# READ ME file for the 1999 NEI for HAPs

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# OVERVIEW

## WHAT IS PROVIDED HERE?

Files are provided for download by state, local, and tribal agencies, EPA, and industry to review the 1999 NEI Version 3 for HAPs and its documentation. This READ ME file provides important information integral to your use and review of the files.

## WHY ARE THESE FILES BEING POSTED?

Version 2 of the 1999 NEI for HAPs was posted in October 2001 for state/local/tribal and industry review. Review was also solicited from within EPA. The revisions and additions provided in February 2002 and June 2002 for Version 2 of the NEI have been incorporated to the extent possible to develop Version 3.

Our goal is to have the final 1999 NEI Version 3, to be released in June 2003, contain emission estimates that represent a consensus among the state/local/tribal agencies involved, EPA, and industry. We expect that this will continue to require dialog and information exchange.

## WHAT IF I HAVE QUESTIONS?

Industry persons who have questions about emission estimates provided by state or local agencies can use Tables 4-7 at the end of this document to identify whom they can work with to resolve their questions.

To discuss emission estimates based on EPA MACT data, state, local, or industry staff should contact the MACT specialist listed in Table 8.

Please relay your general point source questions by e-mail to Ms. Anne Pope at the following address:

*pope.anne@epa.gov*

Please relay your questions and comments about residential wood combustion (fireplaces and stoves), open burning, and wildland fires by e-mail to Mr. Roy Huntley at the following address:

*huntley.roy@epa.gov*

Please relay your other nonpoint and mobile questions by email to Ms. Laurel Driver at the following address:

*driver.laurel@epa.gov*

## ACRONYMS

| | |
|---|---|
| AMS | Area and Mobile Source |
| ASCII | American Standard Code for Information Interchange |
| CAS | Chemical Abstract Service |
| EFIG | Emission Factor and Inventory Group |
| EPA | Environmental Protection Agency |
| ESD | Emission Standards Division |
| FIPS | Federal Information Processing Standards |
| FTP | File transfer protocol |
| GIS | Geographic Information System |
| HAP | Hazardous air pollutant |
| ID | Identification |
| I/O | Input/Output |
| MACT | Maximum Achievable Control Technology |
| NA | Not applicable |
| NAICS | North American Industry Classification System |
| NEI | National Emissions Inventory |
| NIF | NEI Input Format |
| NTI | National Toxics Inventory |
| ORIS | Office of Regulatory Information Systems |
| PCT | Percent |
| SIC | Standard Industrial Classification |
| SCC | Source Classification Code |
| TRI | Toxics Release Inventory |
| VOC | Volatile organic compound |
| VMT | Vehicle miles traveled |

# INTRODUCTION

The National Emissions Inventory (NEI) is a comprehensive inventory covering criteria pollutants and hazardous air pollutants (HAPs). The NEI was created by the EPA's Emission Factor and Inventory Group (EFIG) in Research Triangle Park, North Carolina. Previously, EFIG developed and maintained two separate inventories for HAPs and criteria pollutants. The two emission inventories were called the National Toxics Inventory (NTI) and the National Emission Trends (NET) inventory. The NTI was for HAPs and the NET was for criteria pollutants, and they sometimes used different procedures for determining emissions from the same sources. For 1999, the EPA decided to combine the inventories into a single comprehensive inventory covering both criteria pollutant and HAPs. The new name is the National Emissions Inventory (NEI). For this year, like last year, because of slightly different data structure, the EPA prepared the state files separately. The README document is for the HAP files only.

The scope of the NEI effort for HAPs was to compile 1999 base year emissions data for as many point, nonpoint, and mobile sources in the United States as possible. Details on development of the 1999 NEI can be found at *http:www.epa.gov/ttn/chief/net/nei_plan.pdf*. Details on the file data structure for the NEI can be found at *http:www.epa.gov/ttn/chief/nif/index.html#ver3*. Because the NEI now houses both criteria pollutants and HAPs, EFIG made the decision that emissions data for lead, which is both a criteria pollutant and a HAP, will be included in the NEI for HAPs.

The 1999 NEI for HAPs contains emission estimates for major sources, area sources, mobile sources, and other sources which do not readily fall into these categories. Point sources in the NEI are sources for which the specific location is known; they may be either major or area sources. Major sources are defined in the CAA as stationary sources that:

- Have the potential to emit 10 tons per year (tpy) or more of one HAP; or
- Have the potential to emit 25 tpy or more of any combination of HAPs.

As best as possible, point sources in the NEI have been identified as either major or area, but this identification may not correspond to the official regulatory classification of some sources. Nonpoint sources in the NTI include area sources that are not identified as point sources because their specific locations are not known. Nonpoint sources also include other sources such as wildfires and prescribed burning whose emissions are estimated at the county level.

The NEI includes aggregated emission estimates at the county level for mobile sources. Onroad estimates were developed by EPA using the MOBILE6.2 model. Nonroad mobile categories include a variety of nonroad vehicles and equipment, aircraft, locomotives, and commercial marine vessels.

## WHAT 1999 NEI VERSION 3 FILES ARE POSTED FOR HAPs?

This file transfer protocol (ftp) site has separate point, nonpoint, onroad, and nonroad mobile source files for each state, including Washington, DC, Puerto Rico, and the Virgin Islands, containing the 1999 National Emission Inventory (NEI) HAP files for that state. The files posted here by the U.S. Environmental Protection Agency (EPA) include inventory documentation files describing how the NEI was developed, and inventory data files that contain the actual inventory data for each state. This READ ME file describes the different files posted on this site and how to use them.

Please note that onroad and nonroad mobile emission estimates are sensitive to many factors such as local fleet mix, climate conditions, and fuel programs. EFIG estimates may not match estimates made by state or local agencies if these input factors are not consistent. Where state or local agencies have made efforts to determine these inputs recently, our ultimate goal is to incorporate such better inputs into the NEI estimates.

## WHAT INVENTORY DOCUMENTATION FILES ARE PROVIDED?

The documentation that describes how the NEI was developed appears in the following Adobe® files:

*Point99ver3_sept2002.pdf* for the point source inventory;

*Nonpt99ver3_sept2002.pdf* for the nonpoint source inventory;

*Onroad99.pdf* for the onroad mobile source inventory; and

*Nonrd-1.pdf and nonrd-2.pdf* for the nonroad, aircraft, commercial marine vessels, and railroad mobile source inventory. This documentation consists of two volumes. *Nonrd-1.pdf* contains the inventory methodology. *Nonrd-2.pdf* contains activity data and relevant reference materials.

