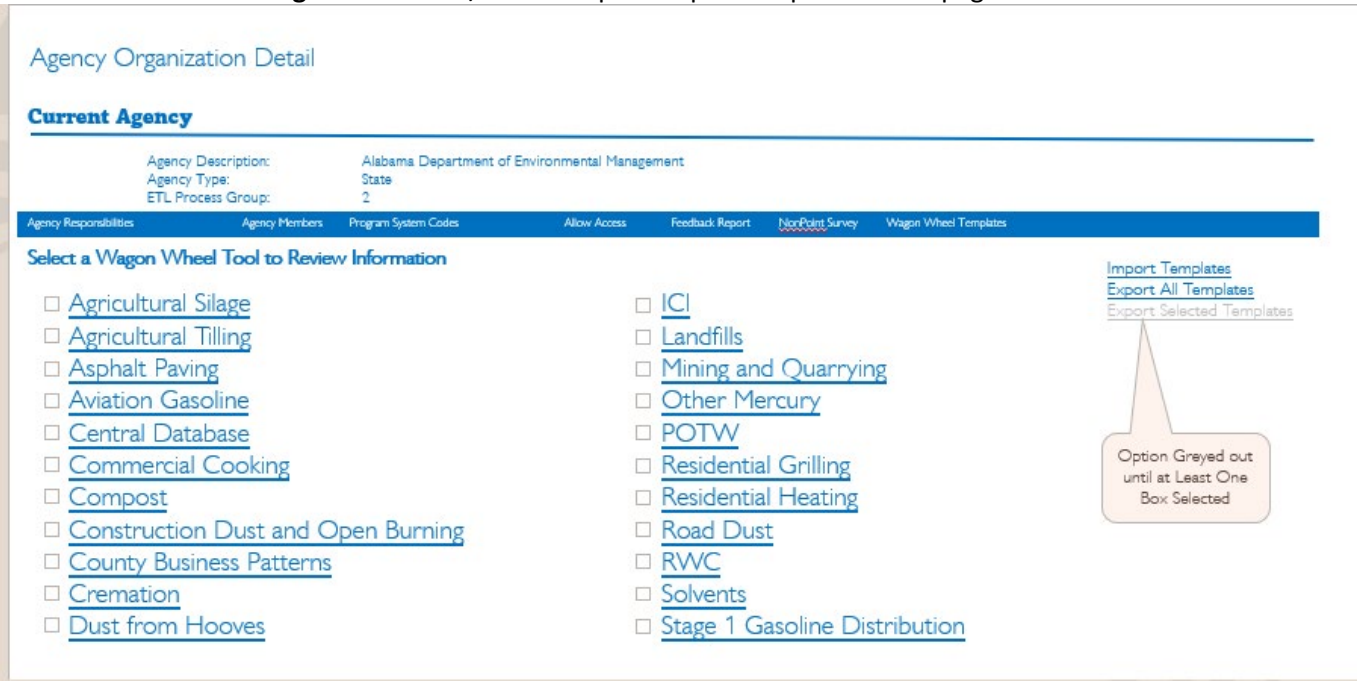
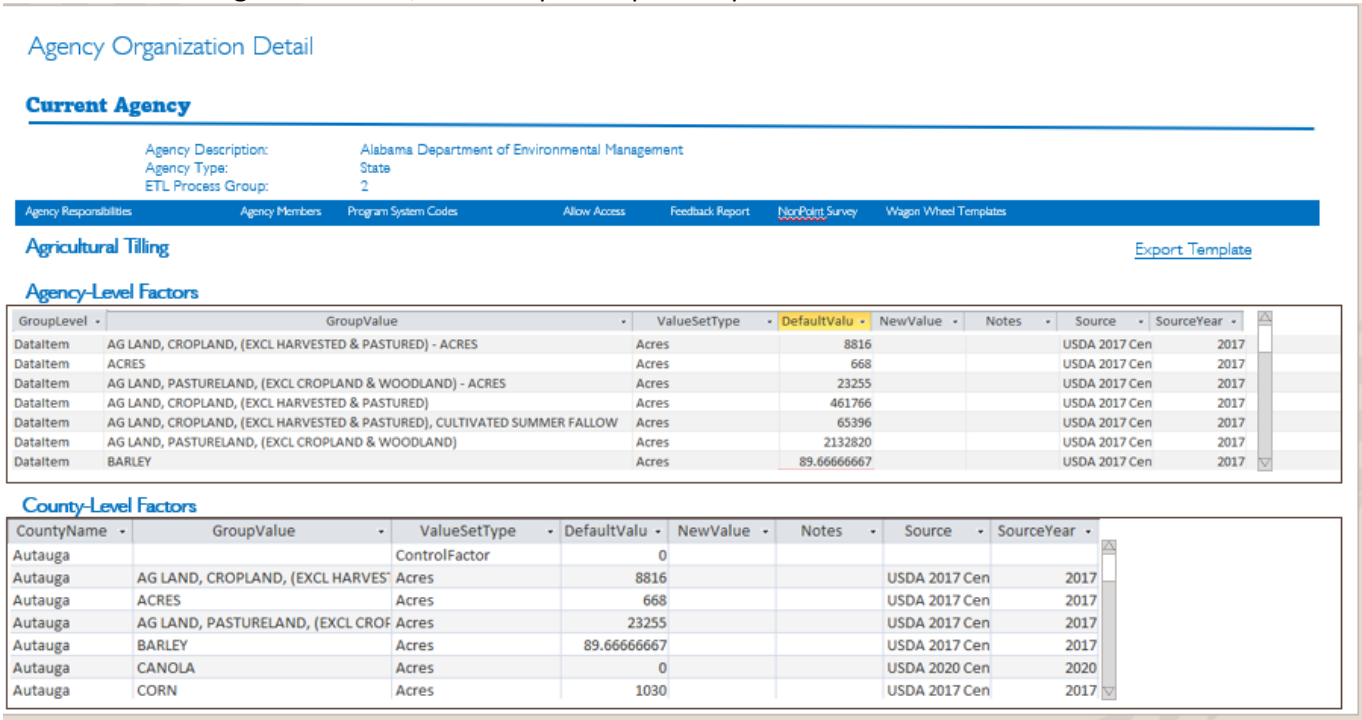


