DOCUMENTATION FOR THE 2005 POINT SOURCE NATIONAL EMISSIONS INVENTORY

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1.0 INTRODUCTION

1.1 What is the National Emissions Inventory?

The National Emissions Inventory (NEI) is a comprehensive inventory covering all criteria air pollutants (CAPs) and hazardous air pollutants (HAPs) for all areas of the United States. The NEI was created by the EPA's Emission Inventory and Analysis Group (EIAG) in Research Triangle Park, North Carolina.

This report presents an overview of how the point source component of the 2005 NEI was compiled. Ultimately, the 2005 NEI will be used to support air quality modeling and other activities. To this end, the EPA established a goal to compile comprehensive, facility-specific data in its 2005 base year NEI for point sources, in addition to preparing nonpoint area and mobile source 2005 base year inventories.

1.2 Why Did the EPA Create the NEI?

The Clean Air Act (CAA), as amended in 1990, includes many mandates for the EPA related to CAPs and HAPs. Regulatory agencies rely on emission inventories as indicators of air quality changes and to set permit requirements. The NEI contains emission estimates for the following CAPs:

- Carbon monoxide (CO)
- Condensable particulate matter (PM-CON)
- Filterable and primary particulate matter less than 2.5 microns ($PM_{2.5}$-FIL and $PM_{2.5}$-PRI)
- Filterable and primary particulate matter less than 10 microns (PM_{10}-FIL and PM_{10}-PRI)
- Nitrogen oxides (NO_x)
- Sulfur dioxide (SO_2)

- Volatile organic compounds (VOC)

Ammonia is also included in the NEI as a precursor to PM formation.

The NEI is a tool that EPA can use to meet the CAA mandates for HAPs as well. The CAA presents a list of 188 HAPs (see *http://www.epa.gov/ttn/atw/orig189.html* for a list of pollutants and their chemical abstract service [CAS] numbers), for which EPA is to identify their sources, quantify their emissions by source category, develop regulations for each source category, and assess public health and environmental impacts after the regulations are put into effect.

1.3 How is the EPA Going to Use the NEI?

It is anticipated that the 2005 point source inventory developed from this effort will have multiple end uses. The data have been formatted according to protocols established for the EPA's NEI submittals. The common data structure on which the NEI platform is based will allow the NEI point source data to be transferred to multiple end-users for a variety of purposes.

The CAP emission inventory data are used in State Implementation Plans (SIPs), compliance demonstrations, emissions trading, and in modeling activities designed to evaluate ambient air concentrations, exposure assessments, and risk calculations.

The NEI is a critical component of the EPA's national Air Toxics Program (as described in EPA's July 19, 1999 Federal Register notice, 64 FR 38706). The initial objective is to make the data available to EPA modelers for use in the National Air Toxics Assessment (NATA). In addition, the emissions data compiled as part of this inventory effort will be used in residual risk and technology assessments conducted by EPA.

1.4 Report Organization

Following this introduction, Section 2.0 provides the Information Quality Guidelines Addendum, a summary of the procedures EIAG implements on the NEI, to make the development of the inventory more transparent. Section 3.0 provides information on how the 2005 NEI point source emission estimates were first derived from state, local, and tribal inventories, from data provided by the EPA's Sector Policies and Programs Division (SPPD) and Emission Inventory and Analysis Group (EIAG) from the Toxic Release Inventory (TRI) (U.S. EPA, 2007). Section 4.0 provides information on how the inventory data were compiled into a common data structure. Section 5.0 presents references cited in this report.

Appendix A provides summary information on the state, local, and tribal agency inventory data provided to EPA for use in this first version of the 2005 NEI. Appendix B lists quality control (QC) reports on submitted stack parameters and locational coordinates.

2.0 INFORMATION QUALITY GUIDELINES ADDENDUM FOR THE 2005 NEI

2.1 Purpose

The National Emissions Inventory (NEI) is a comprehensive inventory covering all criteria air pollutants (CAPs) and hazardous air pollutants (HAPs) for all areas of the United States. The NEI was created by the EPA's Emission Inventory and Analysis Group (EIAG) in Research Triangle Park, North Carolina. Ultimately, the 2005 base year NEI will be used to support air quality modeling and other activities. To this end, the EPA established a goal to compile comprehensive, facility-specific data in its 2005 base year NEI for point sources.

2.2 Explanation of Potential Uses

The Clean Air Act (CAA) includes many mandates for the EPA related to CAPs and HAPs. The NEI is a tool that EPA can use to meet the CAA mandates. Regulatory agencies rely on emission inventories as indicators of air quality changes and to set permit requirements. The CAA presents a list of 188 HAPs for which EPA is to identify their sources, quantify their emissions by source category, develop regulations for each source category, and assess public health and environmental impacts after the regulations are put into effect.

It is anticipated that the 2005 point source inventory developed from this effort will have multiple end uses. The CAP emission inventory data are used in State Implementation Plans (SIPs), compliance demonstrations, emissions trading, and in modeling activities designed to evaluate ambient air concentrations.

The NEI is a critical component of the EPA's national Air Toxics Program. The initial objective is to make the data available to EPA modelers for use in the National Air Toxics Assessment (NATA). In addition, the emissions data compiled as part of this inventory effort will be used in residual risk assessments conducted by EPA.

2.3 Product Content – Inputs, Methodologies, and Outputs

The scope of the inventory effort was to compile 2005 base year emissions data for point source facilities in the United States, its territories, and tribal areas.

Criteria pollutant emissions for the NEI are collected under the Consolidated Emissions Reporting Rule (CERR) (40 CFR Part 51). Under the CERR, EPA requires states to report SO_2, VOC, NO_x, CO, Pb, PM_{10}, $PM_{2.5}$ and NH_3. The CERR specifies two sets of reporting thresholds for criteria pollutants. Type A (large sources) must report annually, while Type B sources must report every three years. The actual thresholds differ by pollutant and depend upon whether the source is in a nonattainment area or not. For the 2005 NEI, EPA collected information on both Type A and Type B sources.

For HAPs, 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.

Smaller point source facilities with annual emissions below these thresholds can be defined as nonpoint area sources and inventoried as such. While states are more likely to report major sources as point sources and smaller sources as nonpoint sources, there are no reporting thresholds for the NEI, and EPA encourages states to submit small sources to the point inventory. In particular, some source categories which are composed of smaller facilities may emit pollutants which have a high toxicity weighting, and states may give these categories high priority in data collection efforts.

The goal in developing the point source NEI was to obtain facility-specific data such as facility name, location, stack information, emissions, and process descriptions. It was hoped that the data would be sufficient to support modeling and risk assessment needs. The starting point for obtaining this facility-specific data was, therefore, state and local air pollution control agencies and tribes, who are most likely to have this type of detailed inventory data.

State and local agencies and tribes were asked to supply emission inventory data to the EPA. Inventory data and facility lists were also requested from the EPA's Sector Policies and Programs Division (SPPD) for Risk Technology and Review (RTR) data, Maximum Achievable Control Technology (MACT), and Section 112(k) Area Source Standards categories. EIAG also prepared emission inventory data for electric generating units (EGUs).

To develop a complete point source NEI for HAPs, TRI data were also used. The purpose of appending TRI data to the tribal-, local-, state-, and SPPD-combined databases was to make sure all emissions data for facilities that report to TRI are included in the NEI.

The EIAG memorandum *NEI Quality Assurance and Data Augmentation for Point Sources* (U.S. EPA, 2005) provides details on all of the quality assurance (QA) and augmentation of the initial data obtained for the 2005 NEI. A variety of QA activities are conducted to identify duplicate records, referential integrity problems, and records with missing or out-of-range parameters that are needed for air quality and exposure modeling.

2.4 Product Limitations and Caveats

The 2005 NEI is a composite of emission estimates generated by state and local regulatory agencies, tribes, industry, and EPA. Because the estimates originated from a variety of sources and estimation methods, as well as for differing purposes, they will in turn vary in quality, pollutants included, level of detail, and geographic coverage. However, this compilation of emissions estimates represents the best available information to date.

Users of the data should consider that pollutants emitted from a particular source may have little impact on the immediate geographic area, and the amount of pollutants emitted does not indicate whether the source is complying with applicable regulations.

In addition, state, tribal and local agency-supplied emissions data are given priority in the point source NEI. These submissions are reviewed by the EIAG for data handling and entry errors, and potential double counting. The estimation methods, reliability of data sources and

calculations, and other quality assurance issues are the responsibility of the preparing agency. To the extent possible, state, local, and tribal agency-supplied data that appear as outliers in the data set are flagged for further review, and state/local/tribal agency officials are contacted to verify the validity of the data. In some cases, the questionable data are removed.

For some source facilities, emission estimates were not available for 2005. In these cases, data for other base years were used. For some of these source categories, SPPD provided emissions data for a year other than 2005 and noted that the data is the best available to represent 2005. When data are reported for a year other than 2005, it is noted in the NEI.

2.5 Contact Information

NEI point source questions should be forwarded to:
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3.0 DEVELOPMENT OF THE POINT SOURCE NEI

The scope of the inventory effort was to compile and subsequently update 2005 base year emissions data for point source facilities in the United States.

Criteria pollutant emissions for the NEI are collected under the Consolidated Emissions Reporting Rule (CERR) (40 CFR Part 51). Under the CERR, EPA requires states to report SO_2, VOC, NO_x, CO, Pb, PM_{10}, $PM_{2.5}$ and NH_3. The CERR specifies two sets of reporting thresholds for criteria pollutants. Type A (large sources) must report annually, while Type B sources must report every three years. The actual thresholds differ by pollutant and depend upon whether the source is in a nonattainment area or not. For the 2005 NEI, EPA collected information on both Type A and Type B sources.

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The goal in developing the point source NEI was to obtain facility-specific data such as facility name, location, stack information, emissions, and process descriptions. It was hoped that the data would be sufficient to support exposure and other modeling analyses, calculate risk, project control strategies, and track progress to meet the requirements of the CAA. The starting

point for obtaining this facility-specific data was, therefore, state and local air pollution control agencies, who are most likely to have this type of detailed inventory data.