The documentation files provided in ".pdf" format require the Adobe® Acrobat® Reader Version 2.1 or higher to open and view. To download to a free copy of this software, go to:

*http://www.adobe.com/prodindex/acrobat/readstep.html*

## WHAT INVENTORY DATA FILES ARE PROVIDED?

Four inventory data files are provided for each state: point, nonpoint, onroad mobile, and nonroad mobile. The naming convention for these files is “XXPT99V3.zip” where XX is the two-character U.S. postal code (state abbreviation) for each state for point sources and “XXNP99V3.zip” for nonpoint sources (where XX is again the two-character U.S. postal code). The naming convention for the onroad mobile source files is “XXHAPONRD1002.zip”. The naming convention for the nonroad mobile source files is “XXHAPACR0902.zip”.

These files are currently posted only in Access®. If you need the files in an ascii fixed column or delimited version, please contact the EPA person listed in the Overview section for the source type in question.

The point source zipped file for each state contains an Access® database with eight record types, or tables, containing facility and emissions data. Included is a record-count table, a linking query, and an emissions sum query.

The nonpoint and nonroad mobile source zipped files for each state contains an Access® database with five record types. In addition, the GIS data used to spatially allocate aircraft, commercial marine vessel, and locomotive emissions are provided.

The onroad mobile source zipped file for each state contains an Access® database with three record types. In addition, the MOBILE 6.2 input files are provided.

The file, *state lookup codes.zip*, contains an Access® database with revised NIF codes. This file should be used as a reference for the data files and for the summary files.

**WHAT SUMMARY FILES ARE PROVIDED?**

In addition to the NEI documentation and data files posted here, additional files are provided to facilitate your evaluation of the NEI, and to help you put the emission estimates presented here into perspective by state, county and facility. The summary files and documentation reports posted here also allow you to clearly identify the source of emissions data selected for each point source facility, each nonpoint source category, and each onroad and nonroad mobile source category.

In each summary file, emissions are presented for each 188 HAP category, as the sum of the 188 HAPs, and as the sum of the 33 urban HAPs used by EPA in many air toxics programs. Each 33 urban HAP is flagged as such. Emissions are also presented for each individual HAP species in all files except for the county emission summary and the source category summary files. Each county is flagged with the urban/rural designation developed under EPA/s Integrated Urban Air Toxics Strategy. A county is considered “urban” if either:

1) it includes a metropolitan statistical area with a population greater than 250,000; or
2) the U.S. Census Bureau designates more than fifty percent of the population as "urban."

The Integrated Urban Air Toxics Strategy is an important part of EPA's national air toxics program. Please note that the definition of "urban" does not necessarily apply for regulatory or implementation purposes. (*www.epa.gov/ttn/atw/urban/urbanpg.html*)

**County Emission Summary**

The county emission summary presents the NEI HAP emissions by state, and county for major, area/other, onroad, and nonroad sources. Major and area/other sources are also summarized as MACT vs. non-MACT source categories.

**Source Category Summary**

The source category summary presents the NEI HAP emissions by state, and county for major, area/other, onroad, and nonroad sources. The area/other sources are delineated as point or nonpoint. Each stationary source category is presented by MACT code, SIC code, or just source category name if there is no applicable MACT or SIC code.

**Point Source Facility Summary**

The point source facility summary presents the NEI HAP emissions by NTI unique facility (often consisting of multiple sites) and individual site for major and area point sources. Included with each facility record is the address, site latitude/longitude, emission type (actual, allowable, potential, etc.), MACT and/or SIC code. The source of the emission estimate, whether original data or recently revised, is also noted as state/local/tribal, MACT, TRI, industry, or 1996 NTI.

**Point Source Stack Summary**

The point source stack summary presents the NEI HAP emissions by NTI unique facility (often consisting of multiple sites) and individual site for major and area point sources. Included with each record is the emission type (actual, allowable, potential, etc.), emission unit ID, process ID, emission release point ID, SCC, MACT and/or SIC code, emission release point type (stack/vent or fugitive), and latitude/longitude of the emission release point. The source of the emission estimate, whether original data or recently revised, is also noted as state/local/tribal, MACT, TRI, industry, or 1996 NTI.

**Nonpoint Stationary Source Summary**

The nonpoint stationary source summary presents the NEI HAP emissions by state, county, and area source category. Included with each record is the emission type (actual, allowable, potential, etc.), SCC/AMS code, MACT and/or SIC code.

**Onroad Mobile Source Summary**

The onroad mobile source summary presents the NEI HAP emissions by state, county, and source category. Included with each record is the emission type (actual, allowable, potential, etc.), SCC/AMS code, and the mobile model used to estimate emissions.

**Nonroad Mobile Source Summary**

The nonroad mobile source summary presents the NEI HAP emissions by state, county, and source category. Included with each record is the emission type (actual, allowable, potential, etc.) and SCC/AMS code.

## HOW ARE THE DATA FILES ORGANIZED?

EPA's Emission Factor and Inventory Group (EFIG) decided that the structure of EPA's NEI database would be the best format to use in compiling the NEI for HAPs. The NEI currently houses EPA's criteria pollutant emissions inventory, and adding the air toxics inventory will serve multiple end uses.

The specific data structure used for the 1999 NEI for HAPs is based on NEI Input Format (NIF) Version 2.0. Further information about the NIF can be found at:

*http://www.epa.gov/ttn/chief/inf/index.html*.

The NIF code tables can also be found there. Tables 1, 2, and 3 summarize the structure of the point, nonpoint area, nonroad mobile, and onroad mobile source files provided.

## WHAT SOFTWARE DO I NEED TO USE THE DATA FILES?

The NEI files are provided in Microsoft® Access 97. MS-Access provides a reliable, commonly used platform which can be used to view and link the files.

If you need these files in a different format, such as ascii fixed column or comma delimited, please contact the EPA person listed above in the Overview section for the source type in question. We are more than happy to provide a format you can review.

To use or view the GIS data, it is recommended that the reader go to the BTS web site for instructions on how to convert the data to different GIS software applications. The web site is *http://www.bts.gov/gis/ntatlas/viewer.html*.

## HOW CAN I REVIEW OR USE THE FILES?

State and local agencies, tribal representatives, and industry representatives are more familiar with the emission sources in a given county or state than EFIG. The following discussion will help you understand the source of the inventory data.

**Point Source Files**

The point source inventory is a combination of state, local, and tribal agency data, EPA data for MACT sources, and Toxics Release Inventory (TRI) data, supplemented with data pulled from the 1996 NTI. EFIG still needs those most familiar with facilities in a given state or county to help identify missing, duplicate or closed facilities within the NEI.