Figure 7-3: State/Local Nonpoint Input Template Detail for Selected WW Tool



Input Template Loading Ability

For the 2020 NEI, EPA developed a tool to enable S/Ls to load and run the Wagon Wheel with their inputs to test the tools. We strongly encourage S/Ls to submit their input activity data and not their own emissions from running the Wagon Wheel. This feature was developed as a QA tool and not a method for generating emissions for submission to EPA.

7.5 Nonpoint Survey

Because each agency has their own universe of sources and inventory development approaches, each agency reports nonpoint estimates a little differently. The nonpoint survey gathers information specifically for each S/L regarding which source categories are covered by their point or nonpoint emissions submittals (or both), or if there should be no nonpoint emissions for a particular source category.

This survey asks only two questions:

1) Have you provided an input template for this set of SCCs?
2) Should EPA supplement the S/L emissions submission or not?

Refer to Section 5.2 to understand how Nonpoint Survey responses will be quality-assured against S/L inputs submitted (or not). The second question can be answered at the level of the entire nonpoint data category, for all SCCs in a particular EPA tool/database, or an SCC-by-SCC basis. The reasons for not supplementing S/L data with EPA data would be:

- S/L does not have this type of source (i.e., no coal fired residential boilers),
- S/L completely covers this category in their point submittal (i.e., gas stations are all covered in point in the state of Colorado), or
- S/L uses a different SCC that covers the same process covered by the SCC used by EPA that also covers additional processes (e.g., composting under SCC 2680002000 where this SCC covers both green waste, which EPA methods cover, as well as other materials being composted).

In addition, there is a 4th option "Supplement only at reported location -SCCs" where EPA data will only supplement pollutants where S/L reported some but not all expected pollutants at a given county and SCC but will not supplement with EPA data where S/Ls reported no data (pollutants).

The nonpoint survey has been in use for several inventory cycles, and we do not anticipate any major changes for the 2023 cycle. Please see the AirKnowledge training on filling out the nonpoint survey if you have questions.

