

Identification of BART-Eligible Sources in the WRAP Region

Draft Report

**Prepared for
The Western Regional Air Partnership**

**Prepared by
Eastern Research Group, Inc.
1600 Perimeter Park Drive
Morrisville, NC 27560**

ERG Contract Number 30204-84

April 4, 2005

*Comments should be submitted to Lee Alter (lalter@westgov.org) by
Friday, May 13*

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
LIST OF TABLES AND FIGURES.....	xi
ACRONYMS	xiii
EXECUTIVE SUMMARY	xiv
1.0 INTRODUCTION	1-1
2.0 PROCEDURES.....	2-1
2.1 State and Tribal Participation.....	2-1
2.1.1 Note on Tribal Participation.....	2-3
2.2 Procedure for Identifying BART-Eligible Sources.....	2-3
2.2.1 Step 1: Create Preliminary List of Sources.....	2-4
2.2.2 Step 2: Acquire Category Information for Sources and Check for Completeness	2-7
2.2.3 Step 3: Acquire Date Information for Category-Eligible Sources.....	2-9
2.2.4 Step 4: “Quick” Permit Review	2-10
2.2.5 Step 5: Review Source List with State, Local and Tribal Representatives	2-13
2.2.6 Create Final Product Database.....	2-14
2.3 Procedure for California Sources.....	2-17
2.4 Procedure for Tribal Sources	2-20
2.5 Assumptions and Limitations	2-21
2.5.1 Incorrect BART-Eligibility Conclusion.....	2-22
2.5.2 Missing Sources	2-28
3.0 RESULTS	3-1
3.1 Emissions Summary.....	3-3
4.0 NEXT STEPS	4-1

TABLE OF CONTENTS (Continued)

- Appendix A - BART Identification Summary
- Appendix B - Survey Template
- Appendix C - Survey Responses
- Appendix D - State Procedures for BART
- Appendix E - BART Category – SIC/SCC/NAICS/MACT Crosswalk
- Appendix F - Source Category Reference Document
- Appendix G - List of State Contacts
- Appendix H - Master List of Possible BART-Eligible Sources for WRAP
- Appendix I - Number of BART-Eligible Sources by Category, Level of Certainty, and State or Tribal Region
- Appendix J – Emissions of BART Pollutants for Each Level of Certainty by State or Tribal Land
- Appendix K –EGU (BART 01) Unit Lists by BART-Eligibility Level of Certainty

LIST OF TABLES AND FIGURES

<u>Table</u>	<u>Page</u>
1-1 BART Source Categories	1-2
2-1 WRAP Stationary Sources Forum BART-Workgroup Members	2-1
2-2 Initial Analysis of the Number of Sources Prepared for Master List.....	2-6
2-3 Websites with Title V Permits.....	2-11
2-4 Certainty Coding for Each BART Criteria.....	2-15
2-5 BART-Eligibility Certainty Rating for Each Source	2-16
2-6 Initial Analysis – Number of Large Sources in California Districts	2-18
2-7 Websites with Title V Permits.....	2-19
2-8 BART Source Categories in the Large California Air Districts as Determined by NEI Search and Source Category Reference Document	2-20
2-9 Websites with Part 71 Permits.....	2-21
2-10 Ability of the NEI Query to Correctly Predict the BART Source Category	2-25
3-1 Source BART-Eligibility by Level of Certainty	3-1
3-2 Number of Potentially BART-Eligible Sources in the WRAP Region by BART Category and Level of Certainty	3-2
3-3 Emissions of BART Pollutants for “Yes” non-EGU Sources and “Yes” EGU Units by State/Tribal Lands (Tons/Year).....	3-4

<u>Figure</u>	<u>Page</u>
2-1 Identification of BART-Eligible Sources in WRAP Region.....	2-5
3-1 “Yes” BART-Eligible Sources and EGUs	3-5
3-2 “Likely” BART-Eligible Sources and EGUs	3-6
3-3 “Potentially” BART-Eligible Sources and EGUs	3-7
3-4 NO _x Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions)	3-8
3-5 PM ₁₀ Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions)	3-9
3-6 SO ₂ Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions).....	3-9
3-7 VOC Facility-Wide Emissions from Possibly BART-eligible and Other Sources in the WRAP Region (2002 Emissions).....	3-10
3-8 Comparison of Emissions from EGU Units and Non-EGU Sources (“Yes”, “Likely”, “Potential”, and “Do Not Know” Levels of Certainty of BART- eligibility)	3-11
3-9 NO _x Facility-Wide Emissions from Possibly BART-eligible Sources by Source Category (2002 Emissions) (Excluding BART Category 01)	3-12
3-10 PM ₁₀ -PRI Facility-Wide Emissions from Possibly BART-eligible Sources by Source Category (2002 Emissions) (Excluding BART 01)	3-13

LIST OF TABLES AND FIGURES

<u>Figures</u>	<u>Page</u>
3-11 SO ₂ Facility-Wide Emissions from Possibly BART-eligible Sources by Source Category (2002 Emissions) (Excluding BART 01)	3-14
3-12 VOC Facility-Wide Emissions from Possibly BART-eligible Sources by Source Category (2002 Emissions) (Excluding BART 01)	3-14

ACRONYMS

AP-42	Compilation of Air Pollution Emission Factors
BART	Best Available Retrofit Technology
BID	Background Information Documents
CAMD	Clean Air Marketing Division
CERR	Consolidated Emissions Reporting Rule
DOE	Department of Energy
EGU	Electric Generating Unit
MACT	Maximum Achievable Control Technology
MWC	Municipal Waste Combustors
NAICS	North American Industrial Classification System
NEI	National Emissions Inventory
NH ₃	Ammonia
NO _x	Nitrogen Oxides
NSPS	New Source Performance Standards
PM	Particulate Matter
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RHR	Regional Haze Rule
SCC	Source Classification Code
SIC	Standard Industrial Classification
SO ₂	Sulfur Dioxide
TPD	Tons Per Day
TPY	Tons Per Year
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WRAP	Western Regional Air Partnership

EXECUTIVE SUMMARY

Background

The federal regional haze rule requires states to identify major stationary sources of air pollution which are eligible for best available retrofit technology (BART). Such BART-eligible sources must be identified whether states implement BART under Section 308(e)(1) of the regional haze rule or an alternative program under Section 308(e)(2). A stationary source is BART-eligible if:

- It belongs to one of 26 source categories (power plants, refineries, etc.);
- Has emission units which were “in existence” on August 7, 1977 but “not in operation” before August 7, 1962; and
- Has a potential to emit (PTE) more than 250 tons per year (tpy) of any visibility-impairing pollutant across all date-eligible units.¹

A BART source, therefore, may be a portion of a facility, and that portion may include more or less emission units over time as individual units are reconstructed or shut down.

Objectives

This report summarizes the first phase in an effort to identify BART-eligible sources in the WRAP region. The objectives of this effort are to:

- Develop and maintain a regional database of eligible and possibly-eligible sources, their emissions, and current controls;
- Promote consistency in how BART-eligible sources are being identified across the region; and
- Establish a common method and preliminary list of sources.

Procedures

General Approach

At the start of this effort, few states and no tribes had a reliable list of BART-eligible sources. Moreover, slightly different approaches and interpretations of EPA draft guidelines were taken when compiling these lists.

¹ The visibility-impairing pollutants are sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM₁₀), and volatile organic compounds (VOCs). It is not currently clear whether ammonia (NH₃) will be considered visibility-impairing for purposes of implementing BART.

ERG's procedure followed as closely as possible, within the available time and budgetary limits, the draft BART guidelines published by the U.S. Environmental Protection Agency (EPA).² Ultimately, however, a stationary source was only identified as BART-eligible if it was identified as BART-eligible in the SO₂ Annex, identified as BART-eligible by a state or tribe and subsequently verified by ERG, or identified as BART-eligible by ERG and subsequently verified by a state or tribe.

ERG's approach to identifying BART-eligible sources began by casting a wide net to identify all facilities whose actual emissions (which are more readily available than potential emissions) exceed 100 tpy or more of any visibility-impairing pollutant according to the 1999 or Preliminary 2002 National Emission Inventory (NEI). Additional sources were added to this preliminary list if they were identified by the states or tribes; found in various Title V, U.S. Department of Energy, and EPA databases; or found in EPA background documents such as those prepared for new source performance standards, maximum achievable control technology standards, and AP-42 emission factors.

Category, date, and PTE information was then sought for each source on the preliminary list to determine BART eligibility. Most sources could be determined to be either BART-eligible or not BART-eligible. However, a significant portion could not be determined either way with sufficient certainty. These sources were identified as either likely eligible, potentially eligible, or "do not know." If a facility has one or more units where two of the three eligibility criteria are met, then it is considered likely BART-eligible. If information is not known for at least two of the criteria, the facility is considered "do not know." All other combinations of criteria satisfaction result in a facility being labeled as potentially eligible. More detail on this eligibility ranking scheme is provided in Section 2.2.6.

As noted above, a BART source can be a portion of a facility – i.e., the group of units at the facility which satisfy all three BART criteria. Unit-level data for all three criteria are typically available for electric generating units (EGUs). However, such information for non-EGUS, particularly date and PTE information, is often not known or available, or requires resources beyond the scope of this project to obtain. Hence, at this stage in the BART-identification effort, eligibility for non-EGUs is determined on only a plant-wide basis. That is, enough information is obtained to conclude that at least part of the facility is BART-eligible, or that none of it is, or that some of it might be. The approach for collecting category, date, and PTE information is described below.

Category, Date, and PTE Information

Source category information was obtained using a number of information sources. For most sources, the NEI and Title V databases contain source classification codes (SCCs) and standard industrial classification (SIC) codes which indicate whether or not the source belongs (or contains units which belong) to one or more of the 26 BART source categories. Additionally, the EPA background documents noted above contain source

² See Federal Register, Vol. 89, No. 67, p. 25184 – 25232, (May 4, 2005).

category information. For instance, support documents for municipal waste combustor (MWC) standards identify all MWCs with a capacity greater than 250 TPD known to exist at the time of the report.

Date information was then obtained for category-eligible sources from various EPA documents, Title V databases, and Energy Information Agency (EIA) databases. These documents and databases did not typically contain specific dates of “existence” and “operation” as carefully defined in the EPA’s draft guidelines. Acquiring such dates, especially for each emission unit at a facility, was beyond the resources available for this project. Nonetheless, the more general, approximate dates typically available were often helpful in determining whether a facility was clearly built, not built, or possibly built within the 1962-77 BART time window. In addition, EIA databases provide a specific “in service” date for each unit, which is helpful to determine which portions of the facility are or are not BART-eligible.

Unit-level potential to emit (PTE) information was not available from any of the data sources available for this project, including Title V permits. On occasion, some permits identified the entire source as having a PTE of less than 250 tpy for each pollutant, in which case the source could be eliminated as BART-eligible. PTE information is only needed for units already found to be category-and date-eligible. Hence, additional information collection can be streamlined on this basis. Conversely, if an emission unit is legally emitting more than 250 tpy, it can be reasonably assumed its PTE is greater than 250 tpy. This was the approach taken with electric generating units (EGUs).

As described in Sections 2.3 and 2.4, additional measures were taken to address sources on tribal lands and in California, but the uncertainties and limitations regarding unit-level date and PTE information are largely the same for these sources.

Results

Of the 1,569 sources reviewed in the WRAP region, 1,138 were determined to be not BART-eligible and 87 are believed to be BART-eligible for at least a portion of the source. Exactly which units at these 87 facilities comprise the BART-eligible sources is often not known, especially for non-EGUs. For the remaining 344 sources, enough information was collected to rank them as either likely eligible, potentially eligible, or “do not know.”

Appendix H contains results and information for each source, excluding those which were found to be not eligible. This appendix, also available as a spreadsheet on the WRAP website, illustrates how each source was determined to be eligible, likely eligible, potentially eligible, and “do not know” and provides a basis for resolving the uncertain sources.

431 sources were found to be eligible or possibly eligible. Of these, the 87 believed to be eligible comprise most of the emissions from the 431 sources. Specifically, they

comprise 63 percent of the SO₂, 62 percent of NO_x emissions, 57 percent of the PM₁₀ emissions, and 34 percent of the VOC emissions.

Of the 431 sources, electric generating units (EGUs) comprise over 75 percent of the SO₂ and NO_x emissions, 60 percent of the PM₁₀ emissions, and a small fraction of the VOC emissions. The most significant non-EGU contributors to SO₂, NO_x and PM₁₀ emissions appear to be petroleum refineries, aluminum ore reduction, phosphate rock processing, lime plants, lead smelters, industrial boilers, cement plants, sulfur recovery plants, fuel conversion plants, and kraft pulp mills. The most significant non-EGU contributors to VOC include petroleum refineries and kraft pulp mills. Tonnages for these emissions by BART certainty ranking and source category are presented in Section 3.1, including comparisons to total stationary source emissions.

Caveats

As noted in various portions of the report and this executive summary, the following caveats should be kept in mind:

- The procedures in this report are based on the EPA's proposed BART guidelines.
- A BART source will often be only a portion of a facility, but the information needed to determine that portion was typically not available, not known, or required resources beyond the scope of this project to obtain, especially for non-EGUs.
- BART identifications and emission estimates, therefore, are reported on a facility-wide basis for non-EGUs, which will tend to overestimate the number of emission units and amount of emissions from eligible or possibly-eligible non-EGU sources.

Next Steps

State implementation plans (SIPs) must include a list of BART-eligible sources. This report presents a preliminary list of eligible and possibly-eligible sources that can be maintained and modified prior to SIP submittal as new information is obtained by WRAP members and contractors and as the eligibility of some sources may change as a result of facility reconstructions and closures.

Although state and tribal representatives played a major role in developing this report, their involvement in the BART-identification process is likely to grow as SIPs and TIPs are formulated and as it becomes increasingly necessary to work with local officials and facility operators to obtain the necessary data. At the same time, a regional database should be maintained for regional planning and consistency purposes. The states and tribes, therefore, should act as conduits of information between the regional report/database and local officials and facility operators. Although WRAP staff and contractors will accept comments on this report from local agencies and facility

operators, communication through state and tribal WRAP members is the more efficient and preferred approach.