# Table 1a. Summary of Point Source NEI Records

| Transmittal | Site | Emission Unit | Emission Release Point |
|---|---|---|---|
| Record Type | Record Type | Record Type | Record Type |
| State FIPs | State FIPS | State FIPS | State FIPS |
| County FIPs | County FIPS | County FIPS | County FIPS |
| Organization Name[a] | Site ID | Site ID | Site ID |
| Transaction Type | Federal Facility ID[e] | Emission Unit ID | Stack Default Flag[g] |
| Inventory Year | Facility Category | ORIS Boiler ID | Emission Release Point ID |
| Inventory Type Code | ORIS Facility Code | SIC Unit Level | Emission Release Point Type |
| Transaction Creation Date | SIC Primary | NAICS Unit Level | Location Default Flag[g] |
| Incremental Submission Number | NAICS Primary | Design Capacity | Stack Height |
| Reliability Indicator | Facility Name | Design Capacity Unit Numerator | Stack Diameter |
| Transaction Comments | Site Description | Design Capacity Unit Denominator | Stack Fenceline Distance |
| Contact Person Name[b] | Street Line 1 | Max Nameplate Capacity | Exit Gas Temperature |
| Contact Phone Number[c] | Street Line 2 | Emission Unit Description | Exit Gas Velocity |
| Contact Fax Number | Street Line 3 | Submittal Flag | Exit Gas Flow Rate |
| Contact Email Address[d] | City | | X Coordinate |
| Contact Alternate Phone Number | State | | Y Coordinate |
| Source Type | Zip Code | | UTM Zone |
| Contact Type Code | Country | | XY CoordinateType |
| Format Version | Address Type Code | | Horizontal Area Fugitive |
| | NTI Site ID | | Release Height Fugitive |
| | Site MACT Code[f] | | Fugitive Dimensions Unit |
| | Site MACT Compliance Status[f] | | Emission Release PT Description |
| | Dun & Bradstreet Number | | Submittal Flag |
| | TRI ID | | |
| | Submittal Flag | | |
| | MACT Code Default Flag[f] | | |
| | Tribal ID[g] | | |

[a] "US EPA EFIG" for this version.
[b] Ms. Anne Pope
[c] 919-541-5373
[d] pope. anne@epa.gov
[e] NTI Unique Facility ID, often assigned to multiple Sites.
[f] Transferred to Emission Process Table for this version.
[g] Not an official NIF field, often corresponds to a NIF Blank Field.

# Table 1b. Summary of Point Source NEI Records (Continued)

| Emission Process | Control Equipment | Emission Period | Emission |
|---|---|---|---|
| Record Type | Record Type | Record Type | Record Type |
| State FIPS | State FIPS | State FIPS | State FIPS |
| County FIPS | County FIPS | County FIPS | County FIPS |
| Site ID | Site ID | Site ID | Site ID |
| Emission Unit ID | Emission Unit ID | Emission Unit ID | Emission Unit ID |
| Emission Release Point ID | Process ID | Process ID | Process ID |
| Process ID | Pollutant Code | Start Date | Pollutant Code |
| SCC | Primary PCT Control Efficiency | End Date | Data Source Flag[e] |
| Process MACT Code | PCT Capture Efficiency | Start Time | Emission Release Point ID |
| Emission Process Description | Total Capture Control Efficiency | End Time | State Date |
| Winter Throughput PCT | Primary Device Type Code | Actual Throughput | End Date |
| Spring Throughput PCT | Secondary Device Type Code | Throughput Unit Numerator | Start Time |
| Summer Throughput PCT | Control System Description | Material | End Time |
| Fall Throughput PCT | Third Control Device Type Code | Material I/O | Emission Numeric Value |
| Annual Average Days Per Week | Fourth Control Device Type Code | Period Days Per Week | Emission Unit Numerator |
| Annual Average Weeks Per Year | Submittal Flag | Period Weeks Per Period | Emission Type |
| Annual Average Hours Per Day | | Period Hours Per Day | EM Reliability Indicator |
| Annual Average Hours Per Year | | Period Hours Per Period | Factor Numeric Value |
| Heat Content | | Submittal Flag | Factor Unit Numerator |
| Sulfur Content | | | Factor Unit Denominator |
| Ash Content | | | Material |
| Process MACT Compliance Status | | | Material I/O |
| | Submittal Flag | | Emission Calculation Method Code |
| MACT Code Default Flag[g] | | | EF Reliability Indicator |
| | | | Rule Effectiveness |
| | | | Rule Effectiveness Method |
| | | | Rule Penetration |
| | | | Control Status |
| | | | Emission Data Level |
| | | | Submittal Flag |

[a] "US EPA EFIG" for this version.
[b] Ms. Anne Pope
[c] 919-541-5373
[d] pope.anne@epa.gov
[e] NTI Unique Facility ID, often assigned to multiple Sites.
[f] Transferred to Emission Process Table for this version.
[g] Not an official NIF field, often corresponds to a NIF Blank Field.

# Table 2. Summary of Area (Nonpoint) and Nonroad Mobile Source NEI Records

| Transmittal | Emission Process | Control Equipment | Emission Period | Emission |
|---|---|---|---|---|
| Record Type | Record Type | Record Type | Record Type | Record Type |
| State FIPs | State FIPS | State FIPS | State FIPS | State FIPS |
| County FIPs | County FIPS | County FIPS | County FIPS | County FIPS |
| Organization Name[a] | SCC | SCC | Start Date | SCC |
| Transaction Type | Process MACT Code | Pollutant Code | End Date | Pollutant Code |
| Inventory Year | Emission Process Description | Primary PCT Control Efficiency | Start Time | Data Source Flag[e] |
| Inventory Type Code | SIC code | PCT Capture Efficiency | End Time | Start Date |
| Transaction Creation Date | NAICS | Total Capture Control Efficiency | Actual Throughput | End Date |
| Incremental Submission Number | Winter Throughput PCT | Primary Device Type | Throughput Unit Numerator | Start Time |
| Reliability Indicator | Spring Throughput PCT | Secondary Device Type | Material | End Time |
| Transaction Comments | Summer Throughput PCT | Control System Description | Material I/O | Emission Numeric Value |
| Contact Person Name[b] | Fall Throughput PCT | Submittal Flag | Period Days Per Week | Emission Unit Numerator |
| Contact Phone Number[c] | Annual Average Days Per Week | | Period Weeks Per Period | Emission Type |
| Contact Fax Number | Annual Average Weeks Per Year | | Period Hours Per Day | EM Reliability Indicator |
| Contact Email Address[d] | Annual Average Hours Per Day | | Period Hours Per Period | Factor Numeric Value |
| Contact Alternate Phone Number | Annual Average Hours Per Year | | Submittal Flag | Factor Unit Numerator |
| Source Type | Heat Content | | | Factor Unit Denominator |
| Contact Type Code | Sulfur Content | | | Material |
| Format Version | Ash Content | | | Material I/O |
| | Process MACT Compliance Status | | | Emission Calculation Method Code |
| | Submittal Flag | | | EF Reliability Indicator |
| | | | | Rule Effectiveness |
| | | | | Rule Effectiveness Method |
| | | | | Rule Penetration |
| | | | | Submittal Flag |

[a] "US EPA EFIG" for this version.
[b] Ms. Laurel Driver
[c] 919-541-2859
[d] driver.laurel@epa.gov
[e] Not an official NIF field. In nonpoint files only (as "Blank Field").