7.6 Nonpoint Submittal Deadlines and Requirements

One of the biggest challenges with the nonpoint data category has been managing the release of the "final" EPA estimates (and tools). EPA relies on a varied set of input data (see Table 7-1). The timeline relies on the release of activity data for the Wagon Wheel tool. Submittal deadlines depend on the whether the sources are in the Wagon Wheel tool or not.

7.6.1 Milestones and deadlines for WW sectors

There are three planned releases of the Wagon Wheel during the 2023 NEI development cycle. Each release of the wagon wheel includes default activity data for all sources in the tool. The first wagon wheel release includes final default activity data (year 2023) for three tools: POTWs, landfills, and commercial cooking. The second release includes final default activity data for ag tilling, ag silage, and dust from hooves, and the third release includes final default activity data for the rest of the tools. EPA is also planning for a fourth Wagon Wheel release at a date to be determined that includes all S/L-submitted inputs and any potential late tweaks in the tool or default activity data.

The AERR date for submittal is typically January 15, 2025. For the tools with default activity data finalized in the first and second Wagon Wheel releases, and any sources that EPA does not estimate, the submittal deadline is March 31, 2025. For the tools with default activity data finalized in the third wagon wheel release, S/L/Ts have 30 days after the tool release to provide input templates, and 60 days to provide emissions and documentation. Refer to the schedule in Table 2-5 for more specific dates.

Requiring documentation for emissions estimated differently from the EPA nonpoint methodologies is crucial for EPA to understand and justify accepting an S/L/T's emissions estimates, especially when S/L/T estimates differ significantly from EPA estimates. This documentation should be uploaded to the NEI NOMAD SharePoint site in the SLT upload folder. In addition, utilizing the emissions comment field in the XML emissions submittal to reference any associated documentation or methodology will assist with quality assurance.

EPA plans to upload the latest-available activity data to the Wagon Wheel if it becomes available prior to "locking" in the final Wagon Wheel estimates later in the summer of 2025. Therefore, we strongly suggest submitting your own activity data inputs and/or selecting "Yes -Supplement my data with EPA Estimates" in the Nonpoint Survey if you want to ensure that the most-recently available default activity data are used in the 2023 NEI. In some cases, S/L/Ts may have earlier access to more local data and if they submit their own activity data, can ensure that the 2023 NEI and Wagon Wheel are based on "EPA" data that include the most-current local activity data.

We encourage S/Ls who choose to run the Wagon Wheel themselves, to do so only for quality assurance and not for generating and submitting emissions. We request that in this situation, that S/Ls submit their activity data and accept EPA estimates and indicate "Yes – Supplement my data with EPA Estimates" in the Nonpoint Survey. This way, if EPA finds systemic issues with the tools, or finds a newer set of activity data, emission factors, or other parameters, then the wagon wheel can be updated with S/L-submitted activity data to be in alignment with the rest of the wagon wheel updates.

Note: the functionality to allow activity data submittals directly to EIS is a goal for the 2023; if this new EIS functionality is not complete in time, then the NEI/NOMAD SharePoint site will again be used for 2023 input template submittals.

7.6.2 Milestones and deadline for non-WW sectors

A list of all EPA estimates not generated via the Wagon Wheel is provided in Table 7-2.

Table 7-2: EPA estimates not generated from the Wagon Wheel

Nonpoint Tools/Estimates	**EPA Tool or Stand-alone Database?**	**Point Inventory Subtraction?**
Ag Fertilizer	database	No
Agricultural burning (cropland residue burning)	database	No
Wildland fires (wildfires and prescribed burning)	database	No
Biogenics	database	No
Portable Fuel Containers (PFCs)	database	No
Oil and Gas Production & Exploration	Tool	Yes
Commercial Marine Vessels (CMV)	database	No
Rail (locomotive)	database	No, except for railyards
In-flight Lead	Tool	No

While the schedule for these nonpoint categories will generally follow the outline shown above for releases of data to the public and on the requirements for completeness reports, there are some differences as highlighted below in Table 7-3 for agricultural fertilizer application and agricultural field burning sectors. The methods for each of these agriculture categories will be like those used in the 2020 NEI. As such, any tweaks we make to the

methods will be highlighted in our draft documentation via NOMAD calls. No extensive revisions to these methodologies are planned for the 2023 NEI. We discuss CMV in Section 8.4, and fires in Section 9.