3.1 EIAG Requested State, Local and Tribal Inventory Data in 2007

State and local agencies and tribes are asked to supply CAP and HAP emission inventory data to the EPA. If they are unable to provide emission inventory data, then the EPA will prepare default emission inventory data for the 2005 NEI, and use these data to support assessments which will be used in regulatory decision making.

The target inventory area includes every state, tribal area, and territory in the United States and every county within a state. There are no boundary limitations pertaining to traditional criteria pollutant nonattainment areas or to designated urban areas. If a facility was included in a state or local database, it is included in the NEI regardless of where in the state it was located. The pollutants inventoried include all CAPs.

In addition to CAPs, the NEI requested data also include ammonia, a PM precursor, and the 188 HAPs identified in Section 112(b) of the CAA. Some agencies collect information on more HAPs, but only the 188 are included in the NEI. In addition to numerous specific chemical species and compounds, the list of 188 HAPs includes several compound groups (e.g., individual metals and their compounds, polycyclic organic matter (POM), and glycol ethers); the NEI includes emission estimates for the individual compounds wherever possible. Many of the uses of the NEI depend upon data for individual compounds within these groups rather than aggregated data on each group as a whole. The lookup database lists all of the specific pollutants and compound groups included in the 2005 NEI along with their Chemical Abstract Services (CAS) numbers (for individual compounds).

Table 3-1 summarizes the data elements that were targeted for the inventory request. EIAG requested 2005 facility, unit, process, or stack-specific emissions data. No limits were set on the type of source categories for which data would be collected. For CAPs, EIAG expected that at a minimum the state would comply with the CERR reporting requirements for Type A and

Table 3-1. Data Elements Requested from State, Local, and Tribal Agencies

Emission Level	Data Elements
Site	Facility name
	Address, county, tribal code
	Identification codes (local, state, or federal), ORIS Facility Code
	Standard Industrial Classification (SIC) codes
	North American Industry Classification System (NAICS) codes
Emission Unit	ORIS boiler ID
	Unit design capacity
Emission Process	Process description and identification code (e.g., the source classification code [SCC] for the process)
	Winter, spring, summer, fall percent throughput
	Heat content, sulfur content, ash content
	MACT code, MACT compliance status
Emission Period	Actual throughput and throughput units
	Process activity during period (e.g., number of hours process is active during period)
Emission	Pollutant code
	Emissions estimate (e.g., actual emissions in tons per year)
	Emission type (e.g., daily, weekend, entire year)
	Start date, end date
Emission Release Point	Emission release point type (stack vs. fugitive)
	Stack height, diameter exit gas temperature, exit gas velocity, and exit gas flow rate
	Location (X and Y coordinates, UTM)
	Measurement accuracy determination codes
Control Equipment	Control efficiency, capture efficiency
	Device type

Type B sources. For HAPs, it was expected that each agency would have different designations for the sources for which they collect emissions data at the point level (as opposed to treating them as nonpoint area sources); no effort was made to strictly define what would be considered a "major source" in the data collection effort.

The data request portion of the initial data collection effort was essentially completed by November 2007. EIAG needed to establish a date for the receipt of data in order to complete the

remaining tasks to develop the draft of the 2005 NEI. These tasks included processing the data for upload to the NEI format, requesting and processing data from SPPD, supplementing with EIAG-derived EGU data, supplementing with TRI data if gaps remained, and identifying duplicate facilities between these the multiple data sources. Additionally, EPA planned to review and augment missing, out-of-range, and bad geocoordinates and stack parameters; and augment missing PM emissions.

3.2 Initial Data Received from State, Local, Tribal and Regional Agencies

Table 3-2 lists the 70 agencies (in 46 states plus the District of Columbia and 4 tribes) for which point source inventory data were initially obtained in 2007. In addition to state, local, and tribal submittals, one Regional Planning Organization (RPO), the Western Regional Air Partnership (WRAP), submitted data on behalf of four selected tribal entities in their region. Filling data gaps and evaluating the quality of the data are addressed later in this process. Appendix A provides detailed contact information and summary statistics for each state, local, and tribal data submittal.

3.3 Data Provided By Trade Associations

No trade association submitted data specifically to EIAG for the 2005 NEI. However, several trade associations submitted data and provided comment via EPA's Risk and Technology Review (RTR) process. This data set is addressed in Section 3.6 of this report.

3.4 EIAG Prepared 2005 Emissions from Electric Generating Units (EGUs)

EIAG prepared 2005 emissions data for EGUs using data obtained from the Department of Energy's (DOE) Energy Information Agency (EIA) and EPA's Clean Air Markets Division (CAMD) Emission Tracking System/Continuous Emissions Monitoring (ETS/CEM) data EGUs. These data are included in the NEI along with state, local or tribal agency submitted emissions data for EGU sources. See Section 3.9 for a detailed discussion on which estimates were selected when multiple EGU estimates were available.

Table 3-2. States and Local Areas and Tribes that Provided 2005 Inventory Data

State	Agency Name	Inventory Type[a]	Inventory Year
Alabama	Alabama Department of Environmental Management	CRITHAP	2005
Alabama	Jefferson County Board of Health	CRITHAP	2005
Alaska	Alaska Department of Environmental Conservation	CRIT	2005
Arizona	Arizona Department of Environmental Quality	CRITHAP	2005
Arizona	Maricopa County Environmental Services Department	CRIT	2005
Arkansas	Arkansas Department of Environmental Quality	CRITHAP	2005
California	California Air Resources Board	CRITHAP	2005
Delaware	Delaware Department of Natural Resources	CRITHAP	2005
District of Columbia	District of Columbia Department of Health	CRIT	2005
Florida	Florida Department of Environmental Protection	CRITHAP	2005
Georgia	Georgia Department of Natural Resources	CRITLEAD	2005
Hawaii	Hawaii Department of Health, Clean Air Branch	CRIT	2005
Idaho	Idaho Department of Environmental Quality	CRITHAP	2004
Illinois	Illinois Environmental Protection Agency	CRITHAP	2005
Indiana	Indiana Department of Environmental Management	CRITHAP	2005
Iowa	Iowa Department of Natural Resources, Air Quality	CRITHAP	2005
Kansas	Kansas Department of Health and Environment	CRITHAP	2005
Kentucky	Jefferson County Air Pollution Control	CRITHAP	2005
Kentucky	Kentucky Division of Air Quality	CRITHAP	2005
Louisiana	Louisiana Department of Environmental Quality	CRITHAP	2005
Maine	Maine Department of Environmental Protection	CRITHAP	2005
Maryland	Maryland Department of Environment	CRITHAP	2005
Massachusetts	Massachusetts Department of Environmental Protection	CRITHAP	2005
Michigan	Michigan Department of Environmental Quality - Air Quality	CRITHAP	2005
Minnesota	Minnesota Pollution Control Agency	CRITHAP	2005
Mississippi	Mississippi Department of Environmental Quality	CRITHAP	2005
Missouri	Missouri Department of Natural Resources	CRITLEAD	2005
Montana	Montana Department of Environmental Quality	CRIT	2005
Nebraska	City of Omaha Public Works Department	CRITHAP	2005
Nebraska	Lincoln-Lancaster County Health Department	CRITHAP	2005
Nebraska	Nebraska Department of Environmental Quality	CRITHAP	2005
Nevada	Clark County Department of Air Quality and Management	CRIT	2005
Nevada	Nevada Department of Environmental Protection	CRIT	2005
Nevada	Washoe County Air Quality Management Division	CRIT	2005
New Hampshire	New Hampshire Department of Environmental Services	CRITHAP	2005
New Jersey	New Jersey Department of Environmental Protection	CRIT	2005
New Mexico	City of Albuquerque	CRITHAP	2005
New York	New York State Department of Environmental Conservation	CRITHAP	2005
North Carolina	Forsyth County Environmental Affairs Department	CRITHAP	2005
North Carolina	Mecklenburg County Air Quality	CRITHAP	2005
North Carolina	North Carolina Department of Air Quality	CRITHAP	2005
North Carolina	Western North Carolina Regional Air Quality Agency (Buncombe County)	CRITHAP	2005

Table 3-2. States and Local Areas and Tribes that Provided 2005 Inventory Data (Cont.)

State	Agency Name	Inventory Type[a]	Inventory Year
Ohio	Ohio Environmental Protection Agency	CRITHAP	2005
Oklahoma	Oklahoma Department of Environmental Quality	CRITHAP	2005
Oregon	Lane Regional Air Pollution Authority	CRIT	2005
Oregon	Oregon Department of Environmental Quality	CRIT	2005
Pennsylvania	Alleghany County Health Department	CRITHAP	2005
Pennsylvania	City of Philadelphia	CRITHAP	2005
Pennsylvania	Pennsylvania Department of Environmental Protection	CRITHAP	2005
Puerto Rico	Puerto Rico Environmental Quality Board	CRIT	2005
Rhode Island	Rhode Island Department of Environmental Management	CRIT	2005
South Carolina	South Carolina Department of Health and Environmental Control	CRITHAP	2005
South Dakota	South Dakota Department of Environment and Natural Resources	CRIT	2005
Tennessee	Chattanooga Hamilton County Air Pollution Control Bureau	CRITHAP	2005
Tennessee	Memphis and Shelby County Health Department	CRITHAP	2005
Tennessee	Metro Public Health Dept. Nashville/Davidson County	CRITHAP	2005
Tennessee	Tennessee Department of Environment and Conservation	CRITHAP	2005
Texas	Texas Commission on Environmental Quality	CRITHAP	2005
Tribal	Fort Peck Tribe	CRITHAP	2005
Tribal	Navajo Nation Environmental Protection Agency	CRIT	2002
Tribal	Sac and Fox Nation of Missouri	CRIT	2005
Tribal	Winnebago Tribe of Nebraska	CRITHAP	2005
Utah	Utah Division of Air Quality	CRITHAP	2005
Vermont	Vermont Department of Environmental Quality	CRIT	2005
Virginia	Virginia Department of Environmental Quality	CRITHAP	2005
Washington	Olympic Region Clean Air Agency	CRITHAP	2005
Washington	Puget Sound Clean Air Agency	CRITHAP	2005
Washington	Washington State Department of Ecology	CRITHAP	2005
West Virginia	West Virginia Division of Air Quality	CRITHAP	2005
WRAP	Arapahoe Tribe of the Wind River Reservation, Wyoming	CRIT	2002
WRAP	Confederated Tribes and Bands of the Yakama Nation, Washington	CRIT	2003
WRAP	Confederated Tribes of the Colville Reservation, Washington	CRIT	2003
WRAP	Tohono O'Odham Nation of Arizona	CRIT	2002

[a] Inventory Type Code Key:
CRIT - Data submittal contained CAP emissions only.
CRITHAP - Data submittal contained both CAP and HAP emissions.
CRITLEAD - Data submittal contained both CAP and lead emissions.