## Table 3. Summary of Onroad Mobile Source NEI Records

| Transmittal | Emission Period | Emission |
|---|---|---|
| Record Type | Record Type | Record Type |
| State FIPs | State FIPS | State FIPS |
| County FIPs | County FIPS | County FIPS |
| Organization Name[a] | SCC | SCC |
| Transaction Type | Start Date | Start Date |
| Inventory Year | End Date | End Date |
| Inventory Type Code | Start Time | Start Time |
| Transaction Creation Date | End Time | End Time |
| Incremental Submission Number | Actual Throughput | Pollutant Code |
| Reliability Indicator | Throughput Unit Numerator | Emission Process Description |
| Transaction Comments | Submittal Flag | Emission Numeric Value |
| Contact Type Code | | Emission Unit Numerator |
| Format Version | | Emission Type |
| | | EM Reliability Indicator |
| | | Submittal Flag |

During review of the point source inventory files, you can distinguish the original data source (state, EPA, TRI, or 96NTI) in a number of ways. In the Emission record, the data origin is flagged as:

- L = Local agency submittal June 2001;
- S2 = State, local, or tribal agency submittal June 2002;
- S1 = State, local, or tribal agency submittal February 2002;
- M2 = ESD 2002 revision;
- I = Industry 2002 revision;
- S = State agency submittal June 2001;
- M1 = ESD original submittal;
- T = TRI 99 data; and
- N = Data from 1996 NTI.

Default flags are also included for coordinate data and stack parameters in the Emission Release Point record. The table below indicates the coordinate defaults.

## Location Default Flags

| Code | Description |
|---|---|
| Exact | Match is to within a unique intersection or within a single side of a single street block. |
| Near | Match is to a single street block but the correct placement within block is unknown. |
| Zipcode+2 | Match to a 5-digit zip code, plus the first two digits of the 4-digit extension. |
| Zipcode5 | Match to a 5-digit zip code. |
| Zipcode3 | Match is to a 3-digit zip code. |
| SCF3 | Match to multiple 3-digit zip codes based on postal service Sectional Center Facility (SCF). |
| Ambig | Match is to multiple street segments. |
| Countycent | County centroid. |

Stack defaults were added to records that were missing any of the five variables (height, diameter, temperature, velocity, and flow). Default values for these parameters were obtained from the 1996 NEI, version 4. For details, see *http://www.epa.gov/ttn/chief/emch/invent/index.html*.

The coding system used to identify the source of default stack parameters is:

0 = Original value (not a default)
1 = SCC default
2 = SIC code default
3 = National default
4 = Calculated value
5 = Diameter defaulted to 50 feet

A single NIF field is used to represent the source of all five stack parameters. The codes are presented in this field in the following order:

Stack height, stack temperature, stack diameter, stack velocity, stack flow

Thus, the code “00114" indicates that stack height and exit gas temperature are original values, stack diameter and exit gas velocity are SCC defaults, and exit gas flowrate was calculated based on the stack diameter and exit gas velocity values.

As noted above, EFIG expanded the uses of the NEI to provide a model-ready HAP emissions inventory for use in dispersion and exposure modeling. The 1999 NEI must therefore contain comprehensive, facility-specific HAP emissions data and source-specific parameters. If you have any stack parameter or location data for any additional facilities, or corrections, please provide that with your review comments.

**Nonpoint Source Files**

The 1999 NEI nonpoint source estimates were primarily developed using top-down methods based on national, regional, or state level emission estimates. The estimates were developed by combining emission factors with activity data, from information provided for MACT source categories, and from data and revisions provided by state and local agencies.

The development of the nonpoint source inventory using top-down methods may mean that the emission estimates for a given county may over- or underestimate true emissions, or an important nonpoint source category may be missing from a given county. EFIG needs those most familiar with a given state or county to help missing or erroneous data.

As you review the nonpoint source inventory files, you can again distinguish the data source (state, EPA, TRI, or 96NTI). In the Emission record, the data are flagged as:

- S = State agency provided data
- L = Local agency provided data
- M = EPA/ESD provided MACT data
- E = EFIG generated 1999 estimates
- N = NTI96 data

**Onroad Mobile Source Files**

The 1999 NEI onroad HAP estimates were developed using the most current version of the EPA's Office of Transportation and Air Quality (OTAQ) MOBILE model. The basic model MOBILE6 was finalized and made available in January 2002. The toxics extension MOBILE6.2 was made available as a draft for review in May 2002 and was used for this version of the NEI. The MOBILE model is a tool for estimating emission factors which, for the most part, are then multiplied by vehicle miles traveled (VMT) in order to estimate emissions. MOBILE model outputs and emission estimates are influenced by inputs to the model (e.g., speed, Reid vapor pressure, temperature, fleet characteristics, fuel parameters) as well as VMT.

**Nonroad Mobile Source Files**

The 1999 NEI nonroad mobile source estimates were developed using top-down methods that estimated emissions on a national or state level. For several years the EPA's Office of Transportation and Air Quality (OTAQ) has been developing a criteria pollutant emissions model (NONROAD) to estimate emissions from nonroad sources. The version of the NEI used the latest draft version of the NONROAD model available, termed "Lockdown C," (May, 2002). Equipment types covered by the NONROAD emissions model were estimated using a set of NONROAD county-level output files and speciation profiles provided by OTAQ. Estimates for aircraft, locomotives, and commercial marine vessels were developed by combining emission factors with activity data, or by applying speciation profiles to volatile organic compound (VOC) emissions, with guidance provided by OTAQ.

The development of the inventory using top-down methods may mean that the emission estimates for a given county are over- or underestimated. EFIG needs those most familiar with a given state or county to help identify or correct erroneous data.

For aircraft, CMV, and locomotive sources, emissions are spatially allocated to individual counties using GIS data available from the DOT's BTS. The GIS files used in this inventory effort are adjusted to match county borders. The processed GIS data are also provided here.

**HOW DO I TRANSFER DATA CORRECTIONS TO EFIG?**

Data revisions should be submitted electronically to EFIG using the NEI Input Format (NIF) V2.0. The following explanation of this process includes excerpts from the NIF V2.0 Appendix A, User Instructions and Conventions (located at *http://www.epa.gov/ttn/chief/nif/index.html*).