Identification of BART-eligible sources is expected to be a continuous process extending well beyond the comment period for this draft report. Therefore, although comments and new data will be accepted regarding the eligibility of particular sources, it would be most productive at this time to direct comments towards the quality and clarity of the report, the methods employed, and the presentation of results, especially since this report will provide the basis or starting point for further BART investigations.

Comments on this draft report should be provided to Lee Alter (lalter@westgov.org) by Friday, May 13.

The following priorities have been identified for WRAP members to consider while working to complete their BART-eligibility determinations:

- Check for any possibly-eligible sources which may not have been identified in this report. Emissions in the 1999 and/or 2002 NEI, for instance, may have been less than 100 tpy due to economic or maintenance reasons. Nine source categories are identified in Section 4.1 which may be relatively more susceptible to missing sources. Comparison of Title V lists to this report's master list may provide a good check. (The master list spreadsheet, not Appendix H, should be used for this purpose, as it contains the sources found to be not eligible.)
- For those facilities identified as likely eligible, potentially eligible, or "do not know," determine whether the facility as a whole contains at least some eligible or no eligible emission units, thereby categorizing all facilities as either eligible or not eligible. This may be accomplished by examining a select portion, rather than all the units at a facility. This task is important to determine specifically which facilities need to be further analyzed for BART or included in an alternative program. In addition, it will determine specifically which source categories may need to be analyzed for suitability in an emissions trading program and also which source categories should to be included in a BART analysis to demonstrate that an alternative is better than BART.
- Determine the BART-eligible sources at the unit level for all EGUs and other sources which are relatively large. Appendix K provides information useful for this process.
- Improve the control technology and control efficiency information in the WRAP emission inventory, particularly for larger eligible sources.

Finally, the completeness and rigor of identifying BART-eligible sources may depend in part on whether a state or tribe implements BART or an alternative program to BART. In the former case, eligibility must be determined with thorough completeness and certainty. In the latter case, BART per se will not be implemented. Rather, a program including all

BART-eligible (and quite possibly additional) sources will be implemented which must provide for greater reasonable progress than what BART would be expected to produce at BART-eligible sources. If the alternative program is certain to include all BART-eligible sources (e.g., all sources emitting more than 100 tpy) and provide for greater reasonable progress, it may not be necessary to identify BART-eligible sources with as much confidence and specificity.

1.0 INTRODUCTION

The federal regional haze rule requires states to identify major stationary sources of air pollution which are eligible for best available retrofit technology (BART). Such BART-eligible sources must be identified whether states implement BART under Section 308(e)(1) of the regional haze rule or an alternative program under Section 308(e)(2). A stationary source is BART-eligible if:

- It belongs to one of 26 source categories (see Table 1-1);
- Has emission units which were “in existence” on August 7, 1977 but “not in operation” before August 7, 1962; and
- Has a potential to emit (PTE) more than 250 tons per year (tpy) of any visibility-impairing pollutant across all date-eligible units.³

A BART source, therefore, may be a portion of a facility, and that portion may include more or less emission units over time as individual units are reconstructed or shut down.

Relevant steps in the BART-eligibility identification process, including recent U.S. EPA clarifications, are provided in Appendix A. These clarifications and details on the steps to identify BART-eligible sources and to determine BART were made in the proposed BART guidelines, published May 5, 2004 (69 FR 25184) and expected to be finalized in April 2005. Because these are proposed guidelines, they are subject to change. The analysis described in this document is based on the proposed guidelines; any changes to these guidelines would require a determination of whether changes are necessary for this analysis.

The Western Regional Air Partnership (WRAP) and its Stationary Sources Joint Forum/BART Workgroup contracted with Eastern Research Group, Inc. (ERG) to begin the process of identifying BART-eligible sources throughout the WRAP region.

³ The visibility-impairing pollutants are sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM₁₀), volatile organic compounds (VOCs), and ammonia (NH₃).

Table 1-1. BART Source Categories

BART Category ID	BART Category
BART-01	Fossil fuel-fired steam electric plants with a heat input capacity greater than 250 MMBtu per hour
BART-02	Coal Cleaning Plants (thermal dryers)
BART-03	Kraft Pulp Mills
BART-04	Portland Cement Plants
BART-05	Primary Zinc Smelters
BART-06	Iron and Steel Mill Plants
BART-07	Primary Aluminum Ore Reduction Plants
BART-08	Primary Copper Smelters
BART-09	Municipal Incinerators capable of charging greater than 250 tons of refuse per day
BART-10	Hydrofluoric, Sulfuric, and Nitric Acid Plants
BART-11	Petroleum Refineries
BART-12	Lime Plants
BART-13	Phosphate Rock Processing Plants
BART-14	Coke Oven Batteries
BART-15	Sulfur Recovery Plants
BART-16	Carbon Black Plants (Furnace Process)
BART-17	Primary Lead Smelters
BART-18	Fuel Conversion Plants
BART-19	Sintering Plants
BART-20	Secondary Metal Production Facilities
BART-21	Chemical Process Plants
BART-22	Fossil fuel-fired boilers with a heat input capacity greater than 250 MMBtu per hour
BART-23	Petroleum Storage and Transfer Facilities with a capacity of greater than 300,000 barrels
BART-24	Taconite Ore Processing Plants
BART-25	Glass Fiber Processing Plants
BART-26	Charcoal Production Facilities

Specifically, the objectives of this project are to:

- Develop and maintain a regional database of eligible and possibly-eligible sources, their emissions, and current controls;
- Promote consistency in how BART-eligible sources are being identified across the region; and
- Establish a common method and preliminary list of sources.

The original plan for this work included several site visits to state and U.S. EPA regional offices to review Title V permits and/or Title V permit applications and collect information necessary to assess whether a given source meets the three BART criteria. As the project began, it was determined that a significant amount of information was available via the Internet or through published documents that could help determine whether a source is BART-eligible. This document details the stepwise process employed and information used to identify sources potentially subject to the BART requirement. This includes developing a universe of sources that may be BART-eligible and then eliminating entire sources from this list based on the criteria listed above. It is important to note that this effort focused for the most part on identifying sources that may have one or more BART-eligible units, not on identifying the actual BART-eligible units at those sources. Thus, the list compiled here contains sources that may prove not be BART-eligible once the unit-specific information is reviewed.

Section 2.0 provides a detailed discussion of the procedures used to identify BART-eligible sources. Section 3.0 includes a discussion of the results, while Section 4.0 suggests some next steps.

2.0 PROCEDURES

In developing a procedure for identifying BART-eligible sources, several resources were used. Information was collected from States on work previously conducted on identifying BART-eligible sources. The National Emissions Inventory (NEI), which is managed by the U.S. EPA, was queried for applicable data. U.S. EPA, Department of Energy (DOE), and trade association documents were reviewed for lists of sources in specific source categories. Title V permits and engineering documents were reviewed. State, Local, and Tribal representatives were interviewed to collect specific details on sources.

Section 2.1 contains a description of the participation by State, Local and Tribal authorities; a discussion of the procedures used is contained in Section 2.2; the procedure used for California sources is contained in Section 2.3; and Section 2.4 explains the methods used for the Tribal sources. Section 2.5 provides a summary of the assumptions and limitations of the procedures used in identifying BART sources.

2.1 State and Tribal Participation

State and Tribal (along with WRAP and U.S. EPA) representatives participated in the Workgroup that guided the identification of BART-eligible sources. Meetings were held monthly to discuss status and procedures. Members of the BART Workgroup provided input at every step of the identification process. Table 2-1 provides a list of individuals comprising up the BART Workgroup and their affiliations.

Table 2-1. WRAP Stationary Sources Joint Forum BART Workgroup Members

Name	Agency
Lee Alter	Western Governors' Association
Don Arkell	Western States Air Resources Council
Steve Body	U.S. EPA, Region 10
Pat Cummins	Western Governors' Association
Steve Frey	U.S. EPA, Region 9
Bob Gruenig	National Tribal Environmental Council
Eric Massey	Arizona Department of Environmental Quality
Cathy Messerschmitt	National Tribal Environmental Council
Al Newman	Washington State Department of Ecology
Chad Schlichtemeier	Wyoming Department of Environmental Quality
Tina Suarez-Murias	California Air Resources Board

Additionally, many State and Local agencies were contacted to specifically discuss the potentially BART-eligible sources in their area. The National Tribal Environmental Council (NTEC) was also contacted to discuss potentially BART-eligible Tribal sources. This is discussed in more detail in Sections 2.2, 2.3, and 2.4 along with a list of people contacted.

Because the BART rules must be complied with by State, Local, and Tribal Authorities, many of these jurisdictions had already begun developing BART source lists prior to the beginning of this task. Therefore, an initial effort involved collecting the information available from each State in the WRAP region. No Tribe or Tribal organization had specific information on BART at this time. A survey was sent to each state in the WRAP region in May 2004 (included in Appendix B), except for California. Tribes and California did not receive a survey because it was known that no BART list had been prepared and because a different approach was planned for the Tribes and California.

For those states that had begun to determine BART eligibility, the survey specifically asked for the list of potentially BART-eligible sources and details of the procedure used. In some cases the procedure was not documented sufficiently. In other instances, the procedure was documented, but specific details of the procedure were not adequately documented and were not obtained via the May 2004 survey.

Eleven states (i.e., Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming) responded to the survey, and their compiled results are presented in Appendix C. Eight of these eleven states had preliminary BART source lists that were prepared using various procedures. Oregon, Washington, and Wyoming had no initial BART source list. Many of the BART source lists were acknowledged as being very rough and preliminary. Only Montana and South Dakota provided documentation of the procedure they used to determine BART-eligibility. In addition, the survey responses from Colorado, Idaho, New Mexico, Nevada, North Dakota and Utah were complete enough that some of the details from their procedures could be ascertained. At the time the surveys were distributed, Washington and Wyoming had not begun a detailed procedure for identifying BART-eligible sources, only an initial review.

Alaska and Arizona did not return a survey. Although, BART-related information was collected from Alaska prior to the survey, no information regarding specific BART-eligibility procedures was obtained.

Appendix D provides a discussion of the procedures used by the States that prepared a preliminary BART source list. A review of the procedures used by the various states revealed that there were several interpretations of the BART guidelines and various levels of detail and rigor employed in the analyses. Some analyses were considered complete, others just preliminary. In this effort, an approach was used to consistently determine BART-eligible sources across all of the states and tribes. Determinations previously made by States were reviewed and incorporated as appropriate. Sections 2.2, 2.3 and 2.4 details the procedure used to determine BART-eligible sources for the WRAP states and tribes.

2.1.1 *Note on Tribal Participation*

Tribes, along with states and federal agencies, are full partners in the WRAP, having equal representation on the WRAP Board as states. Whether Board members or not, it must be remembered that all tribes are governments, as distinguished from the “stakeholders” (private interest) which participate on Forums and Committees but are not eligible for the Board.

Despite this equality of representation on the Board, tribes are very differently situated than states. There are over four hundred federally recognized tribes in the WRAP region, including Alaska. The sheer number of tribes makes full participation impossible. Moreover, many tribes are faced with pressing environmental, economic, and social issues, and do not have the resources to participate in an effort such as the WRAP, however important its goals may be. These factors necessarily limit the level of tribal input into and endorsement of WRAP products.

The tribal participants in the WRAP, including Board members Forum and Committee members and co-chairs, make their best effort to ensure that WRAP products are in the best interest of the tribes, the environment, and the public. One interest is to ensure that WRAP policies, as implemented by states and tribes, will not constrain the future options of tribes who are not involved in the WRAP. With these considerations and limitations in mind, the tribal participants have joined the state, federal, and private stakeholder interests in approving this BART Identification report as a consensus document.

2.2 Procedure for Identifying BART-eligible Sources

In order to identify the BART-eligible sources, it was important to pare down the list of all possible sources to a sizable list that could be reviewed in some amount of detail. A list of Title V major sources was immediately obvious as a way to focus efforts on those sources potentially BART-eligible. The definitions of a Title V major source and a BART-eligible source are such that all BART-eligible sources are Title V major sources. A Title V major source is one that has a PTE of 100 tons per year (TPY) of a regulated pollutant, which includes all visibility impairing pollutants, or emits above a certain level of hazardous air pollutants. A BART-eligible source has a potential-to-emit of a visibility impairing pollutant greater than 250 TPY from only the category- and date-eligible units. Therefore, a list of Title V major sources would contain all of the BART-eligible sources, although it may include several other sources that are not BART-eligible it would not exclude any BART-eligible sources. Title V source lists were requested of the states in the survey.

There was also a need to pull information from the National Emissions Inventory (NEI) for the BART-eligible sources once they were identified. Through the NEI, information on individual units, actual emissions, and control equipment could be obtained for a given source. One concern in using Title V source lists was the fact that name changes occur so frequently that matching the names on the Title V list with the names in the NEI is an extremely time consuming task often resulting in several sources that cannot be

definitively matched. Therefore, it was determined to use the 1999 and 2002 Preliminary NEI to develop a first-cut at the BART-eligible sources instead of using Title V lists. The NEI information was supplemented in subsequent steps with reviews by State, Local, and Tribal representatives and published lists of sources in the BART source categories.

Figure 2-1 illustrates the process used to identify BART-eligible sources for all WRAP states except California and Tribal sources. Components of these steps were used for California and Tribal sources; however, the procedures used for these sources are explained in Sections 2.3 and 2.4. In some cases there was overlap between the procedures explained in this section and those explained for the Tribal sources because information on a Tribal source was found with other sources for a given state. Section 2.4 explains this overlap and how information was collected for Tribal sources.