3.5 EIAG Requested SPPD Maximum Achievable Control Technology Inventory Data and Facility Lists

State, local, and tribal databases represent the core of the point source inventory. Inventory data were also requested from the EPA's SPPD for MACT/residual risk source categories. A list of MACT categories and their codes used in the NEI are in the lookup database. While SPPD provided mostly HAP data, some MACT categories include CAP estimates as well.

Data specifically to be used in the 2005 NEI were initially provided for nine MACT source categories (Table 3-3).

Table 3-3. MACT Source Categories in the 2005 NEI

MACT Code	MACT Source Category	Year
0801-1	Hazardous Waste Incineration: Commercial	2005
0801-2	Hazardous Waste Incineration: On-Site	2005
0801-3	Hazardous Waste Incineration: Cement Kilns	2005
0801-4	Hazardous Waste Incineration: Lightweight Aggregate Kilns	2005
0801-5	Hazardous Waste Incineration: Solid Fuel Boilers	2005
0801-6	Hazardous Waste Incineration: Liquid Fuel Boilers	2005
0801-7	Hazardous Waste Incineration: HCl Production	2005
1802-1	Municipal Waste Combustors: Small	2006
1802-2	Municipal Waste Combustors: Large	2005

For most MACT and Section 112(k) Area Source Standards categories, facility lists were prepared and these lists were used to assign category codes to state, local, tribal and TRI-based facilities in the NEI. These lists were prepared by SPPD engineers based on prior data collection efforts and their knowledge of the sources in each category. See Table 3-4 for a complete listing of categories and the source of the facility list for each. While some lists were collected solely for the 2005 efforts, some were based on the 2002 NEI.

Table 3-4. Facility Lists for MACT Categories

MACT CODE	MACT/Area Source Category	Type
1001	Acrylic/Modacrylic Fibers Production	MACT
0265	Chemical Manufacturing: Chromium Compounds	Area
1314	Flexible Polyurethane Foam Fabrication Operations	MACT
1461	Industrial Inorganic Chemical Manufacturing	Area
0263	Lead Acid Battery Manufacturing	Area
0460	Pressed and Blown Glass and Glassware Manufacturing	Area
0203	Primary Copper Smelting	MACT
0260	Secondary Nonferrous Metals	Area
0364	Stainless and Nonstainless Steel Manufacturing: Electric Arc Furnaces	Area
0264	Wood Preserving	Area

3.6 EIAG Requested SPPD's RTR Data

Over the last two years, EPA has been actively engaged in its Risk and Technology Review (RTR) Program. The RTR Program is a combined effort to evaluate both risk and technology after the application of MACT standards, as required by the 1990 CAA Amendments. The RTR program evaluates the effectiveness of technology-based standards, using cancer and noncancer risk as metrics, and determines the need for implementing additional and/or more stringent control requirements on specific source categories to reduce cancer and noncancer risk. Version 3 of the 2002 NEI was the starting point for the RTR process that is used for conducting the 8-year residual risk analysis for more than 50 source categories in the NESHAP program. Key NEI data impacting the modeling results are: stack parameters, location coordinates, chromium speciation, MACT code assignments, and emissions. During the review phase for categories listed in the Advanced Notice of Public Rulemaking (ANPRM), state and local agencies, industry, and EPA have the opportunity to provide extensive review on these key NEI data elements. The revised emission estimates often reflected a more current base year, such as 2005, and the MACT code assignments, stack parameters, and location coordinates often replaced surrogate values that were in the 2002 NEI. These revised data sets were then incorporated in the 2005 NEI and can be identified by the "R" data source code in the Emission record in the 2005 point sources NEI.

3.7 EIAG Requested MMS Gulf of Mexico Oil and Gas Platform Data

The U.S. Department of the Interior's (DOI) Minerals Management Services (MMS) prepared 2005 base year criteria pollutant emission estimates for nearly 1,600 oil and natural gas platforms operating in the Gulf of Mexico. Oil and natural gas platforms contain a variety of similar equipment, such as: boilers, engines, turbines, drilling rigs, vents, flares, and fugitive components. Additionally, some platforms contain specialized equipment for processing; glycol dehydrators and amine units. Activity data were collected via electronic surveys, and emission estimates were calculated using EPA-approved emission factors and models. Platform emissions data can be identified by the "G" data source code in the Emission record in the 2005 point source NEI.

3.8 Supplementing with TRI Data

To assess the NEI for source category and facility coverage, TRI data were used (EPA, 2007). TRI is a publicly available EPA database that contains information on toxic chemical releases reported annually by certain covered industry groups. This inventory was established under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and expanded by the Pollution Prevention Act of 1990. The TRI contains both HAP and ammonia emissions data, and is used in the NEI mainly to supplement reporting of these compounds. The purpose of this TRI review was to determine if the tribal-, local-, state-, and SPPD-combined databases (referred to hereafter as the NEI) needed to be supplemented with data for facilities that reported to TRI, but were not included in the NEI for some reason. For facilities included in both the NEI and TRI, it was assumed that the NEI data were more accurate and, thus, no revisions were made for those facilities.

The TRI facilities missing from the NEI were identified through a process of elimination. Facilities included in the NEI were matched against TRI-listed facilities using one or more of the following parameters:

- TRI ID;
- County;

- Facility name;
- Facility address; and
- Latitude and longitude coordinates.

TRI data can be identified in the NEI by the "T" data source code in the Emission record.

3.9 Processing State, Local, and Tribal Agency, MACT, and Industry Data Sets

All data sets provided to EIAG were first formatted to be consistent with each other and the NEI Input Format (NIF). Several processing and screening steps were initially performed on each of the state, local, tribal, SPPD, TRI, and EGU databases as they were received. These steps included:

- Logging each file as received and recording summary statistics on the file;
- Converting the files to NIF 3.0;
- Setting primary keys on each table;
- Removing duplicate records;
- Screening for records that contain CAPs, ammonia, or HAPs on the CAA list of 188;
- Correcting XY coordinate type;
- Adding state abbreviation based on FIPS code;
- Verifying/correcting control status;
- Assigning NEI Unique Site IDs (NTI_Site_ID) using the 2002 NEI;
- Correcting referential integrity violations;
- Checking/correcting miscellaneous data codes such as emission release point type, emission type, and emission unit numerator; and

- Conducting quality control (QC) on latitudes/longitudes, stack parameters, and SCCs and defaulting missing or bad data.

Each of the data sets were converted into a "one record per line" (ORL) format containing all the NIF fields. Additionally, selected data descriptor fields, such as pollutant description and HAP Category Name, were included in the ORL file.

3.10 Blending/Merging (aka Data Selection)

Each ORL file was then combined into a single master database, which was the starting point for the blending and merging process. Because the NEI is composed of databases submitted from multiple sources, there can be overlapping estimates from one or more of these sources. Prior to any blend-merging, EPA must first match the facilities from the multiple data sources and assign common IDs to facilities found in one or more dataset. The NEI blend-merge or data selection process attempts to eliminate duplicates. It is important to note, however, that no estimate is actually deleted from EPA's "master" inventory. Estimates deemed as duplicative are simply "unselected" and thus do not appear in any output or summary files. This method allows EPA to track competing estimates, and refine its merging or data selection routine over time using different rules of selection.

Facilities found in both the HAP and CAP inventories should share the same NEI Unique Facility ID. It is important to note that data providers sometimes use different Site IDs for their CAP and HAP inventories. In the NEI, these different Site IDs are retained; the common NEI Unique Facility ID indicates that sites are at the same facility. When state, local and tribal data submittals were received in June 2007, EPA compared facilities from these submittals to the 2002 NEI. When there was a name or local identifier match between the new data set and the crosswalk, EPA verified that other information such as state, county, address, zip code, TRI ID (or other type of ID), and latitude/longitude coordinates were identical. If so, both of the sites received the corresponding NEI Unique Facility ID. Facilities not found in the crosswalk were assigned a new NEI Unique Facility ID. More details on the NEI facility matching process can be

found in Pope et al., 2004. After NEI Unique Facility IDs were assigned, data selection took place using a hierarchal approach. Two "selection" rounds were performed for applicable data sets.

In the first round, which is performed only for emission estimates for the matched facilities, the selection routine looks only at the data and ranks the estimates. The highest ranked estimate is selected from among the duplicates in the specified grouping. Selection passes are made at two grouping levels:

- Facility (NEI Unique Facility ID), pollutant code, data source (ranked),
- Facility (NEI Unique Facility ID), HAP category (ranked), data source (ranked).

The hierarchy of the data sets are presented in Table 3-5.