Data revisions must be coded in terms of how you want EFIG to change data as it appears in the public review version of the NEI to which you are responding. Your data changes(s) must be coded in the NIF in the form of an addition, deletion, or revision to what exists in the draft NEI. All data changes must be done for ***whole***, not partial records.

*NIF Data Records and Elements Involved*

Submitting data revisions in the NIF V 2.0 will include the following records and data elements to describe the type of revision being requested:

| *Record(s)* | *Data Elements* |
|---|---|
| Transmittal (TR) | TRANSACTION TYPE<br>INCREMENTAL SUBMISSION NUMBER |
| All except TR | SUBMITTAL FLAG |

*Use Conventions*

At the end of each NIF record,[a] except for the Transmittal record, the last data element field is the **SUBMITTAL FLAG**. The SUBMITTAL FLAG data element is a coded field that must be reported in each record to specify the type of data correction being requested. The code values and their meaning are:

**A** = Add - the record data reported (e.g., included therein) does not exist in the NEI public review version and you want EFIG to add it.

**D** = Delete - the record data reported does exist in the NEI public review version and you want EFIG to delete it, without replacement.

Be aware that when you request we delete a specific record (e.g., D), we will also delete, if present, any related, subordinate records. Also, if you request that we add (A) a record that has subordinate related records, you must include those specific records in your Add request.

**RD** = Revise/Delete - the record data reported exists in the draft NEI and you want EFIG to revise it with the respective corresponding record with SUBMITTAL FLAG code = RA.

**RA** = Revise/ Add - the record data reported should supercede (*replace*) that in respective record indicating the RD (above).

If you want us to *replace* some of your data that currently exists in the NEI, there must always be two records provided in that case - one indicating (SUBMITTAL FLAG =) Revise/Delete (RD), and a corresponding record type indicating the Revise/Add (RA). The RD acknowledges the *whole* record in its entirety that exists in the draft, and the RA indicates any corrections (replacements) requested for those same data elements that exist in the draft record, plus may report additional data elements if relevant (that did not exist in the NEI record).

[a] In the point source Process record for HAP data, the MACT code default flag follows the submittal flag. In the point source Site record for HAP data, the MACT code default flag and the Tribal ID follow the submittal flag.

**For RD / RA record pairs, you do not need to re-submit the subordinate records of a changed record if they do not themselves contain changes.** ***The RD / RA record type pairs must report the same data values for the primary key fields to allow the records to be sorted together for processing.*** **If you are correcting a data value for one of the primary key fields in a record, that actually creates a *new* record (that does not exist in the NEI), and should be submitted as an Add, and should include any subordinate records. The specific record in the NEI that contains the incorrect primary key data value should then be coded with a D, to Delete that record.**

A **Transmittal record** (**TR**) must accompany each source type file (i.e., point, nonpoint, nonroad mobile, onroad mobile) of records which you are submitting. The information in the Transmittal record is used to describe the entire source file and its origin. Submit one TR record per unique county. This, along with ORGANIZATION NAME will help distinguish and track local (county) agency submittals separately from the state agency submittals. Please refer to the NIF Appendix A for a full explanation of how to implement the TR record. The following TR record data elements are especially relevant to the data correction / replacement scenario.

TRANSACTION TYPE = 'replacement' (05) for submittal of a source file type previously submitted, or data correction.

INCREMENTAL SUBMISSION NUMBER = a unique number that differentiates incremental submissions of data. Use '1' for first submittal of data correction / replacement set.

***Acceptable File Types and File Naming Convention***

When saving your NIF V2.0 file of data corrections, acceptable file types are MS Access (.mdb) or ASCII text (.txt).

Please use the specific file naming convention described here when submitting data corrections to the NEI. The file names are very similar to that convention used by EFIG to post the NEI data. The file naming convention is as follows:

REVISED_ST/POLL/SOURCE/DATE

Where:

ST = State
POLL = HAP or CRIT;
[HAP for hazardous air pollutants, CRIT for criteria pollutants]

SOURCE = PT, NPT, AR, ONRD, NRD;
[Point, nonpoint if HAP, area if CRIT, onroad mobile, nonroad mobile]

DATE = MM/YY; [ Month, Year of your data submittal ]

Example – a file of data corrections for Connecticut, for HAP data, for nonpoint sources, and submitted to EFIG in Jan 2003 is - REVISED_CTHAPNPT0103

***Electronic Submittal of the Data Corrections – Central Data Exchange (CDX)***

Once the data changes are implemented in the NIF, the electronic file will be submitted to EFIG through the EPA's Central Data Exchange facility. CDX will be used in the same manner as this past summer for submission of the original data sets from agencies. CDX is expected to be open for data exchange October 2002 – January 2003. Those agencies that have previously submitted data sets through CDX will already have an account and password. If the account holder has forgotten the password, it may be re-set by calling CDX Technical Support at 1-888-890-1995. If your agency does not have an active account, you must first preregister with CDX. Please follow the preregistration procedure described and located on *http://www.epa.gov/ttn/chief/nif/cdx.html*. If you need assistance, contact CDX Technical Support.

Be aware that when transferring data electronically through CDX, users are asked to zip their files and name the zip file according to a specified CDX file naming convention. When EFIG unzips the files received from CDX, the initial file names described above remain apparent.

**WHO ARE THE CONTACTS FOR STATE, LOCAL, AND MACT DATA?**

The following tables summarize the state and local agencies who provided data for the 1999 NEI, as well as the EPA contacts for MACT data (Tables 4-8).