The list of sources considered for BART-eligibility included approximately 1,500 sources. Using the NEI, Title V permits that could be found online, U.S. EPA documents, and interviews with State and Tribal representatives, about 80 percent of these sources were determined to be not BART-eligible. The remainder of this section provides a detailed discussion of each step in the elimination process and the assumptions made. The sections below follow the order of the steps presented in Figure 2-1.

2.2.1 Step 1: Create Preliminary List of Sources

A list of sources for all states in the WRAP region that have actual emissions greater than or equal to 100 TPY was developed by querying the 1999 NEI and 2002 Preliminary NEI. EPA issued the 2002 Preliminary NEI in February 2004. It actually contains 2001 state inventory submittals and 2002 CAMD data. When this project started in April 2004, this was the most up-to-date inventory available. This threshold provided a first cut at the list of all possible sources. This query established the basis of a master list of sources to be further investigated to determine whether they are BART-eligible. The master list included all sources that were investigated. Sources were added to the list as new information was collected; but no sources were removed from the list, unless they were determined to be a duplicated source. Five columns were included in the master list to hold the information collected. There were three columns, one for each BART criteria; one column to place any conclusions made on the BART-eligibility of the source as a whole; and one column to include any comments on information collected.

Step 1:
Over 1,500
Sources listed
on Preliminary
Spreadsheet

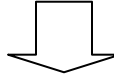


Elimination Process

Step 6:
Preliminary List
Reduced to an
Estimated 280
Yes, Likely and
Potential Sources



1. Create preliminary list of sources from National Emissions Inventory (NEI). Use 1999 and Preliminary 2002 NEI to find all sources with actual emission of any visibility impairing pollutants (PM, SO₂, NO_x, VOC or NH₃) greater than or equal to 100 TPY. Include sources identified by states.



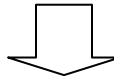
2. Acquire category information for sources over 100 TPY and check for completeness.

- a. Identify NEI sources with one or more units in BART-eligible categories.

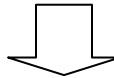
Use NEI and SIC-SCC-NAICS-MACT BART category crosswalk to apply BART categories. Approximately, 80% of sources over 100 TPY have one or more BART categories.

- b. Identify additional non-NEI sources that are category-eligible and apply additional categories to NEI sources.

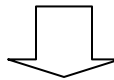
Use source category lists to acquire these additional sources and/or categories including: NSPS Bid Lists, PSD lists, AP-42 support documents, MACT support documents, DOE, CAMD, and Title V lists, etc.



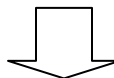
3. Acquire date information for category-eligible sources. Use source category lists from Step 2: NSPS Bid lists, PSD lists, AP-42 support documents, etc.



4. "Quick" permit review. 15 minute review of electronic Title Vs for sources with assigned BART category. Extract available date, category, and PTE information.



5. Review source list with State, Local, and Tribal representatives. Based on Steps 1-4 above, each source is assigned a "Yes", "No", "Likely", "Potential", or "Don't Know". Reviewers confirm, correct, or complete information to adjust assignment.



6. Create final product database of BART-eligible sources by level of certainty. Database contains 2002 NEI actual unit-specific emissions for EGUs, as well as facility-wide actual emissions for all EGUs and non-EGUs.

Figure 2-1. Identification of BART-Eligible Sources in WRAP Region

Table 2-2 provides the number of sources with actual emissions greater than 100 TPY in each of the states in the WRAP region. The number of Title V sources for each state are shown for comparison purposes.

Table 2-2. Initial Analysis of the Number of Sources Prepared for Master List

State	Number of Major Stationary Sources ^a	Number with Actuals >100 TPY	Number with Actual >100 TPY and Preliminary BART Categories Assigned by NEI
Alaska	245	11	11
Arizona	115	44	31
California	1,193	281	230
Colorado	131	134	119
Idaho	150	31	27
Montana	59	36	35
Nevada	48	19	13
New Mexico	183	143	83
North Dakota	50	27	24
Oregon	150	72	53
South Dakota	200	25	19
Utah	74	52	48
Washington	129	81	60
Wyoming	152	91	75
Tribal Land	--	40	29
Total	2,879	1,087	857

^a Numbers of major Title V sources as presented on the U.S. EPA website: <http://www.epa.gov/air/oaqps/permits/maps/permtbl.html>.

The list of sources with actual emissions greater than 100 TPY should include the majority of sources with category- and date-eligible units with a total PTE greater than 250 TPY. By using this method to develop the initial list of sources to investigate, it is theoretically possible that BART-eligible sources with actual emissions less than 100 TPY and PTE greater than 250 TPY would be missed. However, this population was assumed to be very small. This is because the PTE of 250 TPY pertains to the collection of the category- and date-eligible units which will most often be a subset of the total number of units at the source, while the actual emissions from the NEI query were for total actual emissions for all units at the source. The fact that not all units, only category- and date-eligible units, are included in determining if the PTE is greater than 250 TPY (for BART purposes) somewhat offsets the fact that the NEI query was based on actual emissions. Also, for these sources with low actual emissions (less than 100 TPY) and high PTE (greater than 250 TPY), many would likely choose to take a federally enforceable limit to reduce their PTE to avoid BART eligibility. Therefore, it

was thought that developing a list of sources with actual emissions greater than 100 TPY contained the vast majority of BART-eligible sources. Step 2 included a review of published information that was used to make sure no sources were missed; and, in Step 5, the list of sources was reviewed by State, Local and Tribal representatives to determine, among other things, whether any potentially BART-eligible sources were missing. In these steps, some sources were added to the master list for further investigation. This is discussed in more detail under those steps, below.

As a completeness check, the list of Title V sources (for a subset of the states) was compared to the list of NEI sources for those states. These Title V lists were obtained directly from the state agency or the U.S. EPA, State or district websites. As Title V sources are only issued for major sources, it was expected that the lists would be very similar. However, the Title V and NEI lists did not overlap entirely. In many cases, the NEI contained sources that were not on the Title V list. The NEI information is two to five years old, so there may be sources that have shut down or reduced emissions in some way and are no longer subject to Title V. Furthermore, the NEI collects data on fugitive emissions that may not be counted towards Title V applicability. There were also sources on the Title V list that were not on the NEI list. Most often this was because the sources were Title V major sources due to other pollutants, such as HAPs and not because of the visibility impairing pollutants. It was determined that the NEI should include all of the larger sources and, if the actual emissions were less than 100 TPY, then it is unlikely the PTE of the category- and date-eligible units is greater than 250 TPY. All sources that were investigated further through Title V permits, yet were not on the original NEI query, were added to the master list.

2.2.2 Step 2: Acquire Category Information for Sources and Check for Completeness

Standard Industrial Classification (SIC) codes, Source Classification Codes (SCC), North American Industrial Classification System (NAICS) codes, and Maximum Achievable Control Technology (MACT) codes associated with each source in the NEI were used to make an initial determination of whether a source was in one of the 26 BART source categories. A list of these codes is contained in Appendix E. In most cases, the BART source categories are not perfectly defined by these codes. The review of the various classification codes was designed to capture all of the BART-eligible sources and to assure that no source potentially in one of the 26 BART source categories was missed. This search resulted in several sources being assigned a BART category than what would eventually be determined to be BART-eligible. These sources were reviewed in more detail in subsequent steps to ascertain whether they are potentially BART-eligible. The BART category assignment was used only as a guide and in all cases other verifying information was collected before a source was labeled as BART-eligible. BART-eligibility was never solely determined by the NEI query and resulting BART category assignment, except in some situations where there was no BART category preliminary assigned it was assumed that the source was not BART-eligible (this is discussed further in Section 2.2.4 below). Table 2-2 includes the number of sources with preliminary BART categories assigned as a result of the NEI query.

In addition to assembling the source specific information described above, specific information was acquired on each BART source category including published lists of sources within these categories. The information on specific source categories included background documents from AP-42, technical support documents for MACT and New Source Performance Standards (NSPS), and other U.S. EPA and trade association documents. Additional databases were also searched for boilers that may not be present in the NEI. A U.S. DOE list of power plants which includes initial installation dates, and a list of large boilers (greater than 250 MMBtu/hr) provided by U.S. EPA's Clean Air Marketing Division (CAMD) were also reviewed. The information collected and its origin are provided in the Source Category Reference Document (Appendix F).

This information was used to determine if sources were in one or more of the BART source categories. This information was noted in the master list. If it was determined that a source was part of a BART source category, a "Y" was placed in the source category column of the master list. The comment column in the master list was also noted to indicate that this information was determined from the Source Category Reference Document (Appendix F).

For some source categories, the lists in Appendix F are complete; therefore, a source with an assigned BART category from the NEI query but not identified in Appendix F, could be eliminated as not being BART-eligible. For example, the list of Portland Cement Plants is complete. If the NEI query assigned a source the BART category "Portland Cement Plants" yet this source is not in Appendix F, the source category column in the master list was noted with an "N". This source would most likely not be BART-eligible, but it would not be eliminated yet, because it is possible that this source may have a large boiler which would make it part of the fossil fuel boilers greater than 250 MMBtu/hr BART source category (BART 22). The comment column of the master list would be updated to say that the source is not BART 04 (Portland Cement Plants), but verification would be needed to conclude that there are no large boilers at the source. This note would be useful in subsequent steps when permits were reviewed and State, Local or Tribal representatives were interviewed so that the investigation could be focused on the data needed.

Appendix F was also used to determine if any sources needed to be added to the master list. If a source was included in the lists provided in Appendix F and it was not included in the original list of the NEI, it was added to the master list. The comment column of the master list was also updated appropriately. Therefore, this information acted as a completeness check on the original list of sources determined from the NEI search.

The BART-eligible lists prepared by individual states were also reviewed and matched with the master list. If a state indicated that a source was BART-eligible, this was indicated in the comments column and in the source category, date, size, and conclusion columns of the master list. It was assumed that if a state definitively determined that a source was BART-eligible, this meant that all three criteria were met. If a state indicated that a source was possibly BART-eligible, this indicated that the state had verified that one or two of the criteria were met. It was usually apparent which criteria were satisfied

from the analysis provided, however, if not, it was assumed that the source category criterion was satisfied since this is the easiest to determine. This assumption was usually supported by the lists in Appendix F.

Furthermore, the sources determined to be BART-eligible in the work conducted by WRAP for the SO₂ Annex were also matched with the master list. Any source that was identified as “BART-eligible” in the SO₂ Annex was labeled as such in the master list. For some sources on the state lists and the SO₂ Annex, subsequent steps revealed more information which indicated that they are not actually BART-eligible because of various reasons such as shutdowns or changes made by U.S. EPA to the BART guidelines. In the SO₂ Annex, BART-eligible units emitting SO₂ were identified for nine of the 14 WRAP states. The SO₂ Annex reported on an alternative to applying BART to all BART-eligible SO₂ units. The alternative included establishing milestones with provisions to implement a backstop emissions trading program. The SO₂ Annex report provided the documentation that this alternative would achieve greater reductions of SO₂ emissions than implementation of case-by-case BART under Section 308 of the regional haze rule.

For EGUs, a thorough review of the units at each utility was conducted and data collected from states and DOE were considered for each unit along with information regarding whether the unit was previously considered BART-eligible under the SO₂ Annex. An EGU was not considered BART-eligible with a high degree of certainty solely because it was listed in the SO₂ Annex or because a State indicated it was BART-eligible. Corroborating information was required in order for an EGU to be labeled BART-eligible with complete certainty (“Yes”).

2.2.3 Step 3: Acquire Date Information for Category-Eligible Sources

In some of the lists provided in Appendix F there is date information. This information was used to eliminate sources or to confirm that a source was built in the BART timeframe; the information was then noted in the master list. For example, to promulgate the MACT standard for large municipal waste combustors (MWCs), U.S. EPA created an inventory of all MWCs in the country with capacities of 250 tons per day (TPD) or greater. According to this inventory, all of the units in the WRAP region were constructed in the 1980s, after the BART window of 1962-1977. In this example, the “date” column of the master list would be noted with “1980s” and the conclusion column would be noted with a “No” to indicate that the source is not BART-eligible.

Sometimes the date information in Appendix F indicated that the source was in existence in the BART timeframe, but it was not possible to make any final conclusions regarding whether equipment was actually built in the BART timeframe or not. For example, if a plant appears on a list published in 1980, it is possible the plant was either built during the BART timeframe and could be BART-eligible; built between 1977 and 1980 and not BART-eligible; or built prior to 1962 in which case information would be necessary regarding any reconstruction during the 1962 – 1977 period. The information available was noted in the date column of the master list, in this case, “pre-1980”.

In matching sources on the lists in Appendix F, state lists, or the SO₂ Annex BART-eligible list with the master list, special care was given for facility name changes. Location information and web searches were used to match up sources where name changes occurred. In situations where there was still uncertainty with a possible match, this was noted in the comments column for later discussion with State, Local, or Tribal authorities in Step 5.

For EGUs, data was available on dates boilers went into service and dates the electric generator went into service. Boiler in-service dates were directly applicable in determining BART-eligibility for BART 01. However, the dates the electric generator went into service was not directly applicable unless it is known that the electric generator is a combined cycle turbine—the date a steam turbine was built can not be used to definitively determine when the steam generator was built. The dates for steam turbine construction was sometimes helpful, however, as an indication of whether the source was in existence during the BART timeframe or not.

2.2.4 Step 4: “Quick” Permit Review

Available Title V permits for sources identified on the master list were reviewed for information concerning the three main BART criteria. Initially, if a Title V permit was found online and the source was not identified on the master list, then the source was added to the master list and the permit reviewed. However, this procedure of adding missing Title V sources to the master list and reviewing the permits was only conducted for some States and Local agencies (Clark County, Nevada; Lane County, Oregon, all of Washington except the Department of Ecology, Yakima Regional Clean Air Authority, and Benton Clean Air Authority, and 26 air districts in California). It was determined that adding the Title V sources that were not identified in the NEI query, presumably sources with actual emissions less than 100 TPY, did not appear to add any BART-eligible sources to the master list, but expended significant resources. It was determined to only review permits for those sources on the master list that had source categories assigned by the NEI, sources identified on the lists in Appendix F, or sources identified by a State or Local agency. All sources not identified as being a BART source category by one of these sources was noted with an “N” to signify that it was not BART-eligible in the master list. In Step 5, State and Local agencies had the opportunity to call attention to any source that appeared to be missing or incorrectly eliminated. The Assumptions and Limitations section of this document (Section 2.5) explores this resource saving procedure in more detail.