Table 3-5. Data Hierarchy for 2005 NEI

Hierarchy Rank	Code	Definition
1	R	RTR data
2	E-A	"Preferred" EIAG Airports Data
3	E-E	"Preferred" EIAG EGU Data
4	P	"Preferred" SPPD Data
5	B	Tribal Data
6	L	Local Agency Data
7	S	State Data
8	O	Regional Planning Organization (RPO) Data
9	T	2005 TRI Data
10	N	2002 NEI Data
11	G	Gulf of Mexico MMS Data

The second selection pass, therefore, looks for duplicative HAPs at the category level at a facility, so that only one pollutant in a group is selected. Both pollutant specific and HAP category selection passes are necessary, since the HAP category pass would deselect specific pollutants in the same HAP category (e.g., chromium III vs. chromium VI). The results of both passes are evaluated, and a final selection decision is made. Two passes are necessary, because if

the selection is confined to specific pollutant codes or CAS numbers, then pollutants with different pollutant codes, where one is reported by CAS number and the other by HAP category, could be retained and result in double counting. For example, pollutant code 195 (lead and compounds) will not appear to duplicate pollutant code 7439921 (lead), and both pollutants will get through the pollutant-specific selection pass.

The blend/merging process was as follows:

1. "Select" all RTR data.

2. "Select" Preferred EIAG Airports and EGU data. There should be no pollutant and facility/unit/process overlaps with RTR data.

3. "Select" Preferred SPPD data. There was potential for pollutant and facility/unit/process overlap with the RTR Portland Cement dataset and the Preferred SPPD data for MACT 0801-3, Hazardous Waste Incineration: Cement Kilns.

4. "Select" Tribal Data. There was potential for pollutant and facility/unit/process overlap with the Tribal data and the RTR, Airports, EGU, and Preferred SPPD datasets. In those situations, the Tribal data were "unselected".

5. "Select" Local Data. There was potential for pollutant and facility/unit/process overlap with the Local data and the RTR, Airports, EGU, and Preferred SPPD datasets. In those situations, the Local data were "unselected".

6. "Select" State Data. There was potential for pollutant and facility/unit/process overlap with the State data and the RTR, Airports, EGU, Preferred SPPD, Tribal, and Local datasets. In those situations, the State data were "unselected".

7. "Select" RPO Data. There was potential for pollutant and facility/unit/process overlap with the RPO data and the RTR, EGU, Preferred SPPD, Tribal, Local, and State datasets. In those situations, the RPO data were "unselected".

8. "Select" 2005 TRI Data. There was potential for pollutant and facility/unit/process overlap with the TRI data and all of the preceding data sets (RTR, EGU, Preferred SPPD, Tribal, Local, State, and RPO). In those situations, the TRI data were "unselected".

9. "Select" 2002 NEI Data. There was potential for pollutant and facility/unit/process overlap with the 2002 NEI data and all of the preceding data sets (RTR, EGU, Preferred SPPD, Tribal, Local, State, RPO, and 2005 TRI). In those situations, the 2002 NEI data were "unselected".

10. "Select" Gulf of Mexico Data. There was no potential for pollutant and facility/unit/process overlap with any of the preceding data sets.

Prior to the solicitation of 2005 emissions data from state/local/tribal agencies, EPA compiled a list of closed facilities post-2002 NEI using information from the respective agencies through an earlier request, as well as reviewing operating permits and conducting Internet searches. Facilities that were closed were removed from the "selected" 2005 emissions inventory. Additionally, through work in the RTR Program, additional facility-, unit-, and process-level emission records were removed to reflect a 2005 base year.

3.11 Particulate Matter Augmentation

After the "selected" 2005 emissions inventory was compiled, EPA reviewed the PM emissions data for completeness. Ideally, five species of PM should be reported: PM_{10}-Primary (PM_{10}-PRI), $PM_{2.5}$-Primary ($PM_{2.5}$-PRI), PM_{10}-Filterable (PM_{10}-FIL), $PM_{2.5}$-Filterable ($PM_{2.5}$-FIL), and PM-Condensable (PM-CON). At the very least, PM_{10}-PRI and $PM_{2.5}$-PRI are required as inputs for emissions modeling. As presented in Table 3-6, $PM_{2.5}$-PRI records were significantly less than PM_{10}-PRI records.

Table 3-6. PM Species Record Count Prior to PM Augmentation Routine

Pollutant	Record Count
PM-PRI	134,281
PM-CON	51,581
PM-FIL	24,664
PM_{10}-PRI	248,335
PM_{10}-FIL	88,112
$PM_{2.5}$-PRI	167,747
$PM_{2.5}$-FIL	75,965

To reconcile the differences in record counts for PM_{10}-PRI and $PM_{2.5}$-PRI, the PM Augmentation routine was performed. The approach utilized was similar to the steps taken for the 2002 NEI, with slight modifications:

1. Step 1 – Create a PM data subset from the combined inventory.

2. Step 2 – For emission processes that reported only PM_{10}-PRI and PM_{25}-PRI, these records were reviewed to ensure that PM_{10}-PRI ≥ $PM_{2.5}$-PRI. If not, then $PM_{2.5}$-PRI emissions were reset to equal PM_{10}-PRI.

3. Step 3 – For emission processes that did not report PM_{10}-PRI and $PM_{2.5}$-PRI, but did report PM_{10}-FIL, $PM_{2.5}$-FIL, and PM-CON…PM_{10}-PRI and $PM_{2.5}$-PRI were calculated.

4. Step 4 – For remaining emission processes, uncontrolled emissions from controlled emissions were calculated using the default control device percentage in the PM-Calculator. No adjustments were made to the original uncontrolled emission records.

5. Step 5 – Use the PM-Calculator to apply ratios between the reported PM species. Although only one PM specie may have been reported, other PM-species may be calculated using the PM-Calculator. This step required several iterations to capture the various PM specie(s) combination(s).

Table 3-7 presents the PM augmentation codes assigned after running through Steps 4 and 5. A data record of "AUGPM10FIL" indicates that it was developed from the PM_{10}-FIL emission estimate using the PM Calculator.

Table 3-7. PM Augmentation Data Source Codes

Data Source Code	Description
AUGPM10FIL	PM specie used PM_{10}-FIL as the starting point
AUGPM10PRI	PM specie used PM_{10}-PRI as the starting point
AUGPM25FIL	PM specie used $PM_{2.5}$-FIL as the starting point
AUGPM25PRI	PM specie used $PM_{2.5}$-PRI as the starting point
AUGPMCON	PM specie used PM-CON as the starting point
AUGPMFIL	PM specie used PM-FIL as the starting point
AUGPMPRI	PM specie used PM-PRI as the starting point

6. Step 6 – Ensure that PM emission relationships are intact at the emission process-level:

    a. PM-PRI ≥ PM_{10}-PRI ≥ $PM_{2.5}$-PRI
    b. PM-FIL ≥ PM_{10}-FIL ≥ $PM_{2.5}$-FIL
    c. PM-PRI ≥ PM-FIL
    d. PM_{10}-PRI ≥ PM_{10}-FIL
    e. $PM_{2.5}$-PRI ≥ $PM_{2.5}$-FIL
    f. PM-PRI = PM-FIL +PM-CON
    g. PM_{10}-PRI = PM_{10}-FIL + PM-CON
    h. $PM_{2.5}$-PRI = $PM_{2.5}$-FIL + PM-CON

Finally, Table 3-8 presents the distribution of the PM species after running the PM Augmentation routine.

Table 3-8. PM Species Record Count After PM Augmentation Routine

Pollutant	Record Count
PM-PRI	136,326
PM-CON	161,443
PM-FIL	33,819
PM_{10}-PRI	291,935
PM_{10}-FIL	167,539
$PM_{2.5}$-PRI	279,386
$PM_{2.5}$-FIL	166,085

3.12 Final QA Steps

After PM-augmentation was completed, a master NEI Output File (NOF) was generated for the entire inventory. Several large-scale QA and record updates can be performed more efficiently using the NOF format, such as:

1. Assignments of MACT information (MACT codes, MACT Flag, and MACT Compliance Status);

2. Check and correct locational coordinates data (See Appendix B.1);

3. Check and correct stack parameters using the EPA's Stack Parameters Routine (See Appendix B.2);

4. Assignment of the Facility Category (major or area) in the Site table;

5. Standardization of facility information (address and IDs);

6. Miscellaneous Fixes:
   a. Emission changes due to the lead NAAQS;
   b. Control device changes due to EPA's CoST work;
   c. Additional state/local agency comments;
   d. Additional closed facilities;
   e. Populating null SCC, SIC, and NAICS codes; and
   f. Updating outdated codes with valid codes.

3.13 Data Considerations

Although improvements and additional data have been incorporated in the 2005 point sources NEI, there are a few data considerations that are presented below. They include:

- Missing States: Four states and 1 U.S. territory did not submit 2005 inventories;

- Missing Counties: Similarly, point sources from 111 U.S. counties and territories are not represented from state/local submittals. It's possible that these counties may not actually contain significant point sources, and are represented in the Nonpoint Area Sources portion of the NEI;

- Missing Pollutants: While CAPs were submitted for all submitted state, local, and tribal agency data sets, over 20 data sets did not include HAP data;

- Unidentified Closed Facilities/Units: Although a number of closed facilities and units were not included in the 2005 NEI, this does not likely account for all the closed facilities and units that occurred prior to 2005; and

- Use of Defaults: Although the majority of the data in the 2005 NEI consists of actual data, significant portions of the inventory data were the result of defaults.

3.14 Revisions Made Since October 2008

After delivery of the Version 2 NEI, a number of revisions and additional records were submitted to EIAG for consideration. They include:

- Additional IPM Designations: EIAG Staff identified additional Integrated Planning Model (IPM) units.

- Additional Facility Identification Reconciliation: These revisions include corrections to facility names, addresses, and NEI Site IDs for approximately 100,000 facilities. These revisions were made as identified by EPA staff throughout preparation of the 2005 NEI to reflect current facility owners, more accurate physical plant location addresses, and refinements of the NEI Site IDs as duplicate facilities were identified.

- Additional NOF field: Closed Year was added to the Site table, primarily to provide more information concerning the above landfill adjustments procedure. Additionally, facilities identified as closed after 2005 can be useful for EIAG as they prepare a 2008 NEI.