Table 7-3: Schedule for Agricultural Fertilizer Application and Ag Field Burning

Item description	EPA or S/L/T	Date	Comments
Review SCCs, suggest clean-ups and additions either via 2023 NEI plan, or via SharePoint site once analyses completed	EPA	8/1/2023	Might be done via NOMAD call or via group
Review methods, develop tweaks based on 2020 NEI comments, and other updates that have become available	EPA	10/1/2023	No major revisions are expected for these categories. The ag burning method is in the published literature, Ag fertilizer methods soon will be. The methods are expected to be nearly identical to what was used in 2020 NEI. NOMAD calls will be used to correspond on any tweaks made to methods
Develop draft emission estimates	EPA	5/1/2024	Post these estimates on SharePoint. Include draft documentation and any requisite summary files.
Comment process on draft emissions	S/L/T	5/1/2024-8/1/2024	This would include the S/L/Ts looking at emissions, looking at activity data. After reviewing our estimates, letting EPA know if they accept our estimates, have comments, or would like to submit activity data on any of the sectors (acres burned for ag burning, and fertilizer use patterns for ag fertilizer)
Submission window opens in EIS	S/L/T	7/1/2024	Submission window opens for any S/L/Ts that would like to submit emissions for these sectors
Submission of alternative activity data	S/L	9/1/2024	The submitting agency should work with EPA to determine formats for submitting any activity data for any of these sectors
Submission window closes for these nonpoint sectors in EIS	S/L/T	3/31/2025	
QA of all S/L/T data and responses back to S/L/Ts	EPA	6/1/2025	EPA provides comments on all submitted emissions data by S/L/Ts
EPA works with submitted comments, any additionally submitted activity data, and other clean up that is required to develop final EPA emissions	EPA	8/1/2025	By May 2025, EPA will address all the comments, include any new activity data (as possible/feasible) and re-post “final” emission estimates.
Make decisions on which S/L/T data to tag out based on EPA QA of S/L/T submitted data	EPA	9/30/2025	Inform S/L/Ts of any of their data we will need to tag out, not include or otherwise not be able to use.
Final QA of S/L/T and EPA data to check for errors	EPA	12/30/2025	
Finalize all these sectors in EIS	EPA	2/28/2026	
Public release of all these sectors, along with all of nonpoint	EPA	3/31/2026	Includes query tools, documentation, summary files

7.7 ICI Tool Requirement: Agency total fuel consumption throughput needed

EPA, in collaboration with the ICI NOMAD team (contact Rich Mason for more information) developed the input templates used for the nonpoint ICI component of the Wagon Wheel. The Energy Information Agency (EIA) State Energy Data System (SEDS) state-level fuel consumption data will again be used as the starting point for computing nonpoint throughput, split out for Industrial vs Commercial/Institutional facilities.

As mentioned in Section 3.2.2, the AERR has a requirement for submitting activity data (throughput) information of point sources. Because nonpoint estimates are created using total fuel consumption by state (technically agency-level), this throughput is necessary to reconcile industrial (I) and commercial/institutional (C/I) fuel combustion in the nonpoint data category. If S/Ls do not submit ICI nonpoint emissions, then EPA requests that S/Ls provide agency-total point throughput by fuel type (e.g., natural gas, distillate oil, coal) and sector (I versus C/I).

When providing this point fuel consumption data, S/Ls should first quality assure their data by comparing their agency-total point fuel consumption versus the total SEDS fuel consumption for each sector and fuel type. Point throughput data should not exceed SEDS fuel consumption. ***For the 2023 NEI, this will be a new QA check (warning) when submitting ICI input template data to EIS. The overall submittal process and expectations for nonpoint ICI will otherwise be unchanged.***

Conversely, if point fuel consumption data is a tiny fraction of SEDS data, then they should review units of measure and completeness of the point inventory fuel consumption data; this is particularly true for industrial sector fuels, where it would be expected that a significant component of total fuel consumption would be reported as Type A or Type B point sources. Otherwise, the nonpoint contribution to ICI emissions will be too large (double counted with point inventory).