The majority of Title V permits that were reviewed were located on the Internet; however, other permits were acquired via e-mail from Idaho Department of Environmental Quality and North Dakota Department of Health. Table 2-3 summarizes the websites where TV permits were available. Most permits were from state and county specific websites; however, the U.S. EPA Region 9 website provided some permits for sources in Arizona, California, and Nevada, and Title V permits for Tribal sources in these states and New Mexico. Although U.S. EPA Regions 6, 8 and 10 have states within the WRAP, no permits were found on their U.S. EPA regional office websites, except

Table 2-3. Websites with Title V Permits

State	Websites
Alaska	State of Alaska, Department of Environmental Conservation: http://www.state.ak.us/dec/air/ap/mainair.htm
Arizona	Arizona Department of Environmental Quality: http://www.adeq.state.az.us/enviro/air/permits/titlev.html Pima County Department of Environmental Quality: http://www.deq.co.pima.az.us/permits/index.htm U.S. EPA Region 9: http://yosemite.epa.gov/R9/AIR/EPSS.NSF/0201370ee436adf08825653000726dc1?OpenView
Colorado	Colorado Department of Public Health and Environment: http://www.cdphe.state.co.us/ap/Titlev.html
Nevada	U.S. EPA Region 9: http://yosemite.epa.gov/R9/AIR/EPSS.NSF/0201370ee436adf08825653000726dc1?OpenView
Oregon	Lane Regional Air Pollution Authority: http://lrapa.org/permitting/issued_permits/title_v_operating_permits.php
Utah	Utah Division of Air Quality: http://www.airquality.utah.gov/PERMITS/pi_opp.htm
Washington	Northwest Air Pollution Authority: http://www.nwair.org/regulated/aop.html Olympic Region Clean Air Agency: http://www.orcaa.org/aop.html Puget Sound Clean Air Agency: http://www.pscleanair.org/news/titlev.shtml Southwest Clean Air Agency: http://www.swcleanair.org/permitstitlev.html Spokane Air Pollution Control Authority: http://www.scapca.org/air_operating_permits.asp
Idaho Montana New Mexico North Dakota South Dakota Wyoming	No Title V Permits Found Online. (Idaho and North Dakota both provided permits via e-mail)

Title V permits for Tribal sources prepared under Part 71 were available on the Regions 6 and 10 websites.

Even for those states where Title V permits were available online, not all of the permits for a given state were available. In some cases, the permit had not been completed yet or just not made available. If documents were available on a State or Local agency website, usually both the permit and engineering report were provided. On the Region 9 website, the U.S. EPA provided the electronic files that the state or local district made available to them. Sometimes both the permit and engineering report were available; sometimes just one of these documents; and, often, neither were available on the Region 9 website. If a document was available, there was a link to it. Otherwise, the only information available on the Region 9 website was a summary sheet. Assumptions could sometimes be made looking at just the summary sheet.

During the permit review process, the majority of data collected favored category and construction date information. This type of information was usually found in the Title V permit's source description summary and equipment list. A Title V permit never revealed unit specific PTE information. However, some permits identified the entire source as having a PTE of less than 250 tons per year for each pollutant. In these instances, the source was eliminated as BART-eligible, which was noted in the master list.

Occasionally assessments could be made whether or not a source is BART-eligible because many of the source descriptions in the permit, engineering report or Region 9 summary sheet clearly suggested that a source is or is not one of the 26 BART categories. For example, a source description may disclose that the source is a petroleum refinery that was built in the early 1970s. This type of information is enough to conclude that the source is in one of the 26 BART categories and has the potential of having units constructed or reconstructed in the BART timeframe. Another example is of a Title V source description that reveals a source as a landfill which is obviously not considered one of the 26 BART categories.

Some Title V source descriptions may reveal little or no information. For example, the Title V source description summary may have simply identified the source as a saw mill. Although a saw mill is not considered one of the 26 BART source categories, a saw mill may have a boiler that has a heat input of greater than 250 MMBtu per hour which is considered one of the 26 BART source categories. This type of information was usually identified by reviewing the source's Title V permit equipment list. Other information helpful to determining BART-eligibility that might be found in a source's equipment list includes process details for each unit located at the source, and sometimes, unit construction dates and/or sizes of boilers. All the information collected from the summary sheet, engineering report, or permit was noted in the master list. Any questions were also noted in the comments column to focus the review with the State or Local agency in Step 5.

For those states without permits online, the information from states on the work they had previously conducted to identify BART-eligible sources and the information provided in Appendix F were relied on to develop the questions focused on in Step 5. The State of Wyoming also provided e-mails in which Wyoming, DEQ staff, in regional offices, listed sources they believed met the BART criteria.

2.2.5 Step 5: Review Source List with State, Local and Tribal Representatives

At this step, State and Local contacts were given the master list, a summary of the BART guidelines, and a description of the work conducted to that point. The contacts reviewed the preliminary master list and were asked to consider the following overall questions:

- (1) Are there any sources that may have been missed from the spreadsheet?
- (2) Did they have any immediately available information regarding a particular source and the three BART-eligible criteria?
- (3) Does the agency concur with the information presented, especially any conclusions made?
- (4) Can they provide assistance in acquiring Title V permits that were not available on the Internet for sources not already eliminated?

The contacts were told that this step was meant to collect information that was easily accessible and that they were not being requested to pull and review files for all the sources. For smaller states or districts, this worked especially well because the larger, older sources, the ones more likely to be BART-eligible, were generally well known.

Appendix G lists contact names for representatives of each State and Local air quality jurisdiction to which phone calls were made. During each of the phone calls, information collected from steps 1 through 4 for each source were verified and any remaining unknown information concerning the three BART criteria for each source was discussed. Most questions focused on whether a source is considered one of the 26 BART categories, whether the source was constructed or reconstructed in the BART timeframe, and/or whether specific units have a PTE greater than 250 TPY of a visibility impairing pollutant. However, broader issues were also discussed in these phone calls, such as whether a specific source was still in operation or whether the source had recently changed its name. These broader issues helped to update or verify findings in the source category document (Appendix F) that was developed in Step 2. All information collected was noted in the master list.

In addition, critical details about some state's BART identification procedures were revealed during some of the phone conversations. For example, one state had excluded all sources which were built before the BART timeframe. This particular state considered a source as not BART-eligible if the source was built before the BART timeframe. This ignores the possibility of existing emission units being reconstructed or

new emission units being built during the BART timeframe. Another state provided unit-by-unit BART analyses; yet made narrow assumptions as to what equipment was included in certain BART source categories. This affects the PTE being compared to the 250 TPY threshold.

With a better understanding of the procedures used by some states, the conclusions made in the initial submittal by the states were reviewed again and conclusions were changed as appropriate. If, for example, it was concluded that a source was not BART-eligible solely because the source was built before the BART timeframe, the conclusion was changed to “possibly BART eligible” or “do not know” depending on the other information known about the source.

These phone calls made to the State and Local agencies were a key step in eliminating or identifying sources as BART-eligible. In most cases, the states and local agencies were able to speak very knowledgably about the majority of sources on the master list with little or no preparation. Several sources were easily eliminated with this additional insight from the agencies. All information was noted in the master list.

2.2.6 Step 6: Create Final Product Database

In order to classify the certainty of the BART-eligibility of the sources, a coding system was developed for each of the three BART criteria. Using the information gathered from Steps 1 through 5 and this coding system, a code was assigned for each of the three BART criteria for each source on the master list. The coding system is detailed in Table 2-4.

Once the conclusions for the three main BART criteria were coded for every source on the master list, levels of certainties were developed for each source. Sublevels were assigned to each combination of coding between the three main BART criteria. These sublevel combinations were then categorized as either a yes, likely, potentially, do not know, or no, to identify the overall potential BART-eligibility of a source. Each category is defined in Table 2-5.

After all sources were coded, updated emission estimates were obtained for all sources coded as yes, likely, potentially and do not know. During the course of the project, EPA obtained 2002 state data submittals and these updated emissions were applied to the source list. Since States do not have to submit information for all source every year, in some cases the 2002 Preliminary estimate or 1999 NEI estimate were used to gap fill. The master source list spreadsheet and an access database with accompanying unit level information now constitute the final product database.

Table 2-4. Certainty Coding for Each BART Criteria

Source Category Code	
Y	<p>Yes. This source has one or more units belonging to one or more of the 26 BART source categories. This was determined by one or more of the following methods:</p> <ul style="list-style-type: none"> ▪ The source was included in the source category reference document (Appendix F). ▪ The source was included in the SO₂ Annex. ▪ The source was identified as category-eligible or BART-eligible by the state or tribe.
M	<p>Maybe. This source may have one or more units belonging to one or more of the 26 BART source categories. For example:</p> <ul style="list-style-type: none"> ▪ It is unclear whether an industrial boiler has a heat input that is over 250 MMBtu/hr. ▪ It is unclear whether an EGU boiler sells electricity or whether it burns at least half fossil fuel. ▪ A source has petroleum storage and transfer facilities, but it is unclear whether the capacity is greater than 300,000 barrels. ▪ A natural gas processing plant may have a sulfur recovery unit, but its existence has not been verified. ▪ A natural gas processing plant may convert natural gas to liquid natural gas, but this has not been verified. ▪ A glass manufacturing plant may actually make the glass fibers, but this has not been verified.
D	Do not know. No information is available regarding the source category.
N	No. The source is not category-eligible.
Date Code	
Y	<p>Yes. This source has at least one unit with a construction or reconstruction date between 1962 and 1977, inclusive. The source received a date code of Y if:</p> <ul style="list-style-type: none"> ▪ A date between 1962 and 1977 was documented in the source category reference document (Appendix F) for either an individual unit or an entire source. ▪ The source was included in the SO₂ Annex for non-EGUs. ▪ The source was identified as date-eligible or BART-eligible by the state or tribe.
M	<p>Maybe.</p> <ul style="list-style-type: none"> ▪ In the case of EGUs, an in-service date between 1978-1985, inclusive, would qualify as M since it may have “commenced construction” before 8/7/77 but not placed into service for many years later. Similarly, an in-service date prior to 1962 would qualify as M since it may have been reconstructed within the BART time window. ▪ In the case of non-EGUs, the same rules apply, except the post-BART window is limited to 1978-1979.
D	Do not know. No information is available regarding construction or reconstruction dates.
N	<p>No. This source may only have units that were built before 1962; in this case, the state must have verified that there was no reconstruction performed on the units between 8/7/62 and 8/7/77. In addition:</p> <ul style="list-style-type: none"> ▪ In the case of EGUs, an in-service date for the source after 1985 would qualify as N. ▪ In the case of non-EGUs, an in-service date for the source after 1979 would qualify as N.

Table 2-4. Certainty Coding for Each BART Criteria (Continued)

Size Code	
Y	Yes. This source has one or more units constructed between 1962 and 1977 belonging to one or more of the 26 BART source categories with a total potential-to-emit of at least 250 TPY of NH ₃ , NO _x , PM ₁₀ , SO ₂ , or VOC. The source received a size code of Y if: <ul style="list-style-type: none"> ▪ The source was included in the SO₂ Annex for non EGUs. ▪ The source was identified as size-eligible or BART-eligible by the State or Tribe. ▪ In the case of EGUs, if the actual emissions from the NEI were greater than 250 TPY for units constructed between 1962 and 1977. This was not done for non-EGUs because date information was not consistently available for specific units. Knowing that source-wide actual emissions are greater than 250 TPY does not provide definitive information regarding size-eligibility because it is still not known whether the category- and date-eligible units have a PTE greater than 250 TPY.
M	Maybe. For instance, the source clearly belongs to one of the 26 categories and is currently not operating; however, it is not clear if operations will resume or if the permit is still valid.
D	Do not know. The source received a size code of D if there is not enough information to determine whether the BART-eligible units emit greater than 250 TPY for a BART pollutant.
N	No. The source or potentially BART-eligible units have a potential to emit less than 250 TPY for all BART pollutants or the source is no longer in operation (shutdown).

Table 2-5. BART-Eligibility Certainty Rating for Each Source

Overall BART-Eligibility of Source	
Yes	At least part of the source is BART-eligible. However, exactly which units comprise the BART-eligible source is not known, especially for non-EGUs.
Likely	The source has at least one unit that is eligible based on two of the three criteria.
Potentially	A fair amount is known about the source (more than the “Do not Know” definition below), but not enough to meet the “Likely” definition above.
Do not Know	Eligibility information is not known for at least two of the three criteria.
No	The source is not BART-eligible. At least one of the criteria were clearly not met for the entire source.

For EGUs, a certainty coding was also done for each unit as well as the utility source as a whole. Date information for specific units was available for several units through the DOE and actual emissions by unit were available through the NEI. Therefore, a code could be given for each of the three criteria, for each of the units, and an overall BART-eligibility certainty (“Yes”, “Likely”, “Potential”, and “Do Not Know”) for each unit could be assigned.

2.3 Procedure for California Sources

It was anticipated at the start of this analysis that California would have numerous BART eligible sources because there are so many large sources located there. Also, given California's number of NAAQS non-attainment areas and generally more stringent control programs, a significant number of sources are likely already controlled at levels equivalent to or better than BART. Because of the number of potential sources to be considered and the decentralized nature of California's 35 separate air quality management districts (AQMDs) and air pollution control districts (APCDs), a "control analysis approach" was considered as the method to use for California sources. This approach would require a review of the regulations that apply to California sources and an analysis of whether this level of control is likely BART.