- Additional PM Augmentation: Some newer datasets did not contain the full suite of PM species, such that the PM augmentation routine was conducted a second time.

- Additional Pollutant Reconciliation: Pollutant overlaps (e.g., chromium compounds vs. hexavalent chromium) were identified and corrected. Approximately 30,000 emission records were deleted as a result of this exercise.

- Airports: EPA's Office of Transportation and Air Quality (OTAQ) and EIAG staff developed emission estimates for over 16,000 small airports around the country. The lead estimates for larger airports were also updated.

- Area Sources Program Designations: Information from EPA's Area Sources Program were provided to EIAG, such as applicable facility industries (using SIC and NAICS) and process-level descriptions. A review of the SCCs in the NEI yielded the designation of process-level area source records.

- BART Identification: Where possible, facilities subject to EPA's Best Available Retrofit Technology (BART) program were identified using information developed from the five RPOs across the country (WRAP, CENRAP, MRPO, VISTAS, and MANE-VU). Information on BART units were developed from WRAP.

- Biorefinery Plant Designations: In the Site table, biorefinery plants were designated accordingly in the Site Description field.

- Boiler HAP Augmentation: Boiler HAP emission estimates were generated for emission processes in which an uncontrolled carbon monoxide (CO) emission estimate was submitted for a natural gas, coal, or diesel-fired boiler (SCCs beginning with 1-02 and 1-03), but no HAP emissions were submitted. Using the CO emission factor specific to the SCC code, activity-level data was calculated. This activity data was applied to NEI emission factors for dozens of HAPs to generate HAP estimates for approximately 567,000 emission records.

- Hazardous Waste Combustion Updates: Emission revisions for Hazardous Waste Combustion sources were submitted by EPA's Office of Resource Conservation and Recovery.

- Landfills Emissions Adjustments: The majority of the landfill emission estimates in Version 2 were carried-forward from the 1999 NEI. After discussion with EPA staff, it was decided that the 1999 NEI estimates could be adjusted to reflect 2005 conditions if certain information about the landfill status can be known, such as closure date. Because closed landfills can emit pollutants for up to 30 years after closure date, a search of various EPA and state databases was performed to identify closed landfills and the year closed. According to a standard landfill gas curve, a reduction in emissions of 3% per year is reasonable after a landfill closes. In addition, EPA maintains a detailed database of landfills in the U.S. that participate in their voluntary Landfill Methane Outreach Program (LMOP) program. LMOP is a voluntary assistance and partnership program that promotes the use of landfill gas as a renewable, green energy source. On average, EPA estimates that a landfill that participates in the LMOP program will have reduced their operational landfill emissions by approximately 36.5%. As a result of this research, the following actions were taken for the landfill (identified with MACT code 0802) emission estimates in the 2005 NEI:

    1) Landfills closed prior to 1976 were removed from the inventory accordingly;

    2) Emissions from landfills that closed after 1976, but before or in 1999, were reduced 3% per year;

    3) Emissions from landfills that closed after 1999, but before 2005 were reduced 3% per year starting with the closure year; and

    4) Landfills closed after 2005 were not adjusted (unless they participate in the LMOP program as discussed below).

    5) Emissions from landfills participating in LMOP projects prior to or in 1999, that were still active in 2005 were not adjusted;

6) Emissions from landfills participating in LMOP projects prior to or in 1999, but were closed prior to 2005 were adjusted by 3% each year from the year of closure;

7) Emissions from landfills participating in LMOP projects after 1999 and active in 2005 were given a one-time 36.5% reduction in emissions for a 2005 estimate; and

8) Emissions from landfills participating in LMOP projects after 1999, but closed prior to 2005 were given a one-time 36.5% reduction in emissions, and then a 3% reduction in emissions from the year after closure.

- Lead NAAQS: Since October 2008, EPA has been receiving comments on its proposed Lead NAAQS standard. Comments included emission updates, coordinate changes, and closed facilities. Approximately 8,000 emission records were revised.

- NATA Coordinates Review: Concurrent to the preparation of this version of the NEI was the release of EPA's 2002 NATA final results. A review of the 2002 NATA results and model input data lead to the identification of a number of mislocated latitude/longitude coordinates. For the most part, these corrections were made for landfills. Approximately 7,000 emission release point revisions were made.

- RTR Updates: Through EPA's RTR Program, SPPD staff provided numerous updates to emission estimates, facility identifiers, process information (e.g., SCCs), and coordinate/stack parameter data. These revisions were provided based on extensive research by SPPD staff working with industry and state and local agency personnel to best reflect the NEI data for specific MACT source categories. Approximately 48,000 emission records were revised.

- State/Files: Colorado submitted a 2005 CAP and HAP inventory (no data were submitted initially for V2), while Maine, Minnesota, and Alabama sent wholesale replacement records.

3.15 Revisions Made Since June 2009

Revisions submitted by states, local agencies, and EPA during the initial NATA review period were processed for both high risk and non-high risk facilities. Additions were also provided by SPPD based on continuing RTR assessments. The revisions include:

- NATA Revisions from States and Local Agencies: As a result of the initial NATA review process, approximately 62 states and local agencies submitted emission, locational, and stack parameter revisions, data for additional facilities, or identified closed facilities. The revisions included revisions to SCCs, emission values, MACT

codes, stack parameters, latitude and longitude coordinates, location information such as addresses, facility additions, and identification of closed facilities. Emissions were adjusted for landfills with closure dates between 1976 and 2005 according to the methodology described in Section 3.14 above.

- RTR Updates: Through EPA's RTR program, revisions were provided for the following source categories: printing and publishing, chromium electroplating, shipbuilding, primary aluminum, pulp and paper, Portland cement, and marine vessel loading. The revisions included facility-specific wholesale data set replacements, adding additional facilities to the inventory, inclusion of "line sources," PM augmentation for the revised pulp and paper facilities, and revisions to emissions, latitude and longitude coordinates, stack parameters, MACT codes, SCCs, and process descriptions.

- Removal of Aircraft Data: The base year 2005 aircraft data (for SCCs 2275* and 275*) were removed from this version of the point source inventory.

- Latitude/Longitude Coordinate Revisions from EPA: The Sector Based Assessment Group (SBAG) and EIAG submitted latitude and longitude revisions for numerous facilities that were deemed to be mis-located. Approximately 3,950 emission release point revisions were made.

- Additional Revisions Based on QA/QC Activities: After the revisions summarized above were incorporated into the inventory, additional QA/QC activities were performed to identify and correct null or invalid codes, and to check the consistency of the data. Examples of the types of consistency checks that were implemented include comparison of the emission release point type to the stack parameters, and comparison of facility category and MACT code to the MACT compliance status.

3.16 Revisions Made Since June 2010

Revisions submitted by states, local agencies, tribes and US EPA during the second review period were processed for both high risk and non-high risk facilities. The revisions include:

- NATA Revisions from States and Local Agencies: Approximately 23 states and local agencies submitted revisions, which included revisions to SCCs, emission values, MACT codes, stack parameters, emission release point types, latitude and longitude coordinates, facility categories, facility names, location addresses, and tribal codes. The revisions also included facility additions and identification of closed facilities. Emissions were adjusted for a landfill with a closure date of 2004 according to the methodology described in section 3.14 above.

- RTR Updates: EPA's RTR Program received updates for the following source categories: printing and publishing, chrome plating, shipbuilding, wood furniture,

polymers and resins group 1, marine vessel loading, steel pickling, and pharmaceuticals production. The revisions included adding additional facilities to the inventory, adding speciated HAP emissions based on VOC emissions, removing closed facilities, and revisions to existing emission values, latitude and longitude, stack parameters, and MACT code.

- NATA Revisions from US EPA: US EPA Region 2 submitted comments to revise emissions to values from 2005 TRI for one facility.

- Additional QA: After the revisions above were incorporated in the inventory, additional QA was performed to identify and correct null or invalid codes and to check the consistency of the data. Examples of the types of consistency checks that were done include comparison of the emission release point type to the stack parameters, and comparison of facility category and MACT Code to the MACT Compliance Status.

4.0 COMPILING THE INVENTORY DATA INTO THE NEI DATABASE

4.1 NIF 3.0 and EPA's Data Standards

One of the goals of compiling the NEI was to process all the state, local, and tribal agency, SPPD-supplied, TRI, and EGU inventory data into a common structure with consistently defined data fields. A common data structure will help end users define standardized approaches to reviewing and using the data. NIF version 3.0 as designed by EPA allows for a variety of data transfer mechanisms to be used and is flexible enough to be supported by many different database programs. More detailed information about the NIF can be found at *http//www.epa.gov/ttn/chief/nif/index.html*.

The NIF 3.0 format conforms with EPA's data standards for environmental information collection and exchange. The data standards were developed by Environmental Data Standards Council (EDSC)- sponsored action teams that include members representing states, tribes, and federal agencies. All of these standards have been implemented in the draft 2005 NEI, as described below.

4.1.1 *SIC/NAICS Data Standard*

This standard includes ways to classify business activities, including industry classifications, product classifications, and product codes. The SIC System has been used for many years to provide a code system for the identification of business activities. SIC codes are gradually being replaced by the NAICS codes that were adopted by Canada, Mexico, and the United States in 1997.

To populate the NAICS code field, a crosswalk of SIC codes to NAICS codes was developed. Several different parties have already developed crosswalks. The maps that have been built to date were evaluated to come up with a preferred scheme for the NEI. Where there was a one-to-one correspondence between NAICS and SIC codes, the assignment was straightforward. However, in those cases in which one SIC maps to many NAICS codes, the SIC code was

mapped to a less specific NAICS code (i.e., a 2, 3, or 4 digit code). For more information as to how EIAG reviewed and defaulted this standard, see the *NEI Quality Assurance and Data Augmentation for Point Sources* (U.S. EPA, 2005).