## Table 4. Point Source State, Local, and Tribal Agency Contacts

| State | Contact | Email |
|---|---|---|
| Alabama | Cala Obenauf | cjo@adem.state.al.us |
| Jefferson Co., Alabama | Ed Wright | ewright@jcdh.org |
| Maricopa Co., Arizona | Bob Downing | bdowning@mail.maricopa.gov |
| Salt River Tribe, Arizona | Sarah Kelly | sarah.kelly@nau.edu |
| Arkansas | Kenya Brunson | brunson@adeq.state.ar.us |
| California | Andy Alexis | aalexis@arb.ca.gov |
| Colorado | David Thayer | david.thayer@state.co.us |
| Connecticut | William Simpson | william.simpson@po.state.ct.us |
| | Christopher Mulcahy | chris.mulcahy@po.state.ct.us |
| | Hicham Bourjaili | hicham.bourjaili@po.state.ct.us |
| Delaware | John Outten | johnoutten@state.de.us |
| | Mark Prettyman | mark.prettyman@state.de.us |
| | David Fees | david.fees@state.de.us |
| Florida | Yi Zhu | yi.zhu@dep.state.fl.us |
| Idaho | Michael Dubois | mdubois@deq.state.id.us |
| | Gary Reinbold | greinbol@deq.state.id.us |
| Illinois | Buzz Asselmeier | buzz.asselmeier@epa.state.il.us |
| Indiana | Jon Bates/Jay Koch | jkoch@dem.state.in.us |
| Kansas | Dana Morris | dmorris@kdhe.state.ks.us |
| | Wendy Vit | wvit@kdbe.state.ks.us |
| Kentucky | Debra Jennings | debra.jennings@mail.state.ky.us |
| | Andrea Wilson | andrea.wilson@mail.state.ky.us |
| Jefferson Co, Kentucky | Jess Goldsmith | jgoldsmith@co.jefferson.ky.us |
| Louisiana | Jennifer Walton | jennifer_b@deq.state.la.us |
| Maine | Rich Greves | rich.greves@state.me.us |
| Maryland | J. Will Haus | N/A |
| Massachusetts | Jen D'Urso | jen.d'urso@state.ma.us |
| | Robert Boisselle | robertboisselle@state.ma.us |
| | Azin Kavian | azin.kavian@state.ma.us |
| Michigan | Allan Ostrander | ostrander@state.mi.us |
| Minnesota | Chun Yi Wu | chun.yi.wu@pca.state.mn.us |
| Mississippi | Susan Holden | susan_holden@deq.state.ms.us |
| Missouri | Nathan J. Holm | nrholmn@mail.dnr.state.mo.us |
| Montana | Charles Homer | N/A |
| Nebraska | Dave Brown | N/A |
| Omaha, Nebraska | Tim Burns | tburns@ci.omaha.ne.us |

## Table 4. Point Source State, Local, and Tribal Agency Contacts (Continued)

| State | Contact | Email |
|---|---|---|
| Lincoln Co., Nebraska | Charles Riley | criley@ci.lincoln.ne.us |
| | Stacy Munger | smunger@ci.lincoln.ne.us |
| Nevada | Lori Campbell | loric@ndep.state.nv.us |
| New Hampshire | Sonny Strickland | sstrickland@des.state.nh.us |
| | Rick Rumba | R_rumba@des.state.nh.us |
| New Jersey | Lisa Jones | ljones@deq.state.nj.us |
| | Brad Bollen | brad.bollen@dep.state.nj.us |
| New Mexico | Jim Shively | jim_shively@nmenv.state.nm.us |
| New York | Mike Sheehan | mpsheeha@gov.dec.state.ny.us |
| North Carolina | Carol Walker | carol.walker@ncmail.net |
| Buncombe Co., North Carolina | Greg Davis | davisgr@co.buncombe.nc.us |
| Forsyth Co., North Carolina | Steve Lyda | lydask@co.forsyth.nc.us |
| Mecklenberg Co., North Carolina | S. David Ross | rosssd@co.mecklenburg.nc.us |
| Ohio | Tom Velalis | tom.velalis@epa.state.oh.us |
| Dayton, Ohio | Andrew J. Roth | rothaj@rapca.org |
| Oklahoma | Jeff Davidson | jeff.davidson@deq.state.ok.us |
| Oregon | Steve Aalbers | aalbers.steve@deq.or.us |
| Pennsylvania | Carrie Eastman | eastman.carrie@dep.state.pa.us |
| Allegheny Co, Pennsylvania | Gary Fischman | gfishman@achd.net |
| Philadelphia, Pennsylvania | Thomas Weir | thomas.weir@phila.gov |
| Rhode Island | Karen Slattery | kslatter@dem.state.ri.us |
| South Carolina | Christopher Cheatham | cheathcc@dhec.state.sc.us |
| | Lynn Barnes | barnesls@columb31.dhec.state.sc.us |
| | Bob Betterton | betterrj@dhec.state.sc.us |
| Tennessee | Ron Redus | rrdeus@mail.state.tn.us |
| Chattanooga, Tennessee | Heather Sandner | sandner_h@mail.chattanooga.gov |
| Shelby Co., Tennessee | Christopher Boyd | cboydengrbmschd@yahoo.com |
| Davidson Co., Tennessee | Laura Artates | laura.artates@nashville.gov |
| Utah | Scott D. Hanks | shanks@deq.state.ut.us |
| Vermont | Jeff Merrell | jeffm@dec.anr.state.vt.us |
| Virginia | Tom Ballou | trballou@deq.state.va.us |
| Washington | Sally Otterson | sott461@ecy.wa.gov |
| Puget Sound, Washington | John K. Anderson | johna@pscleanair.org |
| West Virginia | David Porter | dporter@mail.dep.state.wv.us |
| Wisconsin | Ralph Patterson | patter@dnr.state.wi.us |
| Wyoming | Mark Arn | marn@state.wy.us |

## Table 5. Nonpoint Source State and Local Agency Contacts

| State/Local | Contact | Email |
|---|---|---|
| Alabama | Cala Obenauf | cjo@adem.state.al.us |
| California | Chris Nguyen | tnguyen@arb.ca.gov |
| Colorado | Dale Wells | dale.wells@state.co.us |
| Delaware | Mark Prettyman | mark.prettyman@state.de.us |
| Hillsborough Co., Florida | Alain Watson | watsona@epchc.org |
| Pinellas Co., Florida | Pwu-Sheng Liu | pliu@co.pinellas.fl.us |
| Idaho | Mike DuBois | mdubois@deq.state.id.us |
| Maine | Doug Saball | doug.saball@state.me.us |
| Maryland | Lief Hockstad | lhockstad@mde.state.md.us |
| Massachusetts | Jen D'Urso | jen.d'urso@state.ma.us |
| | Azin Kavaian | azin.kavaian@state.ma.us |
| Michigan | Allan Ostrander | ostrander@state.mi.us |
| Minnesota | Chun-Yi Wu | chun.yi.wu@pca.state.mn.us |
| New Hampshire | David Healy | dhealy@des.state.nh.us |
| New Jersey | Olga Boyko | oboyko@dep.state.nj.us |
| New York | Syed Alam | snalam@gw.dec.state.ny.us |
| Rhode Island | Karen Slattery | kslatter@dem.state.ri.us |
| South Carolina | Lynn Barnes | barnesls@columb31.dhec.state.sc.us |
| Davidson Co., Tennessee | Laura Artates | laura.artates@nashville.gov |
| Texas | Peter Ogbeide | pogbeide@tnrcc.state.tx.us |
| Vermont | Jeff Merrell | jeffm@dec.anr.state.vt.us |
| Puget Sound, Washington | Kwame Agyei | kwamea@pscleanair.org |
| West Virginia | Joe Morgan | joemorgan@mail.dep.state.wv.us |