However, because many districts have few or no large sources, it was determined that it would be more efficient to review the information for these sources in the "smaller" districts as described in Step 4 above to quickly ascertain whether there are any potential BART-eligible sources. This eliminated the need to review the regulations in these districts, unless it was determined that a source is BART-eligible.

Steps 1 through 3 as described above were carried out for the California sources in all districts; in summary:

- (1) A query of the NEI was performed to obtain a list of all sources with actual emissions greater than 100 TPY of at least one of the visibility impairing pollutants was prepared.
- (2) BART source category assignments were made as described in Step 2 using SIC, SCC and other codes, and the Source Category Reference Document (Appendix F) was compared to the master list of California sources to identify sources in BART categories. Notations of information collected were made in the master list as appropriate.
- (3) Any date information from the Source Category Reference Document was also noted in the master list.

Table 2-6 provides a count of the number of Title V major sources in each of the 35 air districts in California, the number of sources found with actual emissions greater than 100 TPY and the number of sources with BART categories assigned as a result of the NEI query.

Using Table 2-6 to indicate the size of the district in terms of the number of large sources, it was determined to proceed to Step 4 for the air districts with 10 or less Title V major sources; this included 24 different air districts. Additionally, it was decided to proceed to Step 4 for Northern Sonoma County APCD and Yolo/Solano AQMD because they have relatively fewer large sources and these districts have been classified as being in

Table 2-6. Initial Analysis - Number of Large Sources in California Districts

State	Number of Major Stationary Sources ^a	Number with Actuals >100 TPY	Number with Preliminary BART Categories Assigned by NEI
Amador County APCD	3	4	2
Antelope Valley AQMD	0	2	1
Bay Area AQMD	99	42	37
Butte County AQMD	3	1	1
Calaveras County APCD	0	0	0
Colusa County APCD	4	3	1
El Dorado County APCD	2	1	1
Feather River AQMD	3	4	3
Glenn County APCD	1	1	1
Great Basin Unified APCD	4	2	1
Imperial County APCD	7	4	2
Kern County APCD	6	8	6
Lake County AQMD	0	0	0
Lassen County APCD	5	3	3
Mariposa County APCD	0	0	0
Mendocino County AQMD	1	2	2
Modoc County APCD	1	0	0
Mojave Desert AQMD	34	15	14
Monterey Bay Unified APCD	19	4	4
North Coast Unified AQMD	8	6	5
Northern Sierra AQMD	3	3	3
Northern Sonoma County APCD	12	0	0
Placer County APCD	8	2	2
Sacramento Metropolitan AQMD	15	0	0
San Diego County APCD	27	6	6
San Joaquin Valley Unified APCD	142	50	38
San Luis Obispo County APCD	4	2	2
Santa Barbara County APCD	21	5	5
Shasta County AQMD	10	7	6
Siskiyou County APCD	1	1	0
South Coast AQMD	701	90	73
Tehama County APCD	0	1	0
Tuolumne County APCD	3	3	3
Ventura County APCD	28	3	3
Yolo/Solano AQMD	18	6	5
Total	1193	281	230

^a Numbers of major Title V sources as presented on the U.S. EPA website:
<http://www.epa.gov/air/oaqps/permits/maps/permtbl.html>.

Table 2-7. Websites with Title V Permits

State	URL
CA	California Air Resources Board: http://www.arb.ca.gov/fcaa/tv/tvinfo/permits/permits.htm Bay Area Air Quality Management District: http://www.baaqmd.gov/pmt/title_v/public_notices.asp EPA Region 9: http://yosemite.epa.gov/R9/AIR/EPSS.NSF/0201370ee436adf08825653000726dc1?OpenView

attainment for many years; they were not expected to have especially stringent rules. Therefore, they would not be good candidate districts for the “control analysis approach”. Yolo/Solano AQMD has recently been designated as a non-attainment district, but this has not been long enough for more stringent rules to be promulgated. Therefore, for these 26 districts, the procedures outlined in Step 4 were followed. All of the Title V documents that were available online were reviewed for these districts. Table 2-7 provides the location on the web for this information.

Also, all of these 26 districts were contacted and questions were asked as described in Step 5, including those districts that had no Title V major sources or no sources with actual emissions greater than 100 TPY, as determined by the NEI query. The sources in these districts were also coded regarding the level of certainty of BART-eligibility as described in Step 6.

For the 9 remaining districts, the frequency and distribution of the various BART categories was reviewed, see Table 2-8. This information is based on Step 2 where the NEI query assigned BART source categories to sources and the sources in the Source Category Reference Document (Appendix F) were identified and/or added to the master list with the source category noted. For the districts and BART categories with fewer sources assigned to them, all of the information available on those sources that had a BART category assigned in the NEI query or assigned based on information from the Source Category Reference Document was reviewed pursuant to Step 4. This resulted in the review of the information available for all the sources with assigned BART categories in seven of the districts: Bay Area AQMD, Mojave Desert AQMD, Santa Barbara County APCD, San Diego County APCD, Monterey Bay Unified APCD, Ventura County APCD, and Sacramento Metropolitan AQMD; and all the sources assigned to 7 of the BART categories in South Coast AQMD and San Joaquin Valley Unified APCD: BART-04, BART-06, BART-10, BART-12, BART-18, BART-25, and BART-26. (Although the Bay Area has many large sources, the permit information for the sources with assigned categories was reviewed because this information was easily accessible and available through the Bay Area Website.) Unlike the 26 districts discussed above where all Title V permits available for the district were reviewed, only the Title V information available for the sources with a BART category assigned were reviewed. As discussed in Step 2 this was done because it was determined that the expenditure of resources was large compared to the little benefit gained in reviewing all of the information available.

Table 2-8. BART Source Categories in the Larger California Air Districts as Determined by NEI Search and Source Category Reference Document

BART Category ID	BART Category	South Coast AQMD	San Joaquin Valley Unified APCD	Bay Area AQMD	Mojave Desert AQMD	Santa Barbara County APCD	San Diego County APCD	Monterey Bay Unified APCD	Ventura County APCD	Sacramento Metropolitan AQMD
BART-01	Fossil fuel-fired steam electric plants	28	2	9	6		3	1	3	1
BART-02	Coal Cleaning Plants (thermal dryers)									
BART-03	Kraft Pulp Mills									
BART-04	Portland Cement Plants	4	1	2	3			2		
BART-05	Primary Zinc Smelters									
BART-06	Iron and Steel Mill Plants	2	1	1						
BART-07	Primary Aluminum Ore Reduction Plants									
BART-08	Primary Copper Smelters									
BART-09	Municipal Incinerators									
BART-10	Hydrofluoric, Sulfuric, and Nitric Acid Plants	3	2	3						
BART-11	Petroleum Refineries	14	5	8	1	3			1	
BART-12	Lime Plants	2	3	1	1			1		
BART-13	Phosphate Rock Processing Plants									
BART-14	Coke Oven Batteries									
BART-15	Sulfur Recovery Plants	10	2	4						
BART-16	Carbon Black Plants	1								
BART-17	Primary Lead Smelters									
BART-18	Fuel Conversion Plants	7	17	1		4			1	
BART-19	Sintering Plants									
BART-20	Secondary Metal Production Facilities	15	1	4						
BART-21	Chemical Process Plants	16	1	21	2		1			
BART-22	Fossil fuel-fired boilers	45	23	12	3	2	5	3	3	
BART-23	Petroleum Storage and Transfer Facilities	33	3	9	10	2			1	
BART-24	Taconite Ore Processing Plants									
BART-25	Glass Fiber Processing Plants	7	1	1						
BART-26	Charcoal Production Facilities	2	1	2						

As conducted for the other States and the 26 districts, phone calls and/or e-mails were made (Step 5), to all of the districts, except South Coast and San Joaquin Valley to ask district representatives any remaining questions after the permit information review. Additional information was received from these seven districts.

Using the information available, the level of certainty of BART-eligibility was coded as described in Step 6 for all California sources, even for those sources in the South Coast and San Joaquin Valley districts in which permit information was not reviewed. Consequently, most of these sources were coded as “do not know” because little information was available. The California Air Resources Board and the districts will be conducting further review of the sources not eliminated as BART-eligible to determine if others can be eliminated and they will determine if any source category-district combinations can be assumed to be controlled at BART levels due to existing or planned regulations.

2.4 Procedure for Tribal Sources

With only slight differences, the procedure for identifying the State BART-eligible sources (outlined in Section 2.2) were followed to identify the tribal BART-eligible sources. The steps used for Tribal sources differ from the steps used for state sources in the following ways:

- (1) An initial list of sources was created by querying the 1999 NEI for those sources that emit greater than or equal to 100 TPY of visibility impairing pollutants and plotted on tribal lands using geographic information systems (GIS) software.
- (2) This list was supplemented with EPA Title V lists for Tribal sources. Tribal source lists were obtained for each EPA Region, although it is uncertain whether they were complete.
- (3) The most recent Tribal data submitted to the 2002 NEI was queried to see if there were any additional sources not covered above. In 2002, 10 tribes submitted independent inventories to the NEI. Thus, the 2002 NEI were queried to pick up tribal sources not submitted under State inventories in 1999.

The State where a tribal source is located is identified for each tribal source identified on the master list; however tribal affiliation for each of these sources was typically not known. It is possible that a source identified by the NEI was incorrectly listed as a Tribal source instead of a State source because sometimes there was just not enough data to conclude whether a source was located specifically on tribal land or whether the source was regulated by a state or tribe. In these instances, the most reasonable conclusion was made and noted in the comment column of the master list.

The Tribal sources were compared to the Source Category Reference Document (Appendix F) similar to how the state sources were compared. Likewise, a permit review was performed for any Tribal sources identified on the master list. The permits reviewed for Tribal sources were identified as Part 71 permits and were obtained from the EPA regional

websites (See Table 2-9). For any tribal source which was not originally identified on the master list, but a Part 71 permit was obtained, the source was added to the master list.

Table 2-9. Websites with Part 71 Permits

Tribal Region	Websites
U.S. EPA Region 6	U.S. EPA Region 6: http://yosemite.epa.gov/r6/Apermit.nsf/Part71
U.S. EPA Region 8	No Part 71 permits found online.
U.S. EPA Region 9	U.S. EPA Region 9: http://yosemite.epa.gov/R9/AIR/EPSS.NSF/0201370ee436adf08825653000726dc1?OpenView
U.S. EPA Region 10	U.S. EPA Region 10: http://yosemite.epa.gov/R10/AIRPAGE.NSF/7594bda73086704a88256d7f00743067/4de910cf74c99efb88256a3300612fde!OpenDocument

No Part 71 permits were found on the U.S. EPA Region 8 website; however, the U.S. EPA Region 8 provided a list they identified as being a complete list of Title V sources in Region 8. A permit writer from Region 8 was interviewed to discuss, in detail, each source identified on the Title V list. This particular Title V list was eventually compared to the master list and several Tribal sources were added; however, none of the additional sources were concluded as BART-eligible based on the discussion with the Region 8 permit writer.

The majority of data collected from these Part 71 permits was analogous to the state permit review process which favored category and construction date information. This type of information was usually found in the Part 71 permit's source description summary and equipment list. A permit never revealed unit specific potential-to-emit information. However, some permits identified the entire source as having a PTE of less than 250 tons per year for all pollutants. In these instances, the source was eliminated as BART-eligible. The same coding procedures for addressing the three main BART criteria as detailed in Section 2.2.5 of this document were applied to all Tribal sources identified on the master list.

The Tribal sources identified on the master list were eventually reviewed by representatives from U.S. EPA region within the WRAP and the National Tribal Environmental Council.

2.5 Assumptions and Limitations

Although a thorough analysis was conducted to identify the BART-eligible sources, some assumptions were made that could have reduced the accuracy of the results. For many assumptions, data checks were put in place to reduce any negative effect of the assumption. However, these remain as assumptions and limitations in the final analysis and could impact the results to varying degrees.

Except for EGUs, the fact that the analysis was focused on determining BART-eligibility on a source-wide level instead of a unit-level is one limitation in the results of this analysis. It is impossible to determine unit-level BART-eligibility with complete certainty unless information on the unit level is known. PTE information in particular is nonexistence or difficult to obtain. Obtaining unit-level “existence” and “operation” dates is also a significant challenge. Therefore, several sources are considered Likely or Potentially BART-eligible in the results of this analysis that may not be BART-eligible at all. The analysis was focused on the source level because it was relatively easy to determine if sources were in one of the BART source categories, but information on unit construction dates and PTE for each unit were often not available even in Title V permits. The analysis resulted in over a thousand sources eliminated because it was determined they were not in one of the BART source categories (or, in fewer cases, it was determined that the source was built after the BART timeframe or the PTE of the whole source was less than 250 TPY of visibility impairing pollutants). The analysis also resulted in the determination of less than 450 sources could be BART-eligible. Because of the uncertainty in the BART-eligibility of these sources, a unit level analysis needs to be conducted which could dramatically reduce the amount of sources that could be BART-eligible.

There were various assumptions made in the analysis. Instead of reviewing each assumption and discussing what its effect might have been on the results, this discussion focuses on the possible inaccuracies in the analysis, which can be grouped into one of two categories. One is that a source that is BART-eligible could have been completely overlooked (e.g., a source that was never investigated or considered as being BART-eligible). The second possible issue would be sources that were investigated but the final conclusion to their potential BART-eligibility was incorrect. The possibility of these errors is discussed below.

2.5.1 *Incorrect BART-Eligibility Conclusion*

A source classified as “Do not know”, “Potentially”, “Likely” or “Yes” is likely to receive further scrutiny. However, the many sources initially classified as not BART-eligible, may receive less scrutiny. Careful consideration is therefore given below to the possibility that a BART-eligible source was classified as not BART-eligible.