4.1.2 *Latitude/Longitude Data Standard*

The latitude/longitude standard consists of the group of data elements used for recording horizontal and vertical coordinates and associated metadata that define a point on earth. This standard will help users gauge the accuracy and reliability of a given set of coordinates. The primary responsibility for populating these fields lies with the data submitter, as it is difficult if not impossible to discern the origin of a latitude/longitude without being the primary author of the data. EIAG was able to populate these fields whenever latitude/longitudes were obtained from the TeleAtlas Geocoding EZ Locator Service (*http://geocode.com*). For more information as to how EIAG reviewed and defaulted this standard, see the *NEI Quality Assurance and Data Augmentation for Point Sources* (U.S. EPA, 2005).

4.1.3 *Chemical Identification Data Standard*

The Chemical Identification Data Standard provides for the use of common identifiers throughout the EPA for all chemical substances regulated or monitored by EPA environmental programs. This standard provides unique, unambiguous, chemically correct common names for all chemicals substances and groupings in EPA's system, and will facilitate automated searches for chemical substances across EPA programs and their databases. EIAG has posted a Chemical Identification pollutant code lookup table that addresses this standard.

4.1.4 *Facility Identification Data Standard*

The facility identification data standard consists of core data elements that properly identify the location, the affiliated organizations, individual business activities, and the environmental interest of a facility site. To implement this standard, EIAG mapped the NEI facilities to the FRS (Federal Registry System) ID maintained by OEI. The FRS ID is found in the NOF files in the strFacilityRegistryIdentifier field and in the 2005 NEI Facility File.

4.1.5 *Contact Standards*

The contact standards provide a consistent method of describing the contact person submitting data to the NEI. These standards include point of contact, address, and communication information. All of these elements are found in the Transmittals table in the NIF structure.

4.2 NOF 3.0 and Data Standards

EPA distributes data in the NOF version 3.0. NOF contains the data standards listed above as well as other data elements that help users understand the origin of the data.

5.0 REFERENCES

Pope, A., S. Finn, and D. Wilson. 2004. 2002 NEI for Point Sources: Integration of HAPs and CAPs. Presented at the 13th International Emission Inventory Conference "Working for Clean Air in Clearwater." June 8-10, Clearwater, Florida.

U.S. Environmental Protection Agency. 2005. NEI Quality Assurance and Data Augmentation for Point Sources. U.S. Environmental Protection Agency, Emissions Monitoring and Analysis Division, Emission Inventory and Analysis Group, Research Triangle Park, North Carolina.

U.S. Environmental Protection Agency. 2007. 2005 Toxics Release Inventory, Public Data Release. U.S. Environmental Protection Agency, Office of Environmental Information, Washington, DC.

Appendix A

State, Local, and Tribal Database Summary Tables for the 2005 Point Source NEI

Table A-1. State, Local, and Tribal Agency Contacts

State	Agency Name	Contact Name	Contact E-Mail Address
Alabama	Alabama Department of Environmental Management	Lisa B. Cole	lbcole@adem.state.al.us
Alabama	Jefferson County Board of Health	James E Wright	ed.wright@jcdh.org
Alaska	Alaska Department of Environmental Conservation	Kent Thomas	kent.thomas@alaska.gov
Arizona	Arizona Department of Environmental Quality	Latha Toopal	lkk@azdeq.gov
Arizona	Maricopa County Environmental Services Department	Bob Downing	bdowning@mail.maricopa.gov
Arkansas	Arkansas Department of Environmental Quality	Evelyn M. Withers	withers@adeq.state.ar.us
California	California Air Resources Board	Chris Nguyen	tnguyen@arb.ca.gov
Colorado[1]	Colorado Department of Public Health and Environment	David Thayer	cdphe.apemissiondata@state.co.us
Delaware	Delaware Department of Natural Resources	John Outten	John.Outten@state.de.us
District of Columbia	District of Columbia Department of Health	Deirdre Elvis-Peterson	Deirdre.elvis@dc.gov
Florida	Florida Department of Environmental Protection	Yi Zhu	yi.zhu@dep.state.fl.us
Georgia	Georgia Department of Natural Resources	Byeong-Uk Kim	Byeong_Kim@dnr.state.ga.us
Hawaii	Hawaii Department of Health, Clean Air Branch	Scott Takamoto	scott.takamoto@doh.hawaii.gov
Idaho	Idaho Department of Environmental Quality	Gary Reinbold	greinbol@deq.state.id.us
Illinois	Illinois Environmental Protection Agency	Buzz Asselmeier	buzz.asselmeier@epa.state.il.us
Indiana	Indiana Department of Environmental Management	Jay Koch	jkoch@idem.in.us
Iowa	Iowa Department of Natural Resources, Air Quality	Marnie Stein	marnie.stein@dnr.state.la.us

Table A-1. State, Local, and Tribal Agency Contacts (Cont.)

State	Agency Name	Contact Name	Contact E-Mail Address
Kansas	Kansas Department of Health and Environment	Andy Hawkins	ahawkins@kdhe.state.ks.us
Kentucky	Jefferson County Air Pollution Control	Marty Layman	marty.layman@louisvilleky.gov
Kentucky	Kentucky Division of Air Quality	Andrea Smith	andrea.smith@ky.gov
Louisiana	Louisiana Department of Environmental Quality	Jackie Heber	jackie.heber@la.gov
Maine	Maine Department of Environmental Protection	Richard T. Greves	rich.greves@state.me.us
Maryland	Maryland Department of Environment	Roger Thunell	rthunell@mde.state.md.us
Massachusetts	Massachusetts Department of Environmental Protection	Richard Hawkins	richard.hawkins@state.ma.us
Michigan	Michigan Department of Environmental Quality - Air Quality	Alan Ostrander	ostranda@state.mi.us
Minnesota	Minnesota Pollution Control Agency	Chun Yi Wu	chun.yi.wu@pca.state.mn.us
Mississippi	Mississippi Department of Environmental Quality	Susan L. Holden	Susan_Holden@deq.state.ms.us
Missouri	Missouri Department of Natural Resources	Patricia A. Tighe	patricia.tighe@dnr.mo.gov
Montana	Montana Department of Environmental Quality	Debbie Linkenbach	dlinkenbach@state.mt.us
Nebraska	City of Omaha Public Works Department	Tim E. Burns	tburns@ci.omaha.ne.us
Nebraska	Lincoln-Lancaster County Health Department	Gary R. Bergstrom, Jr.	gbergstrom@lincoln.ne.gov
Nebraska	Nebraska Department of Environmental Quality	Dennis Burling	deqnode@ndeq.state.ne.us
Nevada	Clark County Department of Air Quality and Management	Zheng Li	zli@co.clark.nv.us
Nevada	Nevada Department of Environmental Protection	Corey Lynn Kern	ckern@ndep.nv.gov
Nevada	Washoe County Air Quality Management Division	Yann Ling	yling@mail.co.washoe.nv.us

Table A-1. State, Local, and Tribal Agency Contacts (Cont.)

State	Agency Name	Contact Name	Contact E-Mail Address
New Hampshire	New Hampshire Department of Environmental Services	Newton H. Strickland	sstrickland@des.state.nh.us
New Jersey	New Jersey Department of Environmental Protection	Mike Matsko	mike,matsko@dep.state.nj.us
New Mexico	City of Albuquerque	Stephanie Summers	ssummers@cabq.gov
New York	New York State Department of Environmental Conservation	Carlos Mancilla	Carlos.mancilla@gw.dec.state.ny.us
North Carolina	Forsyth County Environmental Affairs Department	Steven K. Lyda	lydask@co.forsyth.nc.us
North Carolina	Mecklenburg County Air Quality	S. David Ross	RossSD@Co.Mecklenburg.NC.US
North Carolina	North Carolina Department of Air Quality	Carol Walker	carol.walker@ncmail.net
North Carolina	Western North Carolina Regional Air Quality Agency (Buncombe County)	Ashley J. Featherstone, Sr.	ashley.featherstone@buncombecounty.org
Ohio	Ohio Environmental Protection Agency	Tom Velalis	tom.velalis@epa.state.oh.us
Oklahoma	Oklahoma Department of Environmental Quality	Keith Duncan	keith.duncan@deq.state.ok.us
Oregon	Lane Regional Air Pollution Authority	Sandra Lopez	sandy@lrapa.org
Oregon	Oregon Department of Environmental Quality	Brian K. Fields	fields.brian@deq.state.or.us
Pennsylvania	Alleghany County Health Department	Gary Fischman	gfischman@achd.net
Pennsylvania	City of Philadelphia	Hallie Weiss	hallie.weiss@phila.gov
Pennsylvania	Pennsylvania Department of Environmental Protection	Michael Rudawski	mrudawski@state.pa.us
Puerto Rico	Puerto Rico Environmental Quality Board	Leimarys Degado	leimarysdelgado@jca.gobierno.pr
Rhode Island	Rhode Island Department of Environmental Management	Karen Slattery	karen.slattery@dem.ri.gov
South Carolina	South Carolina Department of Health and Environmental Control	Christopher Cheatham	cheathcc@dhec.sc.gov

Table A-1. State, Local, and Tribal Agency Contacts (Cont.)