7.7.1 A non-ideal default approach for computing point inventory fuel consumption

Unchanged for the 2023 NEI, EPA will subtract fuel-specific S/L-submitted state-level I vs C/I throughput from the EIA consumption data to estimate the nonpoint I vs C/I throughput by fuel type. S/Ls are strongly encouraged to engage in this process as a lack of submitted point throughput data (or emissions submittal) forces EPA to implement the "default" method for estimating nonpoint emissions as computed from total SEDS activity data.

For the 2020 NEI, EPA developed this "default" method to ensure point inventory (fuel consumption) subtraction and therefore less potential double-counting of ICI emissions in nonpoint with those in the point inventory. This new default approach is based on S/L-submitted point inventory carbon monoxide (CO) emissions relative to S/L-submitted point CO emissions vs point fuel consumption ratios -for those S/Ls that submitted point fuel consumption data. ***This is not intended to be used by most S/Ls and is truly a "last resort" option for EPA***. A critical number of quality-assured point inventory fuel consumption input template data submittals are needed for this approach to make sense as the composition of industries and point inventory submittals varies significantly across S/Ls.

Not submitting S/L emissions or input template (point fuel consumption) data will indicate to EPA that you are fine with EPA's default method being used.

7.8 Utilization of EIS Option Group/Option Set evaluation to compile NEI

The EIS has an Option Group/Option Set (OG/OS) feature that was first implemented for the 2017 nonpoint NEI. In the Source Classification Code table, we define SCCs that have a hierarchical nature. That is, there may be a "general" group, as well as more specific SCCs within the same group. These relationships are defined by the "Option Group / Option Set" (OGOS) fields in the SCC table. When EPA and S/L/T datasets are placed in an NEI

selection, there is the potential for double counting of data sources (emissions) across these data sources. For example, the EPA may report emissions to a "general" SCC while S/L/Ts report data to detailed SCCs. Without OGOS evaluation, both sets of data would be included in the NEI selection.

The current OGOS rules employed in the selection assumes that if a S/L/T submits data, they are submitting data for the entire group and no additional data sets are to be used to "backfill" any SCCs within the same option set. The desired function is for the selection to backfill any SCCs within the same option set. Refer to "Appendix 6 - Option Group Option Set Enhancement EIS Requirements.pdf" on the 2017 National Emissions Inventory Plan website for a comprehensive discussion on the OGOS business rules first implemented in EIS for the 2017 nonpoint NEI, that will be retained for the 2023 NEI.

8 Mobile sources

8.1 Overview

Mobile sources are sources of pollution caused by vehicles transporting goods or people (e.g., highway vehicles, aircraft, rail, and marine vessels) and other nonroad engines and equipment, such as lawn and garden equipment, construction equipment, engines used in recreational activities, and portable industrial, commercial, and agricultural engines.

The EPA creates a comprehensive set of mobile source emissions data for criteria, hazardous air pollutants, and greenhouse gasses for all states, Puerto Rico, and U.S. Virgin Islands as a starting point of the NEI. The EPA uses models to estimate emissions for most of the mobile source categories. With the exception of California and Tribes, the EPA requires S/L/T agencies to submit MOVES model inputs where applicable, rather than emissions, so that the EPA can use those inputs if MOVES is updated and for consistent future year mobile source projections.

8.2 Onroad approach

The EPA will continue to use MOVES for both onroad and nonroad emissions, the exact version will be determined prior to the submittal window opening.

Collection of inputs, rather than emissions, is required to provide EPA the ability to run varying model scenarios and future projections from the same input basis. Model input data collection will be like the process used for the previous NEI. The EPA is interested in comments on the current MOVES input process in planning improvements for this NEI cycle.

8.3 Nonroad approach

Same as the previous inventory cycle, only MOVES input format (CDB) will be accepted. There are no planned changes to SCCs for mobile sources.