In order for a source to be classified as not BART-eligible, information would have been identified to indicate that at least one of the BART criteria was not met. Most of the information available and assumptions made were regarding the source category criteria. Date information was used as given, therefore errors would only occur if there were errors in the data collected. For the most part the only usable PTE data, although infrequently available, was permit information indicating that the PTE for the whole source is less than 250 TPY. Again this information was taken with no assumptions needed and errors would only occur if the data source had errors. Because the date and PTE information was used as found and the source category information was subject to assumptions, this section focuses on the assumptions and limitations of the source category determinations.

Based on the Source Category Reference Document, it is believed that a complete list of seventeen of the 26 BART source categories is known (see Table 2 in Appendix F).

Therefore, for these seventeen source categories a misidentification of the BART category should not have occurred. It is possible there is some error in this assumption; however the information for these seventeen source categories is usually based on multiple sources. It is considered unlikely that this assumption resulted in errors. For further discussion on why the information is considered complete see Appendix F.

For the other nine source categories, there is less certainty regarding whether all sources in these categories were found. To identify these sources, there are partial lists for six of the nine source categories in the Source Category Reference Document, the state or local authority review, state previously conducted BART analyses, review of Title V permits in some cases, and the NEI assignment of BART categories. It is difficult to determine whether these sources of information provided enough checks in order to identify all of the BART-eligible sources in these nine source categories, especially for sources that did not have a BART source category assigned by NEI. These sources were not analyzed closely unless they were noted by the state or in the Source Category Reference Document. Therefore, a BART-eligible source, in one of the nine source categories, with no source category assigned by NEI could have gone unnoticed and received a false classification of “No”, not BART-eligible. There are 230 sources that had actual emissions greater than 100 TPY, hence were in the NEI search. However, they were not assigned a BART category as a result of the NEI query. Of these, additional information was noted on 69 sources because they were in the Source Category Reference document, a state comment or analysis, or the Title V permit was reviewed. Of these 69, it was determined that none were BART-eligible or even possibly BART-eligible. It can not be stated with complete certainty that the other 171 sources (of the 230 with no NEI assigned BART category) are not BART-eligible; however, it appears to be very unlikely. It can be said that if there are sources in these 171 that are BART-eligible then they are in one of the following nine source categories, since the Source Category Reference Document has complete lists of the other seventeen source categories:

- ***BART 10 – Hydrofluoric, Sulfuric, and Nitric Acid Plants***
- ***BART 13 – Phosphate Rock Processing Plants***
- ***BART 15 – Sulfur Recovery Plants***
- ***BART 18 – Fuel Conversion Plants***
- ***BART 20 – Secondary Metal Production Facilities***
- ***BART 21 – Chemical Process Plants***
- ***BART 22 – Fossil Fuel-fired Boilers with a Heat Input Capacity Greater than 250 MMBtu per hour***
- ***BART 23 – Petroleum Storage and Transfer Facilities with a Capacity of Greater than 300,000 Barrels***
- ***BART 26 – Charcoal Production Facilities***

It is difficult to determine if any of the 171 sources are in one of these source categories without reviewing each one separately. The NEI appears to predict the source category well; it may not always predict the correct source category, but for all sources that were determined to be possibly BART-eligible all of them had a BART source category assigned, except for those that were not in the original NEI search. Table 2-10 provides counts by

source category of the number of “Yes”, “Likely” and “Potential” BART-eligible sources that were found. The “Do not know” BART-eligible sources are not included because often not enough information is known about these sources to determine the BART category. The table also shows the number of sources in which the NEI query predicted the correct source category for a given source. In many cases NEI predicted multiple source categories for each source; this table indicates the number of sources that has the correct category assigned whether other additional incorrect categories were assigned or not. For instance, the NEI could have assigned a source a BART 21 and a BART 22 because the SCC and SIC codes indicated that the source was a chemical plant with a large boiler (greater than 250 MMBtu/hr). After reviewing the information on the source, it was determined that the source was a chemical plant, but it had no large boilers. Therefore, in Table 2-10 this source would be included under BART 21 as being correctly predicted by NEI, but nothing would be included for BART 22.

The last column in Table 2-10, labeled “Number of Possibly BART-eligible Sources Identified through Other Data References”, indicates the number of sources that came from another source of information. These are sources that were not in the NEI list of sources greater than 100 TPY, but were added from other sources and were determined to be possibly BART-eligible. The column labeled “Source Category Not Correctly Predicted” on Table 2-10 gives the number of sources that were eventually determined to be possibly BART-eligible, were in the original NEI list, but were not predicted to be in the given source category by NEI. The NEI search predicted that the source was in another source category, but it was determined, based on further investigation, that the source is possibly a BART-eligible source for the category shown. For instance, NEI may have predicted the source was a BART 18, BART 21, and BART 22, but it was later determined that the source was actually a BART 10. In the table, this source would be represented in the far column in the BART 10 row.

Looking at the number of possibly BART-eligible sources and how many of these were predicted by the NEI, it appears that for many BART categories, the NEI predicted the category well (see Table 2-10). Since the complete set of sources is known for 17 of the source categories, looking at these source categories will indicate how well the NEI was a predictor of the source category. These 17 source categories are shaded in Table 2-10. The NEI predicted correctly all the sources found to be in nine of the 17 BART source categories, except in those cases where the source was missing from the original NEI search results. In other words, for nine of the 17 source categories, if the source was in the NEI search results, the NEI correctly predicted the source category the source is in. For six of the source categories, there are no sources in the WRAP region. For BART 01 and BART 12, NEI did not correctly predict these source categories completely. However, for BART 01 most of these were found by NEI, also the sources that were not predicted by NEI may eventually be determined not to be BART 01 sources because they may generate electricity, but they may not sell electricity. For BART 12, the NEI missed several of these. In hindsight this is easy to explain because many of the lime plants were part of sugar manufacturing processes. SIC and SCC codes for sugar manufacturing processes were not included in the NEI assignment query. This is a limitation of the analysis; however, it is not important because the source

Table 2-10. Ability of the NEI Query to Correctly Predict the BART Source Category

	Number of Sources Found to be Possibly BART-eligible ^a	Number of Possibly BART-eligible Sources in the Original NEI Query		Number of Possibly BART-eligible Sources Identified Through Other Data References
		Source Category Correctly Predicted ^b	Source Category Not Correctly Predicted ^c	
BART 01-Fossil Fuel-Fired Steam Electric Plants	103	83	4	16
BART 02-Coal Cleaning Plants	1	1	0	0
BART 03-Kraft Pulp Mills	17	16	0	1
BART 04-Portland Cement Plants	19	19	0	0
BART 05-Primary Zinc Smelters	1	1	0	0
BART 06-Irong and Steel Mill Plants	3	3	0	0
BART 07-Primary Aluminum Ore Reduction Plants	6	6	0	0
BART 08-Primary Copper Smelters	3	2	0	1
BART 09-Municipal Incinerators	0	0	0	0
BART 10-Hydrofluoric, Sulfuric, and Nitric Acid Plants	13	5	7	1
BART 11-Petroleum Refineries	45	39	0	6
BART 12-Lime Plants	17	8	7	2
BART 13-Phosphate Rock Processing Plants	3	1	1	1
BART 14-Coke Oven Batteries	0	0	0	0
BART 15-Sulfur Recovery Plants	11	4	7	0
BART 16-Carbon Black Plants	0	0	0	0
BART 17-Primary Lead Smelters	0	0	0	0
BART 18-Fuel Conversion Plants	4	4	0	0
BART 19-Sintering Plants	0	0	0	0
BART 20-Secondary Metal Production Facilities	6	3	0	3
BART 21-Chemical Process Plants	9	8	0	1

**Table 2-10. Ability of the NEI Query to Correctly Predict the BART Source Category
(Continued)**

	Number of Sources Found to be Possibly BART-eligible ^a	Number of Possibly BART-eligible Sources in the Original NEI Query		Number of Possibly BART-eligible Sources Identified through Other Data References
		Source Category Correctly Predicted ^b	Source Category Not Correctly Predicted ^c	
BART 22-Fossil Fuel Fired Boilers	39	26	12	1
BART 23-Petroleum Storage and Transfer Facilities	8	4	0	4
BART 24-Taconite Ore Processing Plants	0	0	0	0
BART 25-Glass Fiber Processing Plants	9	4	0	5
BART 26-Charcoal Production Facilities	1	0	0	1
Total ^d	261	203	26	32

^a "Possibly BART-eligible" includes those categorized as "Yes", "Likely", and "Potentially".

^b These sources may have also been identified by other sources, but the number of sources included in this column are those identified by the NEI query as being in the noted source category.

^c These sources were not identified as this source category by NEI, but the category was determined through the Source Category Reference Document, a permit, or the state.

^d The totals shown are for the number of source categories in which a source was found to be possibly BART-eligible. Since sources could have multiple BART source categories, these totals are greater than the number of sources affected.

Shaded categories are those that all sources are known for the category, see the Source Category Reference Document in Appendix F.

category reference document had a complete list of lime plants. Therefore, the sources were eventually found. If any future NEI assignment procedure is conducted the list of codes should be augmented with sugar manufacturing codes.

Of the nine source categories where there is less certainty regarding whether all sources in the categories were found, Table 2-10 indicates that the NEI predicted the sources in four of the source categories correctly, if the source was in the NEI search. No BART 26 existed in the NEI search, therefore one can not be certain of the NEI prediction accuracy for BART 26. The prediction power of NEI for BART 18, BART 20, BART 21, and BART 23 appears to be good – if the source was in the original NEI search, it was correctly predicted. Although, one can not say with complete certainty that one of the 171 sources is not in one of these source categories, it seems extremely unlikely. However, it should be noted that BART 18 is the least well defined category. U.S. EPA may provide more guidance on this category in the upcoming promulgation of the BART guidelines. For the remaining five BART categories, NEI seems to be less predictive. These are discussed specifically below.

BART 10 – Hydrofluoric, Sulfuric, and Nitric Acid Plants – Thirteen sources classified as either Yes, Likely, or Potentially BART-eligible were found in the BART 10 source category. Of these thirteen, twelve were in the original NEI search, but only five of these were correctly predicted by NEI to be a BART 10 source. Six of the other seven not predicted correctly were predicted to be a BART 21 (chemical plants). Since acid plants are considered chemical plants, it would make sense that the NEI search would put an acid plant in this category. The point is that for eleven out of the twelve sources, the NEI search tagged the acid plants with either an acid plant category or a chemical plant category. Once attention was called to them, it is an easy determination that they are acid plants and belong to the BART 10 category. The other two sources, one not in the NEI search at all and one without a BART 10 or 21 category assigned by NEI, were both found from the Source Classification Reference Document. The NEI appears to be a relatively good predictor of this BART category using both BART categories 10 and 21; but this data shows that there is a small possibility that a source could go unnoticed. Although, it appears this would be infrequent, if at all.

BART 13 – Phosphate Rock Processing Plants – Three sources were found in the BART 13 source category. Of these three, one was correctly predicted by NEI, one was added by another data reference, and one was not correctly predicted by NEI. Phosphate Rock Processing Plants is a broad category that covers elemental phosphorus production and phosphatic fertilizer production. Fertilizer production is considered a chemical process under SIC code 28 and BART 21. The one source in the original NEI that was not correctly identified as a BART 13 was identified as a BART 21. Therefore, the NEI predictability of the source category may not be specifically correct; however, it did flag all of the sources with either a BART 13 or 21. It is unlikely that one of the 171 sources with our NEI assigned categories is a Phosphate Rock Processing Plant because one would most likely be assigned either a BART 13 or BART 21.

BART 15 – Sulfur Recovery Plants – There were eleven Sulfur Recovery Plants found to be possibly BART-eligible. All of these were in the original NEI search, but only four were correctly predicted by NEI. Of the seven incorrectly predicted four of these were predicted as petroleum refineries, which is appropriate since these plants are usually collocated with petroleum refineries (BART 11) or gas plants. The three other sources are gas plants. In hindsight, it is clear why the NEI would not predict the gas plants correctly. It was generally thought that this source category was for sulfur plants at refineries. The sulfur recovery that is conducted at gas plants has been considered control. Therefore, SCC and SIC codes were not specifically included in the assignment query for BART 15 to find gas plants. However, sulfur is recovered and sold by some gas plants, which would meet the definition of this source category. The assignment query for BART 18 (fuel conversion) did have many of these gas plant codes because of the possibility of converting natural gas to liquid natural gas. The gas plants with sulfur recovery units were predicted to be BART 18 by NEI. Therefore, the NEI query tagged all of the eleven sulfur recovery plants with BART 11, 15, and/or 18. It is possible that one of the 171 sources with no BART category assigned by NEI is a sulfur recovery plant. However, it seems very unlikely when using BART 11, 15, or 18 to predict sulfur recovery plants.

BART 22 – Fossil Fuel-fired Boilers with a Heat Input Capacity Greater than 250 MMBtu per hour – Thirty-nine BART 22 sources were determined to be possibly BART-eligible. Of these, the NEI query correctly predicted BART 22 for 26 sources, but not for 12 sources. One source was added from another reference. Of the 12 sources that were not correctly predicted, ten are sources that are BART 01 (EGU) sources that have large boilers that make the steam that generates the electricity; therefore, these sources are both BART 01 and BART 22. The NEI assignment algorithm would have assigned BART 01 if the boilers are used to generate electricity and not BART 22. The remaining two sources that were not correctly predicted by NEI are both less certain to be BART 22. The list of BART 22 sources in the Source Category Reference Document has been assumed to be not complete, however, it is probably very close to being complete. It is unlikely that there are additional BART 22 sources that were not found by the NEI search and the State, Local and Tribal review that supplemented the BART 22 list.

BART 26 – Charcoal Production Facilities – One BART-eligible BART 26 source was found from another reference and added to the master list. Charcoal Production Facilities used to be very common, but at this time there are very few. It is likely that a State, Local or Tribal authority would be aware of this type of facility and would have brought it up during their review. Also the NEI assignment procedures may be successful in finding a BART 26 if one was in the original master list. Although one may exist in the 171 sources without categories assigned, it is probably unlikely.