State	Agency Name	Contact Name	Contact E-Mail Address
South Dakota	South Dakota Department of Environment and Natural Resources	Stacy Froelich	Stacie.froelich@state.sd.us
Tennessee	Chattanooga Hamilton County Air Pollution Control Bureau	Cynthia McDaniel	McDaniel_C@mail.chattanooga.gov
Tennessee	Memphis and Shelby County Health Department	Christopher Boyd	cboydengrbmschd@yahoo.com
Tennessee	Metro Public Health Dept. Nashville/Davidson County	Fred Huggins	fred.huggins@nashville.gov
Tennessee	Tennessee Department of Environment and Conservation	James Redus	ron.redus@state.tn.us
Texas	Texas Commission on Environmental Quality	Becky Kurka	bkurka@tceq.state.tx.us
Tribal	Fort Peck Tribe	Angelique Luedeker	angelique.ludeker@nau.edu
Tribal	Navajo Nation Environmental Protection Agency	Deb S. Misra	sdebmisra@yahoo.com
Tribal	Sac and Fox Nation of Missouri	Sarah Kelly	Sarah.Kelly@nau.edu
Tribal	Winnebago Tribe of Nebraska	Angelique Ludeker	angelique.ludeker@nau.edu
Utah	Utah Division of Air Quality	Carol A. Nielsen	CAnielsen@Utah.gov
Vermont	Vermont Department of Environmental Quality	Jeff Merrell	jeff.merrell@state.vt.us
Virginia	Virginia Department of Environmental Quality	Thomas C. Foster	tcfoster@deq.virginia.gov
Washington	Olympic Region Clean Air Agency	Jim Wilson	jim@orcaa.org
Washington	Puget Sound Clean Air Agency	Steve Van Slyke	stevev@pscleanair.org
Washington	Washington State Department of Ecology	Sally A. Otterson	sott461@ecy.wa.gov
West Virginia	West Virginia Division of Air Quality	David Porter	dporter@wvdep.org
Wisconsin	Wisconsin Department of Natural Resources	Ralph C. Patterson	patter@dnr.state.wi.us
WRAP	Western Regional Air Partnership	Tom Moore	MooreT@cira.colostate.edu

[1] Submitted complete inventory post NEI Version 2

Table A-2. Summary of State/Local/Tribal 2005 Point Source Data Submittals (June 2007)[a]

State	Name	State FIPS	File Type[b]	Total Number Counties in State	County Count in Submittal	HAP Count	CAP Count	Emissions
AK	Alaska	02	S	27	23	0	7	11,080
AL	The County of Jefferson, Alabama	01	L	1	1	46	8	4,040
AL	Alabama	01	S	67	61	129	8	29,800
AR	Arkansas	05	S	75	58	227	8	22,794
AZ	The County of Maricopa, Arizona	04	L	1	1	0	7	7,254
AZ	Arizona	04	S	15	12	108	6	4,933
CA	California	06	S	58	57	199	8	563,615
DC	District of Columbia	11	S	1	1	0	12	507
DE	Delaware	10	S	3	3	86	10	33,143
FL	Florida	12	S	67	64	117	7	30,929
GA	Georgia	13	S	159	84	1	9	13,268
HI	Hawaii	15	S	5	4	0	12	4,149
IA	Iowa	19	S	99	78	124	9	126,374
ID	Idaho	16	S	44	7	12	11	797
IL	Illinois	17	S	102	101	167	8	258,716
IN	Indiana	18	S	92	85	132	10	46,058
KS	Kansas	20	S	105	97	128	8	24,591
KY	Kentucky	21	S	120	117	142	7	94,848
KY	The County of Jefferson, Kentucky	21	L	1	1	90	8	3331
LA	Louisiana	22	S	64	60	135	7	112,555
MA	Massachusetts	25	S	14	14	67	10	55,333
MD	Maryland	24	S	24	24	66	7	52,952
ME	Maine	23	S	16	15	146	7	54,791
MI	Michigan	26	S	83	83	146	9	258,267
MN	Minnesota	27	S	87	87	199	8	162,057
MO	Missouri	29	S	115	47	1	7	9,153
MS	Mississippi	28	S	82	72	180	8	23,886
MT	Montana	30	S	56	47	9	7	14,307

Table A-2. Summary of State/Local/Tribal 2005 Point Source Data Submittals (June 2007)[a] (Cont.)

State	Name	State FIPS	File Type[b]	Total Number Counties in State	County Count in Submittal	HAP Count	CAP Count	Emissions
NC	The County of Forsyth, North Carolina	37	L	1	1	110	12	4,406
NC	North Carolina	37	S	100	88	182	8	52,532
NC	The County of Buncombe, North Carolina	37	L	1	1	55	63	319
NC	The County of Mecklenburg, North Carolina	37	L	1	1	153	9	7,071
NE	The County of Douglas, Nebraska	31	L	1	1	74	8	758
NE	Nebraska	31	S	93	74	142	7	12,048
NE	The County of Lancaster, Nebraska	31	L	1	1	85	5	233
NH	New Hampshire	33	S	10	8	57	8	8,353
NJ	New Jersey	34	S	21	21	0	6	67,431
NM	The County of Bernalillo, New Mexico	35	L	1	1	83	11	4,227
NV	The County of Washoe, Nevada	32	L	1	1	0	4	76
NV	The County of Clark, Nevada	32	L	1	1	0	7	1670
NV	Nevada	32	S	17	16	0	7	7,571
NY	New York	36	S	62	58	183	7	62,315
OH	Ohio	39	S	88	82	103	8	63,015
OK	Oklahoma	40	S	77	56	78	7	19,887
OR	Oregon	41	S	36	31	136	8	13,250
OR	The County of Lane, Oregon	41	L	1	1	0	7	481
PA	The County of Philadelphia, Pennsylvania	42	L	1	1	79	8	21,466
PA	The County of Allegheny, Pennsylvania	42	L	1	1	134	9	45,081
PA	Pennsylvania	42	S	67	63	119	7	55,923
PR	Puerto Rico	72	S	78	2	23	5	419
RI	Rhode Island	44	S	5	5	0	5	831
SC	South Carolina	45	S	46	17	119	8	5,819
SD	South Dakota	46	S	66	56	116	12	5418
TN	The County of Hamilton, Tennessee	47	L	1	1	49	8	1,958
TN	The County of Davidson, Tennessee	47	L	1	1	89	6	9,042
TN	Tennessee	47	S	95	80	203	12	52,342

Table A-2. Summary of State/Local/Tribal 2005 Point Source Data Submittals (June 2007)[a] (Cont.)

State	Name	State FIPS	File Type[b]	Total Number Counties in State	County Count in Submittal	HAP Count	CAP Count	Emissions
TN	The County of Shelby, Tennessee	47	L	1	1	106	12	4,918
TR	Fort Peck Tribe	0	B	NA	NA	33	10	393
TR	Navajo Nation Environmental Protection Agency	0	B	NA	NA	13	11	859
TR	Sac and Fox Nation of Missouri	0	B	NA	NA	0	6	18
TR	Winnebago Tribe of Nebraska	0	B	NA	NA	8	6	15
TX	Texas	48	S	254	199	225	7	784,610
UT	Utah	49	S	29	20	19	7	12,082
VA	Virginia	51	S	134	118	121	7	59,401
VT	Vermont	50	S	14	13	0	5	1,370
WA	**Submitted by Olympic Region Clean Air Agency:**							
WA	The County of Mason, Washington	53	L	1	1	20	7	83
WA	The County of Clallam, Washington	53	L	1	1	24	7	135
WA	The County of Grays Harbor, Washington	53	L	1	1	28	8	267
WA	The County of Thurston, Washington	53	L	1	1	7	7	56
WA	The County of Pacific, Washington	53	L	1	1	14	7	34
WA	**Submitted by Puget Sound Clean Air Agency:**							
WA	The County of King, Washington	53	L	1	1	33	7	268
WA	The County of Pierce, Washington	53	L	1	1	16	7	187
WA	The County of Kitsap, Washington	53	L	1	1	92	5	307
WA	The County of Snohomish, Washington	53	L	1	1	90	6	437
WA	Washington	53	S	39	20	142	7	8271
WI	Wisconsin	55	S	72	70	117	6	48,211
WV	West Virginia	54	S	55	46	182	12	37,960

[a] These counts reflect adjustments for duplicates, non-HAPs and CAPs, and referential integrity errors.

[b] L = Local Agency Submittal
S = State Agency Submittal
B= Tribal Submittal

Appendix B

Quality Control Reports

Appendix B presents some details on the EIAG-generated QC reports discussed in Section 3-12, and presents sample QC reports generated for Stack Parameters and Latitude/Longitude.

Table B-1. Stack Parameter QC Summary Report
Codes for Table B-2b

Code	Description
00000	All of the original values were retained.
00004	The exit gas flow rate was calculated.
00011	The exit gas velocity and exit gas flow rate were defaulted using the SCC code.
00014	The exit gas velocity was defaulted using the SCC Code and the exit gas flow rate was calculated.
00024	The exit gas velocity was defaulted using the SIC Code and the exit gas flow rate was calculated.
00034	The exit gas velocity was defaulted using the national default and the exit gas flow rate was calculated.
00040	The exit gas velocity was calculated.
00104	The stack diameter was defaulted using the SCC code and the exit gas flow rate was calculated.
01000	The exit gas temperature was defaulted using the SCC Code.
01004	The exit gas temperature was defaulted using the SCC Code and the exit gas flow rate was calculated.
01014	The exit gas temperature and velocity were defaulted using the SCC Code and the exit gas flow rate was calculated.
01040	The exit gas temperature was defaulted using the SCC Code and the velocity was calculated.
02000	The exit gas temperature was defaulted using the SIC Code.
02004	The exit gas temperature was defaulted using the SIC Code and the exit gas flow rate was calculated.
02024	The exit gas temperature and velocity were defaulted using the SIC Code and the exit gas flow rate was calculated.
02040	The exit gas temperature was defaulted using the SIC Code and the velocity was calculated.
03034	The exit gas temperature and velocity were defaulted using the national default and the exit gas flow rate was calculated.
03333	The exit gas temperature, stack diameter, exit gas velocity, and exit gas flow rate were defaulted to the national defaults.

Table B-1. Stack Parameter QC Summary Report
Codes for Table B-2b (Cont.)

Code	Description
11111	All of the parameters were defaulted using the SCC Code.
11114	The stack height, stack diameter, exit gas temperature, and the exit gas velocity were defaulted using the SCC code and exit gas flow rate was calculated.
22222	All of the parameters were defaulted using the SIC Code.
33333	All of the parameters were defaulted using the national defaults.
55555	All of the parameters were defaulted using the MACT Code.