8.4 Commercial marine vessels approach

EPA plans to again use Automatic Identification System (AIS) data points from the US Coast Guard to identify ships and their activity. Unless an agency has similar, or more granular AIS-based emissions, it is unlikely they will have superior emissions estimates. S/L/Ts are encouraged to review the methodology and accept EPA CMV data. Although EPA will generate hour-specific files for modeling, the data stored in the EIS/NEI will be annual. NEI port emission will be in shape files, underway in county files.

8.5 Rail approach

Line-haul rail emissions will continue to be at the county level and rail yards will still be at the facility-level. EPA will again be using rail estimates developed via the Eastern Research Technical Advisory Committee (ERTAC). S/L/Ts are encouraged to be involved in this process and may choose to accept this data in lieu of submitting.

8.6 Aircraft approach

We will collect landing and take-off inputs, which S/L/Ts will be asked to review/update. Then EPA will run the Federal Aviation Administration's (FAA) Aviation Environmental Design Tool (AEDT) model to estimate emissions. There may be a version update provided by FAA but otherwise, we are using the same methodology as used for the previous NEI.

9 Fires

9.1 Overview

The AERR does not require S/L/T agencies to report emissions from wildfire or prescribed burning (wildland fires), and agricultural burning sources. These sources are reported as nonpoint to EIS. However, EPA and other agencies do need the day-specific, location-specific information for fire emission for air quality modeling platforms. Thus, for the purposes of this plan, the approaches described here assume use of the EIS to submit activity data (day-specific, location-specific information) and voluntary participation from S/L/T agencies to help EPA to create the most accurate inventory of these sources. We encourage states to submit inputs (activity data) using EIS and not emissions for Fires. We also encourage S/L/Ts to accept EPA emission estimates if a S/L/T has no activity to submit. Note that the NEI process for Fires allows S/L/Ts to review our draft emission estimates and make comments that EPA can address in moving to the final estimates, as one way of "accepting EPA estimates."

Air agency Fire (day-specific emissions from wildfire and prescribed burning sources) data is an important source of data in the NEI, as many pollutants such as PM, VOCs and numerous HAPs are emitted in significant amounts by the large fires. For Fires, the EPA provides a default dataset that covers the entire U.S (including AK, HI, PR, and the Virgin Islands). States should carefully check these emissions and strongly consider accepting them before deciding to submit emissions on their own. The EPA prefers to use consistent methods and pollutants where possible, so working with EPA to have the best estimates possible and then accepting EPA's estimates are an ideal approach. After review of EPA's final fire emissions (after provision of activity data), if an Agency deems it necessary to submit emissions, then care must be exercised to keep the pollutant coverage the same as what EPA estimates using its methods. More details on the inventory development for wildland fires is provided here.

1. Reassembly of the Fires Workgroup
   We will hold calls on a periodic basis to understand EPA methods, get work group comments and suggestions, and incorporate comments to the best of our ability into our estimation process. We will also include agricultural fires in these discussions.
2. Solicitation of 2023 Activity Data
   EPA will send a request by email to all S/L/Ts to collect activity data for wildland fires and agricultural burns. These activity data include, but are not limited to, fire-occurrence input data such as: acres burned, fuel moisture, fuel consumption and type of fires. EPA will provide instructions on how to submit fire activity using EIS.
3. Memo to S/L/Ts on Fires process for 2023
   EPA will send a memo briefly explaining EPA methods and why EPA would prefer S/L/Ts and others to only submit activity data for wildland fires and agricultural burns, and not emissions. In addition, if an S/L/T

chooses to submit emissions, we will explain what needs to be submitted (including CAPs, HAPs, and GHGs---and EPA will provide appropriate EFs) including parameters needed for emissions modeling such as the heat released by each fire and its unit of measure and how one can estimate that value.