The information available indicates that the 171 sources without source categories assigned and no additional data are, indeed, not BART-eligible. However, it might be worth while for State, Local and Tribal agencies to consider whether there are any sources in the nine source categories, especially in the five categories discussed above, in their area that were not considered in the BART analysis.

2.5.2 Missing Sources

Because the master list was initially based on a search of the NEI, the results are dependent on the accuracy and completeness of the data in the NEI. If, for some reason, a source was not included at all in the NEI, it would not have been included in the initial development of the master list. There were two stop-gap measures that would have resulted in a source being added to the master list even if it were not in the NEI. These were the review by the State including initial BART-analyses they may have conducted, and the Source Category Reference Document (Appendix F). However, it is possible that if the Source Category Reference Document did not include the source and the State did not recognize that a source was missing, a BART-eligible source could have gone unrecognized.

For a few states and local agencies (Clark County, Nevada; Lane County, Oregon; all of Washington, except the Department of Ecology, Yakima Regional Clean Air Authority, and Benton Clean Air Authority; and 26 air districts in California), all of the Title V permits available were reviewed and any source not on the master list, that was a Title V source, was added to the master list. Of all of the Title V permits reviewed for sources not originally on the master list, which was about 100 permits, only one source was found as likely BART-

eligible that was identified only by the review of the permit. This was Kingsford Manufacturing Company in Lane County, Oregon. This source is missing from the 1999 NEI and the preliminary 2002 NEI. It is not clear why this source is not included in the NEI. Based on a review of the permit it appears to be BART-eligible and have sufficient emissions that it would be included in NEI reporting. The Consolidated Emissions Reporting Rule (CERR) requires that any source with actual emissions greater than 100 TPY of a criteria pollutant (lower thresholds for non-attainment) be reported to NEI. However, there are some provisions that allow states to report only a third of these units every year. It is possible, because of the reporting frequency and the date the CERR became effective, this source was missed in 1999 and 2002.

A total of 42 sources that are possibly BART-eligible, including Kingsford Manufacturing, were added to the master list that could not be found in the complete NEI. Many sources, added to the master list, not in the original NEI query (greater than 100 TPY of a visibility impairing pollutant) were later found in the complete NEI, except for these 42 sources. It is unknown how many sources may have been missed because they were not included in the NEI. State, Local and Tribal agency personnel have reviewed the master list and have had the opportunity to add any sources they saw as missing. Kingsford Manufacturing was already on the master list when Oregon reviewed the list, so it is unknown whether they would have caught an omission.

For those states that conducted a preliminary review of BART-eligibility and began with a list of Title V sources this issue would not be a consideration because these states would have considered all Title V sources regardless if they are included in the NEI. It is known that Idaho, North Dakota, Nevada, and Colorado began their analysis with their Title V lists, their work was included in this analysis; therefore there should be no missing sources in these states due to NEI under reporting. Montana and South Dakota began their analysis by determining which sources they have in each BART category. Although, they did not specify, placing sources in a category would have had to be done by staff that was knowledgeable of the larger (Title V) sources. Therefore, the following other states may want to review their Title V lists to determine if there are any missing sources that could be BART-eligible:

- Arizona;
- Alaska;
- Oregon, except Lane County;
- California (except the 26 districts);
- Nevada (except Clark County);
- New Mexico;
- BCAA and Department of Ecology in Washington (all of the YRCAA Title V sources, not originally on the master list were added, although permits were not available they were specifically discussed with Washington);
- Utah; and
- Wyoming.

As discussed in Section 2.5.1 this Title V review would only be necessary for the 9 source categories. There is also the possibility of sources missing from the NEI search due to actual emissions being less than 100 TPY. This situation, although possibly more common than a source being completely missing from the NEI, is less of a concern because of the following reasons:

- Safety nets exist for missing sources: the Source Category Reference Document, review by state and/or local agencies, and information from any previously prepared BART-analysis by the state.
- If actual emissions for the whole source are less than 100 TPY, it is less likely that the PTE of just the category- and date-eligible units is greater than 250 TPY.
- Any source in this situation would likely take a federally enforceable limit to be less than 250 TPY for the category- and date-eligible units in order to avoid BART-eligibility.

Any additional efforts states make to ensure that sources missing from the NEI are considered for BART-eligibility would also ensure that any sources missing from the master list because their actual emissions are less than 100 TPY would be found.

3.0 RESULTS

Of the 1,569 sources reviewed in the WRAP region: 1,138 sources were ruled out for BART-eligibility and 87 sources are believed to be BART-eligible for at least a portion of the source. Exactly which units comprise these 87 BART-eligible sources is often not known, especially for non-EGUs. For the remaining 344 sources reviewed, a level of uncertainty exists, which encumbers a full BART-eligibility determination. Nonetheless, information has been gathered for these remaining sources and used to assist in identifying each source's overall BART-eligible potential. Table 3-1 provides a summary of the reviewed source's level of certainty by state or tribal land for overall BART-eligible potential. A considerable amount of detail on each source is provided in Appendix H; this appendix presents the master list of all sources reviewed, excluding any source that has been completely ruled out for BART-eligibility.

Table 3-1. Source BART-Eligibility by Level of Certainty

State	Number of Sources Considered	Level of Certainty (number of sources)				
		Yes	Likely	Potentially	Do Not Know	No
Alaska	29	2	5	3	1	18
Arizona	61	9	8	3	5	36
California	434	5	27	55	102	245
Colorado	156	11	1	6	3	135
Idaho	46	6	0	1	4	35
Montana	48	3	1	10	8	26
Nevada	48	8	0	1	0	39
New Mexico	153	6	4	4	12	127
North Dakota	30	6	2	3	0	19
Oregon	101	7	8	7	6	73
South Dakota	53	1	3	0	0	49
Utah	61	2	0	8	3	48
Washington	145	5	9	11	3	117
Wyoming	107	14	2	5	4	82
Tribal Land	97	2	0	3	3	89
Grand Total	1,569	87	70	120	154	1,138

It has been determined that there are no BART-eligible sources in the WRAP region for the following four BART categories: Municipal Incinerators capable of charging greater than 250 tons of refuse per day (BART-09); Coke Oven Batteries (BART-14); Carbon Black Plants (BART-16); and Taconite Ore Processing Plants (BART-24). For all other BART categories, there is at least one potential BART-eligible source located within the WRAP region. Table 3-2, presented on the following page, provides an overall status of the level of certainty by BART category for potentially BART-eligible sources in the WRAP region.

Table 3-2. Number of Potentially BART-Eligible Sources in the WRAP Region by BART Category and Level of Certainty^a

BART Category ID	BART Category	Yes	Likely	Potentially	Total
BART-01	Fossil fuel-fired steam electric plants ^b	45	32	26	103
BART-02	Coal Cleaning Plants (thermal dryers)	0	1	0	1
BART-03	Kraft Pulp Mills ^b	7	4	6	17
BART-04	Portland Cement Plants	3	2	14	19
BART-05	Primary Zinc Smelters ^b	1	0	0	1
BART-06	Iron and Steel Mill Plants	1	1	1	3
BART-07	Primary Aluminum Ore Reduction Plants	2	0	4	6
BART-08	Primary Copper Smelters ^{b,e}	0	1	2	3
BART-09	Municipal Incinerators	0	0	0	0
BART-10	Hydrofluoric, Sulfuric, and Nitric Acid Plants	2	3	3	8
BART-11	Petroleum Refineries ^{b,c,d}	8	8	29	45
BART-12	Lime Plants ^b	9	3	5	17
BART-13	Phosphate Rock Processing Plants ^e	2	0	1	3
BART-14	Coke Oven Batteries	0	0	0	0
BART-15	Sulfur Recovery Plants	0	3	3	6
BART-16	Carbon Black Plants	0	0	0	0
BART-17	Primary Lead Smelters	0	0	0	0
BART-18	Fuel Conversion Plants ^d	0	2	2	4
BART-19	Sintering Plants	0	0	0	0
BART-20	Secondary Metal Production Facilities	0	0	6	6
BART-21	Chemical Process Plants ^{b,d,e}	1	4	4	9
BART-22	Fossil fuel-fired boilers	6	1	3	10
BART-23	Petroleum Storage and Transfer Facilities	0	4	2	6
BART-24	Taconite Ore Processing Plants	0	0	0	0
BART-25	Glass Fiber Processing Plants	0	0	9	9
BART-26	Charcoal Production Facilities	0	1	0	1
TOTAL		87	70	120	277
<p>a The “do not know” level of certainty is not included in this chart; however, one source located in Montana is labeled with a “do not know” level of certainty that may have equipment belonging to the BART-17 and BART-19 categories. These two BART categories are not accounted for in this chart.</p> <p>b Some sources identified for this category may also have equipment belonging to the BART-22 category.</p> <p>c Some sources identified for this category may also have equipment belonging to the BART-23 category.</p> <p>d Some sources identified for this category may also have equipment belonging to the BART-15 category.</p> <p>e Some sources identified for this category may also have equipment belonging to the BART-10 category.</p>					

This table excludes sources where eligibility information is not known for at least two of the three main BART criteria. It is for this reason that BART categories, Primary Lead Smelters (BART-17) and Sintering Plants (BART-19), are not presented in this table.

Further detail is presented in Appendix I illustrating each WRAP state’s specific BART categories for BART-potential sources; this is also shown for sources on tribal land. For

example, it is in Appendix I where one can observe that there are two Portland Cement Plants which may be BART-eligible in the state of Montana. Unlike Table 3-2, the tables in Appendix I include any sources where eligibility information is not known for at least two of the three main BART criteria (these sources are addressed in the “do not know” columns). In addition, the tables in Appendix I address any sources that may have equipment belonging to more than one BART category. For example, Table 9 of Appendix I indicates that, in Oregon, there are three sources: a Kraft Pulp Mill (BART-03), a Primary Zinc Smelter (BART-05) and a Lime Plant (BART-12), that each have a fossil fuel-fired boiler greater than 250 MMBtu per hour (BART-22).

3.1 Emissions Summary

Pollutant emissions for sources classified with “Yes”, “Likely”, “Potentially” or “Do Not Know” levels of BART-eligible were obtained from the 1999 NEI Version 3, the 2002 Preliminary NEI (February 2004 Version), or the 2002 NEI (internal draft, October 2004). Whenever possible, the most recent 2002 data were used to represent source emissions. Facility-wide emissions for all sources were retrieved. There was no attempt to screen out non-BART units at these sources, except for EGUs.

There were 42 sources that did not have emissions in any version of the NEI. In a few cases, sources could not be conclusively matched to a source in the NEI because of name changes or incomplete address information. In other cases, the source may have actual emissions that fall below the CERR thresholds and so were not required to report. Under the CERR, EPA requires states to report SO₂, VOC, NO_x, CO, Pb, PM₁₀, PM_{2.5} and NH₃. 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 2002 NEI, EPA collected information on both Type A and Type B sources.

The total facility-wide emissions for the 431 facilities categorized as either “Yes”, “Likely”, “Potentially” and “Do Not Know” BART-eligibility levels of certainty are:

- 653,442 TPY of NO_x
- 69,423 TPY of PM₁₀,⁴
- 696,829 TPY of SO₂
- 51,665 TPY of VOC

Table 3.3 presents emissions for all BART-eligible (“Yes”) sources by pollutant and state or tribal land. For non-EGUs, these emissions represent those from the whole source; for EGUs, these emissions include only those emissions from units that are considered “Yes” BART-eligible—emissions from units not confirmed to be BART-eligible are not included for EGUs. The 87 “Yes” sources clearly account for the majority of NO_x, SO₂ and PM₁₀

⁴ PM₁₀ Primary = PM₁₀ Filterable + PM Condensable. In most cases PM₁₀ Primary emissions were obtained. However, if PM₁₀ Primary emissions were not available but PM₁₀ Filterable were, then PM₁₀ Filterable emissions were used. If only PM Condensable emissions were available, these values were used. Finally, if only non-specific PM Primary were provided, these values were used.

Table 3.3. Emissions of BART Pollutants for “Yes” non-EGU Sources and “Yes” EGU Units by State/Tribal Lands (Tons/Year)

State	NO _x	PM ₁₀	SO ₂	VOC
AK	690	64	221	35
AZ	55,901	6,076	26,128	600
CA	1,794	242	30	202
CO	40,471	1,700	49,944	1,140
ID	5,419	811	5,145	459
MT	12,488	503	15,148	253
ND	45,339	4,579	108,009	398
NM	23,241	107	12,516	791
NV	34,724	3,769	41,672	291
OR	4,191	3,096	3,827	4,618
SD	14,954	369	11,756	107
UT	18,630	545	16,824	44
WA	17,694	2,115	26,102	2,806
WY	85,011	10,081	86,458	5,411
Tribal Land	41,860	5,709	32,956	238
Grand Total – “Yes” Non-EGU Sources and “Yes” EGU units	402,407	39,767	436,736	17,394
Total Emissions – All Sources ^a	653,442	69,423	696,829	51,665
% Total Emissions ^a	62%	57%	63%	34%

^aTotal Emissions are for all “Yes”, “Likely”, “Potentially” and “Do Not Know” categorized sources.

emissions in the WRAP region of the possibly BART-eligible sources (“Yes”, “Likely”, “Potentially”, and “Do Not Know”). A similar breakdown for the other levels of certainty can be found in Appendix J. “Likely” and “Potentially” BART categories account for an additional 50% of VOC emissions.

Figures 3-1 and 3-3 are maps that geographically represent the data in Table 3-3 and Appendix J. These maps show the emissions of the highest emitting pollutant (NO_x, PM₁₀, SO₂, or VOC) represented by the size of the symbol – the larger the size the higher the emissions. Emissions from non-EGU sources are represented with circles and EGUs with squares. Each map focuses on a different level of BART-eligibility certainty. Figure 3-1 provides emissions and location of the sources and EGUs considered BART-eligible with a high degree of certainty (“yes”); Figure 3-2 shows “Likely” BART-eligible sources and EGUs; and Figure 3-3 shows the “potentially” BART-eligible sources and EGUs. These maps give the approximate location based on the coordinates included in the NEI database. Inaccuracies in these coordinates can be noted on Figure 3-1 because two sources are shown in Mexico.