## Table 6. Onroad Mobile Source State and Local Agency Contacts

| State | Contact | Email |
|---|---|---|
| Alabama | Cala Obenauf | cjo@adem.state.al.us |
| California | Andrew Alexis | aalexis@arb.ca.gov |
| Louisiana | Elizabeth McDearman | elizabethm@deq.state.la.us |
| Maryland | Leif Hockstad | lhockstad@mde.state.md.us |
| Lincoln, Nebraska | Charles Riley | criley@ci.lincoln.ne.us |
| South Carolina | Lynn Allen | N/A |
| Chattanooga, Tennessee | Heather Sandner | sandner_h@mail.chattanooga.gov |
| Texas | Peter Ogbeide | pogbeide@tnrcc.state.tx.us |
| Utah | Carol Nielsen | cnielsen@deq.state.ut.us |
| Wisconsin | Grant Hetherington | hetheg@dnr.state.wi.us |

## Table 7. Nonroad Mobile Source State and Local Agency Contacts

| State | Contact | Email |
|---|---|---|
| Alabama | Cala Obenauf (Rail) | cjo@adem.state.al.us |
| California | Andrew Alexis (Rail, Nonroad Equipment) | aalexis@arb.ca.gov |
| Louisiana | Elizabeth McDearman (Rail) | elizabethm@deq.state.la.us |
| Maryland | Leif Hockstad (Rail) | lhockstad@mde.state.md.us |
| Lincoln, Nebraska | Charles Riley (Rail) | criley@ci.lincoln.ne.us |
| Pennsylvania | Robert Altenburg (Rail, Air, CMV) | raltenburg@state.pa.us |
| South Carolina | Lynn Allen (Rail, Air) | N/A |
| Chattanooga, Tennessee | Heather Sandner (Rail) | sandner_h@mail.chattanooga.gov |
| Texas | Peter Ogbeide (Rail, Nonroad Equipment)<br>Charlie Rubick (Air, CMV) | pogbeide@tnrcc.state.tx.us<br>crubick@tnrcc.state.tx.us |
| Utah | Carol Nielsen (Rail) | cnielsen@deq.state.ut.us |
| Wisconsin | Grant D. Hetherington (Rail) | hetheg@dnr.state.wi.us |

## Table 8. MACT Source Category Contacts for the 1999 NEI

| MACT Source Category | Contact | Email |
|---|---|---|
| Acetal Resins Production | David Markwordt | markwordt.david@epa.gov |
| Acrylic/Modacrylic Fibers Production | David Markwordt | markwordt.david@epa.gov |
| Acrylonitrile-Butadiene-Styrene Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Aerospace Industries | Tony Wayne | wayne.tony@epa.gov |
| Amino/Phenolic Resins Production | John Schaefer | schaefer.john@epa.gov |
| Asphalt Roofing and Processing | Rick Colyer | colyer.rick@epa.gov |
| Asphalt/Coal Tar Application - Metal Pipes | Kim Teal | teal.kim@epa.gov |
| Auto & Light Duty Truck (Surface Coating) | Dave Salman | salman.dave@epa.gov |
| Boat Manufacturing | Mark Morris | morris.mark@epa.gov |
| Brick and Structural Clay Products Manufacturing | Mary Johnson | johnson.mary@epa.gov |
| Butyl Rubber Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Carbon Black Production | Mark Morris | morris.mark@epa.gov |
| Cellulose Products Manufacturing | Bill Schrock | schrock.bill@epa.gov |
| Chlorine Production | Iliam Rosario | rosario.iliam@epa.gov |
| Chromic Acid Anodizing | Phil Mulrine | mulrine.phil@epa.gov |
| Clay Ceramics Manufacturing | Mary Johnson | johnson.mary@epa.gov |
| Coke Ovens: Charging, Top Side, and Door | Amanda Aldridge | aldridge.amanda@epa.gov |
| Coke Ovens: Pushing, Quenching, & Battery | Lula Melton | melton.lula@epa.gov |
| Commercial Sterilization Facilities | David Markwordt | markwordt.david@epa.gov |
| Commercial, Industrial, Solid Waste Incineration | Fred Porter | porter.fred@epa.gov |
| Cyanide Chemicals Manufacturing | Mark Morris | morris.mark@epa.gov |
| Decorative Chromium Electroplating | Phil Mulrine | mulrine.phil@epa.gov |
| Dry Cleaning: Perchloroethylene | Fred Porter | porter.fred@epa.gov |
| Engine Test Facilities | Jaime Pagan | pagan.jaime@epa.gov |
| Epichlorohydrin Elastomers Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Epoxy Resins Production | Randy McDonald | mcdonald.randy@epa.gov |
| Ethylene Processes | Mark Morris | morris.mark@epa.gov |
| Ethylene-Propylene Rubber Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Ferroalloys Production | Conrad Chin | chin.conrad@epa.gov |
| Flexible Polyurethane Foam Fabrication | Maria Noell | noell.maria@epa.gov |
| Flexible Polyurethane Foam Production | Warren Johnson | johnson.warren@epa.gov |
| Friction Materials Manufacturing | Kevin Cavender | cavender.kevin@epa.gov |
| Gasoline Distribution (Stage I) | Steve Shedd | shedd.steve@epa.gov |
| Halogenated Solvent Cleaners | Paul Almodovar | almodovar.paul@epa.gov |
| Hard Chromium Electroplating | Phil Mulrine | mulrine.phil@epa.gov |
| Hazardous Waste Incineration | Mike Galbraith | galbraith.mike@epa.gov |
| Hospital Sterilizers | David Markwordt | markwordt.david@epa.gov |
| Hydrochloric Acid Production | Bill Maxwell | maxwell.bill@epa.gov |
| Hydrogen Fluoride Production | David Markwordt | markwordt.david@epa.gov |
| Hypalon (TM) Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Industrial Cooling Towers | Phil Mulrine | mulrine.phil@epa.gov |
| Industrial/Commercial/ Institutional Boilers & | Jim Eddinger | eddinger.jim@epa.gov |
| Integrated Iron & Steel Manufacturing | Phil Mulrine | mulrine.phil@epa.gov |