Table B-2a. Count of Locational Coordinate Changes by State and Default Type

Tribal Code	State FIPS	State Name	Total Coordinates QA'ed	Null	GIS Matched Address	GIS Matched Street	Site Average	County-Centroid	2002NEI	RTR-Revisions	Zipcode2-Centroid	Zipcode3-Centroid	Zipcode4-Centroid	Zipcode5-Centroid
000	01	Alabama	3,642	3,603	5	1	7		2					24
000	02	Alaska	1,757	1,613	3		80	45		14				2
000	04	Arizona	988	950	1		36	1						
000	05	Arkansas	2,990	2,231	370	55	7						16	311
000	06	California	42,691	11,792	15,404	179	9,186	667	2,606		4		12	2,841
000	10	Delaware	958	952	6									
000	11	District of Columbia	26	21						5				
000	12	Florida	3,496	3,454	23		19							
000	13	Georgia	2,174	2,168	6									
000	15	Hawaii	326	325	1									
000	16	Idaho	168	158			10							
000	17	Illinois	23,380	23,380										
000	18	Indiana	4,955	4,496	386	5	31				1		2	34
000	19	Iowa	6,449	6,447	2									
000	20	Kansas	3,355	3,353				1						1
000	21	Kentucky	12,861	12,841	16		4							
000	22	Louisiana	11,342	9,816	168		1,358							
000	23	Maine	575	573			2							
000	24	Maryland	2,159	2,159										
000	25	Massachusetts	3,787	3,706	74		1							6
000	26	Michigan	4,324	4,280	14		28		2					
000	27	Minnesota	8,135	8,040	58	2	1							34
000	28	Mississippi	2,247	2,244	3									
000	29	Missouri	2,101	2,073	28									
000	30	Montana	508	272	85			17						134
000	31	Nebraska	497	416	36	1	5	4			5	1		29
000	32	Nevada	3,327	2,207	433		686			1				
000	33	New Hampshire	157	157										

Table B-2a. Count of Locational Coordinate Changes by State and Default Type (Cont.)

Tribal Code	State FIPS	State Name	Total Coordinates QA'ed	Null	GIS Matched Address	GIS Matched Street	Site Average	County-Centroid	2002NEI	RTR-Revisions	Zipcode2-Centroid	Zipcode3-Centroid	Zipcode4-Centroid	Zipcode5-Centroid
000	34	New Jersey	9,190	9,190										
000	35	New Mexico	492	446	46									
000	36	New York	2,226	2,207			19							
000	37	North Carolina	5,958	5,954	2									2
000	39	Ohio	6,676	5,233	1,048		220						34	141
000	40	Oklahoma	3,670	3,442	10					218				
000	41	Oregon	355	318	32		2							3
000	42	Pennsylvania	9,605	9,597	7					1				
000	44	Rhode Island	242	159	49	1	22	11						
000	45	South Carolina	241	211	16		14							
000	46	South Dakota	209	145				2						62
000	47	Tennessee	6,342	6,076	65		199							2
000	48	Texas	46,507	38,899	1,169	133	431	61						5,814
000	49	Utah	2,528	2,528										
000	50	Vermont	85	85										
000	51	Virginia	3,288	2,412	545		239	2			5			85

Table B-2b. Count of Emissions Release Point Changes by State and Default Type

State FIPS	State Name	Tribal Code	Total Stack Parameters QA'ed	00000	00004	00011	00014	00024	00034	00040	00104	01000	01004	01014
01	Alabama	000	3,642	2,936	60		6			6		23	2	6
02	Alaska	000	1,757	369	313		82	10		66		53	30	111
04	Arizona	000	988	591	17		24	2		4		5		36
05	Arkansas	000	2,990	57	1,366		275	12				1	42	36
06	California	000	42,691	4,936	236		110	3		134		33	49	322
09	Connecticut	000	2	2										
10	Delaware	000	958	461	15		3					11	1	1
11	District of Columbia	000	26	19										
12	Florida	000	3,496	1,633	24		223	5		14		85	3	346
13	Georgia	000	2,174	1,859			8					17		
15	Hawaii	000	326	119						1		2		
16	Idaho	000	168	123										
17	Illinois	000	23,380	21,649	16		2	1				130	9	
18	Indiana	000	4,955	325	24		26			2		12		32
19	Iowa	000	6,449	216	1,317		164	3		137			25	33
20	Kansas	000	3,355	246	877		8			4			10	3
21	Kentucky	000	12,861	4,207	886		298	40		102		150	20	27
22	Louisiana	000	11,342	2,210	1,557		8			982		52	77	8
23	Maine	000	575	227	115					1		4	82	
24	Maryland	000	2,159	1,124	1		1					6		2
25	Massachusetts	000	3,787	13	851		184		1				31	18
26	Michigan	000	4,324	2,238	39		133			9		127	5	57
27	Minnesota	000	8,135	113	8		35	12		2,591		7		71
28	Mississippi	000	2,247	1,678	106		8					19		232
29	Missouri	000	2,101	573	253		91			15		10	11	58
30	Montana	000	508	98	59		7	1		2			1	33
31	Nebraska	000	497	21	9		3					2		2
32	Nevada	000	3,327	355	156					1		5		

Table B-2b. Count of Emissions Release Point Changes by State and Default Type (Cont.)

State FIPS	State Name	Tribal Code	Total Stack Parameters QA'ed	00000	00004	00011	00014	00024	00034	00040	00104	01000	01004	01014
33	New Hampshire	000	157	98	1									2
34	New Jersey	000	9,190	27	1		291	64		3,928				644
35	New Mexico	000	492	195	55		2			15		5	3	
36	New York	000	2,226	1,335	113		69	7		27		23	7	396
37	North Carolina	000	5,958	3,484	19		10	6		2		62	1	7
39	Ohio	000	6,676	3,592	400					1		108	140	
40	Oklahoma	000	3,670	1,839	100		21	7		7		14	2	6
41	Oregon	000	355	154	9							2		1
42	Pennsylvania	000	9,605	4,392	204		18	2		27		70	5	6
44	Rhode Island	000	242											
45	South Carolina	000	241	28	91							1		
46	South Dakota	000	209	101										
47	Tennessee	000	6,342	777	3,304		7	6		106		14	45	442
48	Texas	000	46,507	21,376	146		409	10		58	5	283	1	83
49	Utah	000	2,528	740	6							37		
50	Vermont	000	85	53	2					8		8		
51	Virginia	000	3,288	1,967	148					1		21	40	
53	Washington	000	632	64	7		143	1		87		15	1	13
54	West Virginia	000	2,339	506	277		51	3		11		14	19	168
55	Wisconsin	000	8,010	172	22		141	11		4,667		1		36

Table B-2b. Count of Emissions Release Point Changes by State and Default Type (Cont.)

State FIPS	State Name	Tribal Code	Total Stack Parameters QA'ed	01040	02000	02004	02024	02040	03034	03333	11111	11114	22222	33333	55555
01	Alabama	000	3,642							276	164		14	149	
02	Alaska	000	1,757	6	9		23			16	559		66	44	
04	Arizona	000	988				1			19	114		17	158	
05	Arkansas	000	2,990			1	3			819	353		12	13	
06	California	000	42,691	9			18	1		692	33,176		2,903	68	1
09	Connecticut	000	2												
10	Delaware	000	958							411	48			7	
11	District of Columbia	000	26							2				5	
12	Florida	000	3,496	2			6			48	502		25	580	
13	Georgia	000	2,174								100		14	176	
15	Hawaii	000	326							1	13			190	
16	Idaho	000	168								43		2		
17	Illinois	000	23,380	1	2	2				141	1,354		73		
18	Indiana	000	4,955	1						2,963	594		27	949	
19	Iowa	000	6,449	3		2	2			134	3,234		657	522	
20	Kansas	000	3,355							1	2,048		157	1	
21	Kentucky	000	12,861	4	5	3				6,061	728		76	254	
22	Louisiana	000	11,342	44						1,925	770		24	3,685	
23	Maine	000	575							105	41				
24	Maryland	000	2,159				3			13	286		10	713	
25	Massachusetts	000	3,787							335	2,301		42	11	
26	Michigan	000	4,324							103	336		3	1,274	
27	Minnesota	000	8,135	167			9	4		2	3,224		611	1,281	
28	Mississippi	000	2,247				2			25	175		2		
29	Missouri	000	2,101	2			1			29	164		10	884	
30	Montana	000	508				2			28	102	2		173	
31	Nebraska	000	497	2						2	354		30	72	
32	Nevada	000	3,327							1,991	693		75	51	

Table B-2b. Count of Emissions Release Point Changes by State and Default Type (Cont.)

State FIPS	State Name	Tribal Code	Total Stack Parameters QA'ed	01040	02000	02004	02024	02040	03034	03333	11111	11114	22222	33333	55555
33	New Hampshire	000	157							16	40				
34	New Jersey	000	9,190	108			34	6		2	3,779		302	4	
35	New Mexico	000	492								58		3	156	
36	New York	000	2,226	23	2	1	20		1	45	148		4	5	
37	North Carolina	000	5,958		1		1			970	937		81	377	
39	Ohio	000	6,676								1,052		33	1,350	
40	Oklahoma	000	3,670	1						29	305		7	1,332	
41	Oregon	000	355							8	28			153	
42	Pennsylvania	000	9,605							705	2,076		50	2,050	
44	Rhode Island	000	242							5	68			169	
45	South Carolina	000	241							98	18		5		
46	South Dakota	000	209							2	1		105		
47	Tennessee	000	6,342	2	3		49			354	674		39	520	
48	Texas	000	46,507		3					1,020	14,327		780	8,006	
49	Utah	000	2,528							1,677	67		1		
50	Vermont	000	85	3						2	9				
51	Virginia	000	3,288							967	139		3	2	
53	Washington	000	632	13	2			6		18	185		15	62	
54	West Virginia	000	2,339	1			7			696	400		30	156	
55	Wisconsin	000	8,010	175			1			19	765		33	1,967	