4. Questionnaire to S/L/Ts
   Concurrent with the memo to S/L/Ts on fires inventory process, a questionnaire will be sent to S/L/Ts to help EPA assess how complete their activity data is. This will help EPA appropriate use other datasets in conjunction with what the S/L/Ts submit. It is extremely helpful for S/L/Ts to fill out and submit the questionnaire, even if you decide to submit emissions.
5. EPA Communication back to S/L/Ts
   EPA will provide feedback to S/L/Ts that submitted activity data as to the quality of the submitted activity data and if/how those data can use in emissions processing. EPA will further use survey completeness results to ensure S/L/Ts are agreeable to bringing in new activity datasets that are available as default for their domains.
6. Create SMARTFIRE2/Bluesky Pipeline based draft emission estimates for S/L/T review
   Activity data agreed upon to for use by S/L/Ts for their areas will be used with or without other activity datasets to estimate emissions via the SMARTFIRE2 (Satellite Mapping Automated Reanalysis Tool for Fire Incident Reconciliation)/Bluesky Pipeline(SF2/BSP) system approach that has been used for the 2020NEI. For those S/L/Ts that did not submit activity data, default activity data will be used. Draft methodology will also be provided and request S/L/Ts provide comments for corrections, including revised activity data they may possess. For the initial draft 2023 WLF emissions, EPA may run the SF2/BSP model without any state-submitted activity information (even if we receive it prior to that run). Once these draft estimates are posted, EPA will use the resulting comments and any activity data provided to EPA by S/L/Ts to rerun the SF2/BSP model. The reason for this is due to the uncertain nature of resource allocation for developing WLF emissions estimates in the many NEI cycles.
7. Rerun SMARTFIRE2/BlueSky and agricultural burn emissions process with revisions
   A regeneration of emissions based on suggested revisions from the review process as well as inclusion of S/L/T submitted activity data will be performed as resources allow. Accompanying documentation outlining differences between the draft estimates and this rerun will be provided. S/L/Ts that do not comment should see no changes in emissions.
8. Finalizing Wildland fires and agricultural burning emissions inventory
   S/L/Ts will be able to review the SMARTFIRE2/BlueSky and agricultural burns rerun emissions and minor comments, or edits, will be addressed and reflected in the Final NEI. Any S/L/Ts that do not approve of the EPA estimates need to have submitted their emissions prior to the extended-AERR deadline -though we strongly discourage this for wildland fires. For those S/L/Ts that submit emissions, EPA will provide HAP and PM2.5 composition emission factors for S/L/Ts to use. Also, if S/L/Ts submit emissions, they must also have submitted other parameters required for emissions modeling, such as heat released by each fire (which can be estimated from CONSUME). All required parameters will have been provided by EPA prior to the AERR submittal deadline.

9.2 Fire approach changes

For the 2023 NEI process, we expect the following items to be new/changed from the 2020 NEI process:

- Similar to the 2020 NEI, we continue to strongly-encourage S/L/Ts to submit activity data and NOT emissions for this data category. While we do encourage all S/L/Ts to submit only activity data, a couple of states do continue to submit emissions for this category.
- As in the 2020 NEI, more parameters are required if S/L/Ts submit data (emissions) to this category, including heat content ("Heat Release" and "Heat Release UOM"—see step 3 in the previous section for

further details) for each wildland fire as well as other parameters needed for emissions modeling of these fires; without heat release and heat release unit of measure, it is not possible to compute plume rise for fires. It's also possible that we update HAPs and EC and OC EFs for these fires in the 2023 NEI.