## Table 8. MACT Source Category Contacts for the 1999 NEI (Continued)

| MACT Source Category | Contact | Email |
|---|---|---|
| Iron Foundries | Kevin Cavender | cavender.kevin@epa.gov |
| Large Appliance (Surface Coating) | Lynn Dail | dail.lynn@epa.gov |
| Leather Tanning & Finishing Operations | Bill Schrock | schrock.bill@epa.gov |
| Lime Manufacturing | Joe Wood | wood.joe@epa.gov |
| Magnetic Tapes (Surface Coating) | Vinson Helwig | helwig.vinson@epa.gov |
| Manufacture of Nutritional Yeast | David Markwordt | markwordt.david@epa.gov |
| Marine Vessel Loading Operations | David Markwordt | markwordt.david@epa.gov |
| Medical Waste Incinerators | Rick Copland | copland.rick@epa.gov |
| Metal Can (Surface Coating) | Paul Almodovar | almodovar.paul@epa.gov |
| Metal Coil (Surface Coating) | Rhea Jones | jones.rhea@epa.gov |
| Metal Furniture (Surface Coating) | Mohamed | serageldin.mohamed@epa.g |
| Methyl Methacrylate-Acrylonitrile-Butadiene- | Bob Rosensteel | rosensteel.bob@epa.gov |
| Methyl Methacrylate-Butadiene-Styrene | Bob Rosensteel | rosensteel.bob@epa.gov |
| Mineral Wool Production | Mary Johnson | johnson.mary@epa.gov |
| Miscellaneous Coating Manufacturing | Randy McDonald | mcdonald.randy@epa.gov |
| Miscellaneous Metal Parts & Products (Surface | Kim Teal | teal.kim@epa.gov |
| Miscellaneous Organic Chemical Manufacturing | Randy McDonald | mcdonald.randy@epa.gov |
| Municipal Landfills | Michele Laur | laur.michele@epa.gov |
| Municipal Waste Combustors | Walt Stevenson | stevenson.walt@epa.gov |
| Natural Gas Transmission & Storage | Greg Nizich | nizich.greg@epa.gov |
| Neoprene Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Nitrile Butadiene Rubber Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Non-Nylon Polyamides Production | Randy McDonald | mcdonald.randy@epa.gov |
| Off-Site Waste and Recovery Operations | Elaine Manning | manning.elaine@epa.gov |
| Oil & Natural Gas Production | Greg Nizich | nizich.greg@epa.gov |
| Organic Liquids Distribution (Non-Gasoline) | Gregory LaFlam | laflam.gregory@epa.gov |
| Other Solid Waste Incineration - Crematories | Fred Porter | porter.fred@epa.gov |
| Paint Stripping Operations | Tony Wayne | wayne.tony@epa.gov |
| Paper & Other Webs (Surface Coating) | Paul Almodovar | almodovar.paul@epa.gov |
| Pesticide Active Ingredient Production | Randy McDonald | mcdonald.randy@epa.gov |
| Petroleum Refineries | Bob Lucas | lucas.bob@epa.gov |
| Pharmaceuticals Production | Randy McDonald | mcdonald.randy@epa.gov |
| Phosphate Fertilizers Production | Mary Johnson | johnson.mary@epa.gov |
| Phosphoric Acid Manufacturng | Mary Johnson | johnson.mary@epa.gov |
| Plastic Parts & Products (Surface Coating) | Kim Teal | teal.kim@epa.gov |
| Plywood and Composite Wood Products | Greg Nizich | nizich.greg@epa.gov |
| Polybutadiene Rubber Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Polycarbonates Production | David Markwordt | markwordt.david@epa.gov |
| Polyether Polyols Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Polyethylene Terephthalate Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Polystyrene Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Polysulfide Rubber Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Polyvinyl Chloride & Copolymers Production | Warren Johnson | johnson.warren@epa.gov |
| Portland Cement Manufacturing | Joe Wood | wood.joe@epa.gov |
| Primary Aluminum Production | Steve Fruh | fruh.steve@epa.gov |

## Table 8. MACT Source Category Contacts for the 1999 NEI (Continued)

| MACT Source Category | Contact | Email |
|---|---|---|
| Primary Copper Smelting | Gene Crumpler | crumpler.gene@epa.gov |
| Primary Lead Smelting | Kevin Cavender | cavender.kevin@epa.gov |
| Primary Magnesium Refining | Iliam Rosario | rosario.iliam@epa.gov |
| Printing, Coating & Dyeing Of Fabrics | Vinson Helwig | helwig.vinson@epa.gov |
| Printing/Publishing (Surface Coating) | Dave Salman | salman.dave@epa.gov |
| Publicly Owned Treatment Works (POTW) | Bob Lucas | lucas.bob@epa.gov |
| Pulp & Paper Production | Steve Shedd | shedd.steve@epa.gov |
| Refractory Products Manufacturing | Susan Zapata | zapata.susan@epa.gov |
| Reinforced Plastic Composites Production | Keith Barnett | barnett.keith@epa.gov |
| Rocket Engine Test Firing | Jaime Pagan | pagan.jaime@epa.gov |
| Rubber Tire Production | Tony Wayne | wayne.tony@epa.gov |
| Secondary Aluminum Production | John Schaefer | schaefer.john@epa.gov |
| Secondary Lead Smelting | Kevin Cavender | cavender.kevin@epa.gov |
| Semiconductor Manufacturing | Bill Schrock | schrock.bill@epa.gov |
| Shipbuilding & Ship Repair (Surface Coating) | Mohamed | serageldin.mohamed@epa.g |
| Site Remediation | Greg Nizich | nizich.greg@epa.gov |
| Solvent Extraction for Vegetable Oil Production | Greg Nizich | nizich.greg@epa.gov |
| Spandex Production | Elaine Manning | manning.elaine@epa.gov |
| Stationary Combustion Turbines | Sims Roy | roy.sims@epa.gov |
| Stationary Reciprocal Internal Combustion | Sims Roy | roy.sims@epa.gov |
| Steel Foundries | Kevin Cavender | cavender.kevin@epa.gov |
| Steel Pickling - HCL Process | Kevin Cavender | cavender.kevin@epa.gov |
| Styrene Acrylonitrile Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Styrene-Butadiene Rubber & Latex Production | Bob Rosensteel | rosensteel.bob@epa.gov |
| Synthetic Organic Chemical Manufacturing | Mark Morris | morris.mark@epa.gov |
| Taconite Iron Ore Processing | Conrad Chin | chin.conrad@epa.gov |
| Utility Boilers: Coal | Bill Maxwell | maxwell.bill@epa.gov |
| Utility Boilers: Natural Gas | Bill Maxwell | maxwell.bill@epa.gov |
| Utility Boilers: Oil | Bill Maxwell | maxwell.bill@epa.gov |
| Wet-Formed Fiberglass Mat Production | Juan Santiago | santiago.juan@epa.gov |
| Wood Building Products (Surface Coating) | Vinson Helwig | helwig.vinson@epa.gov |
| Wood Furniture (Surface Coating) | Paul Almodovar | almodovar.paul@epa.gov |
| Wool Fiberglass Manufacturing | Mary Johnson | johnson.mary@epa.gov |