- Those Agencies that decide to submit wildland emissions data must submit smoldering and flaming emissions. The smoldering and flaming components individually are important for many activities including use of data for climate assessments, because the PM2.5 chemical composition is different for the smoldering vs. the flaming component. If a S/L/T does submit emissions, the smoldering component should correspond to the "Residual Smoldering" component that comes out of the CONSUME model, for example. Flaming can include both "flaming' and "regular smoldering". Note that if an S/L/T does submit emissions, they will be prohibited from submitting a total, they will only be able to submit smoldering and flaming emissions. If S/L/Ts only have total emissions and they need to re-apportion to the flaming and smoldering components, then they can use EPA estimates to develop those needed ratios or consult with EPA about the best way to solve the problem. EPA will provide instructions on how to submit emissions data. EPA will sum up the emissions submitted by an Agency to monthly, county totals and EPA will submit these summed totals to EIS. S/L/T agencies will not be able to submit monthly, county totals to EIS for wildland fires, but can submit agricultural burn emissions to EIS as has been done in previous NEIs.
- S/L/Ts that submit emissions must also submit HAPs, GHGs, and PM species as reported in EPA data. EPA will provide the requisite EFs.
- By July 2024, EPA will decide which version of the BSP process will be coupled with SMARTFIRE2 to estimate emissions. EPA is planning to use updated emissions factors from the Smoke Emissions Reference Application (SERA) database for the 2023 NEI. More information on SERA can be found here: https://depts.washington.edu/nwfire/sera/index.php. It is important to note that SERA uses numerous publications for emissions factor information on different fire types and fuels. The PM emissions will very likely increase significantly with the change in BSP to use the SERA database.
- For the 2023 NEI, it's possible a new set of SCCs will be included for pile burns. This will be included in the technical memo provided in the activity-data collection memo. If this is included, EPA will estimate pile burn emissions, and the new SCCs will allow for S/L/Ts to submit pile burn emissions, if they choose to submit emissions. S/L/Ts can accordingly also submit activity data (and questionnaire responses) for this new category of fires.
- Agencies should make it clear to the EPA that the activity data they are submitting is a complete set for both prescribed, wildfires, and agricultural burns. In that way, the EPA will ensure no other default data is brought into the process of estimating emissions for the S/L/Ts in question if such a note is included as part of the activity data submission. This will be accomplished as it was in the 2020 NEI process by EPA sending out a questionnaire that will address how complete an Agency's activity data are.
- We encourage agencies to send in activity data as soon as possible after EPA's "request for 2023 WLF and agricultural burn activity data" note goes out. Due to resource constraints this year and the fact that EPA's draft estimates will be based on only national default activity data, EPA will likely provide more time for S/L/Ts to submit activity data. We strongly encourage all agencies to review and comment on the draft fires NEI that we expect to post in the summer of 2024. This includes submitting additional activity data, commenting on the draft emission estimates, and other items that will facilitate getting us to a final WLF inventory.
- By July 2024, EPA will decide whether we need to add SCCs to cover pile burning.

10 EIS Gateway, Reports, and Tools

10.1 CERS Schema Changes

Through the Consolidated Air Emissions Reporting (CAER) project, several new fields have been identified to be stored in EIS. We have taken this opportunity to add other fields that we have added to EIS over the years to the CERS XML Schema. The 2020 inventory was the first inventory year to use the new schema. More information on these changes are provided in Section 4.1.1 and can also be found here.

10.2 Bridge Tool

The EIS Bridge Tools were modified to work with the updated CERS Schema format for the 2020 inventory. This included new columns for existing items, as well as the new facility control structures. The revised bridge tools were updated in December 2021 for Nonpoint/Onroad/Nonroad and February 2023 for Facility Point.

10.3 Reports

Along with the 2023 planned addition of input templates in EIS, new reports will be available for viewing what templates your S/L agency has submitted as well as those submitted by other agencies. It has long been a request to have the ability to view other agency templates to compare and confirm submissions across templates by different agencies. The summary reports should include the ability to request your agency's submissions, or another agency. In addition, we hope to include a template comparison report to view multiple agency template submissions in the same report.

The EIS comparison reports were new for the 2020 cycle and allow you to compare any number of datasets against a single, user-specific base dataset. This could be used, for example, to compare point emissions in the 2020 NEI against your agency submitted data for 2023. An additional example would be to compare your submitted data against TRI data so that you can see what facilities have reported to TRI and what is being reported by your agency. The comparison reports provide an absolute difference, percent difference and ratio between the baseline data value and the comparison value for each dataset being compared. We encourage S/L/T air agencies to take advantage of this report after having made your submission as an additional QA tool.

In addition, reports will be available for assessing whether your submissions have met the 2023 NEI completeness criteria. The use of this completeness report is described in Section 5.

11 Conclusion and Points of Contact

The EPA has created this plan to assist S/L/T agencies with their own planning needs for the 2023 NEI cycle. Please direct comments on this plan to Rich Mason. The EPA recognizes that S/L/T air agency staff will have many questions, ideas, and improvements that we have not addressed here, and your comments will help us improve this plan and the 2023 NEI process. Points of contact for various NEI data source categories and functions are provided on the Air Emissions Inventories Points of Contact website.