Figure 3-1. “Yes” BART-Eligible Sources and EGUs

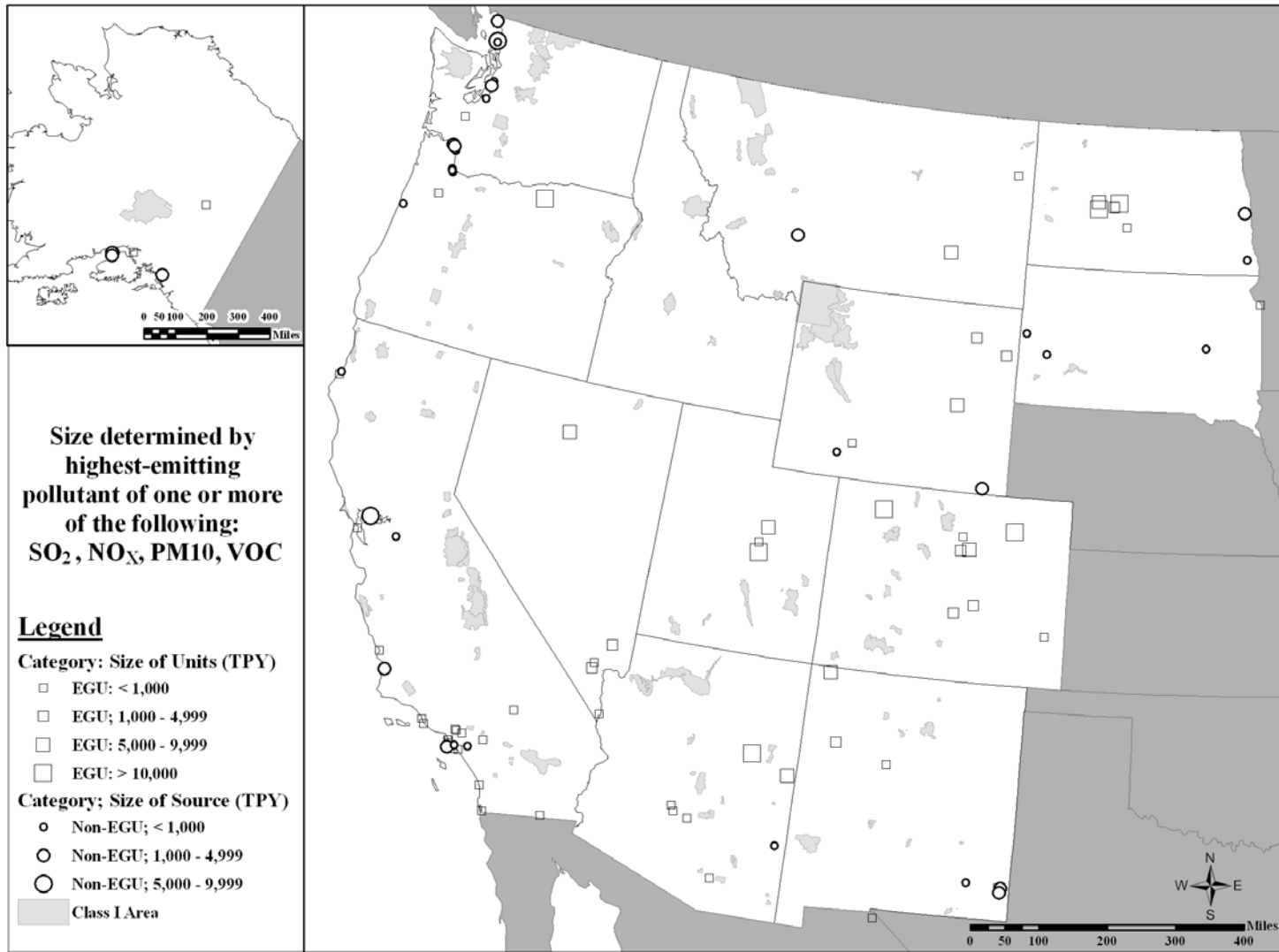


Figure 3-2. “Likely” BART-Eligible Sources and EGUs

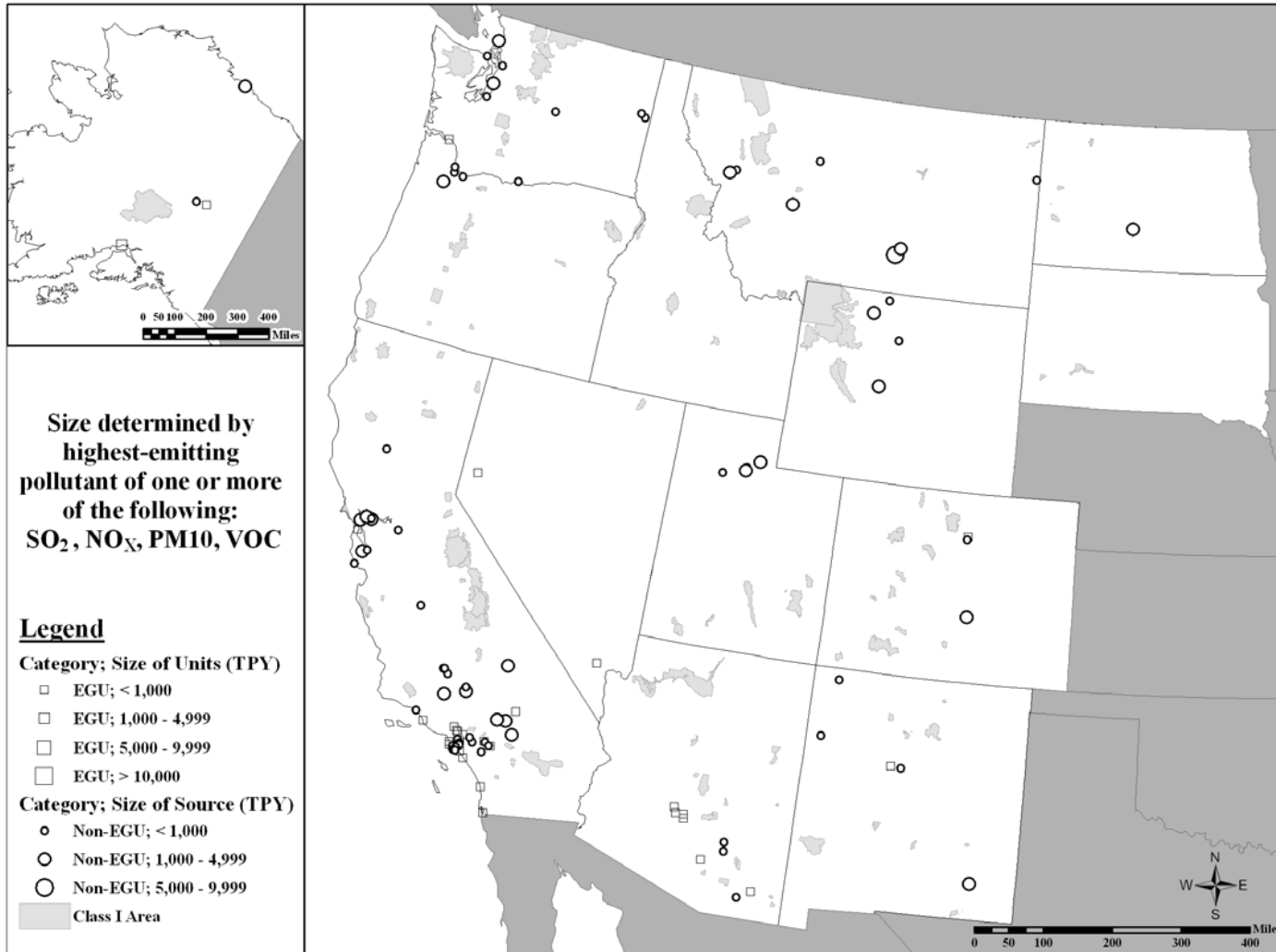


Figure 3-3. “Potentially” BART-Eligible Sources and EGUs

Figures 3-4 through 3-7 visually depict the relationship of the levels of certainty and BART pollutant emissions. From these charts, it is apparent that except for VOC emissions, most of the emissions are captured by the “Yes” category. Figures 3-4 through 3-7 also present BART emissions with respect to total point source emissions in the WRAP region. As shown on the graphs, BART emissions for NO_x, PM₁₀, and SO₂ emissions are large with respect to overall point source emissions.

Figure 3-4. NO_x Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions)

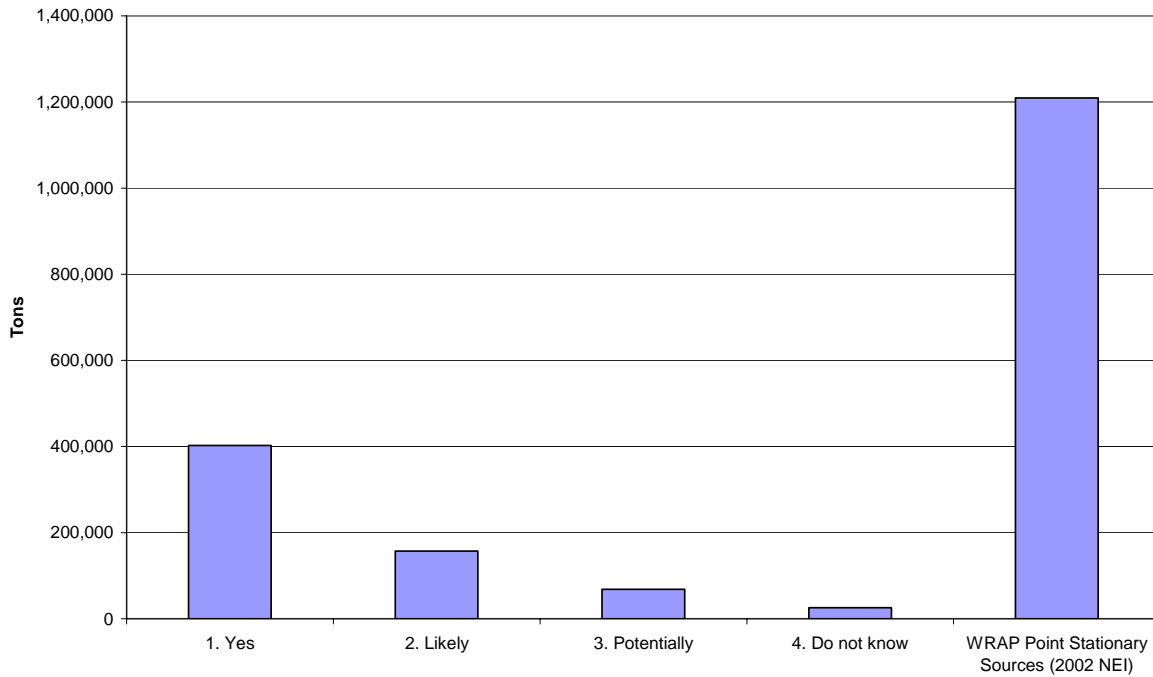


Figure 3-5. PM₁₀ Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions)

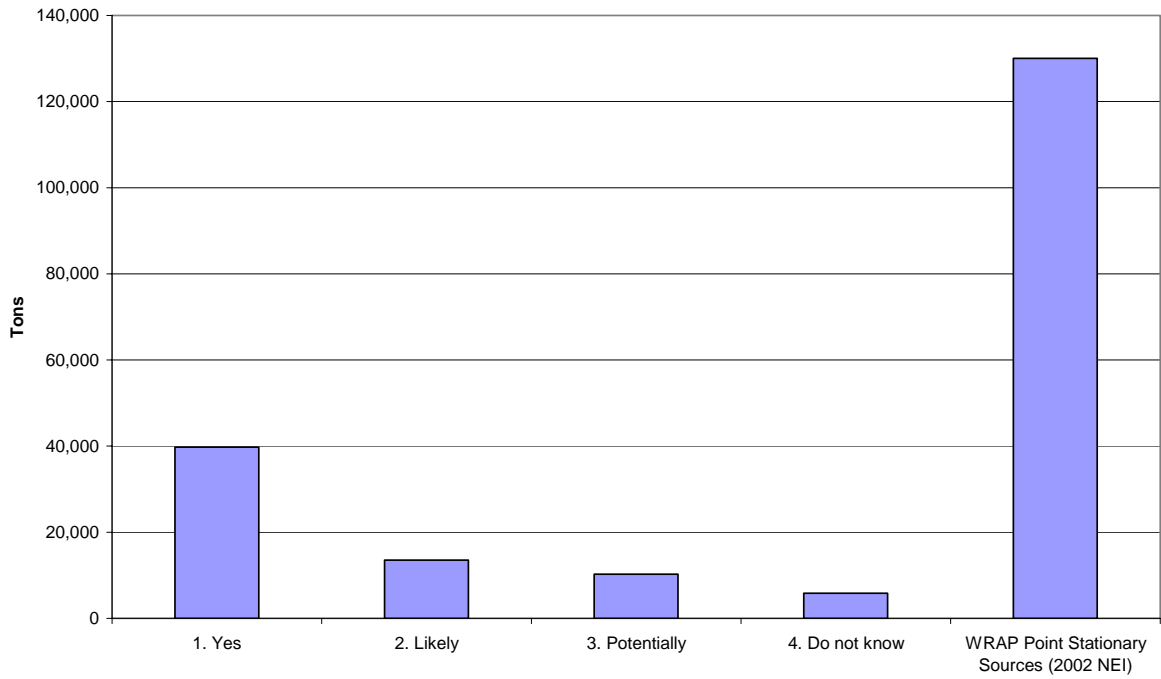


Figure 3-6. SO₂ Emissions from EGUs and Facility-Wide Emissions from non-EGUs by Certainty of BART-eligibility and Other Sources in the WRAP Region (2002 Emissions)

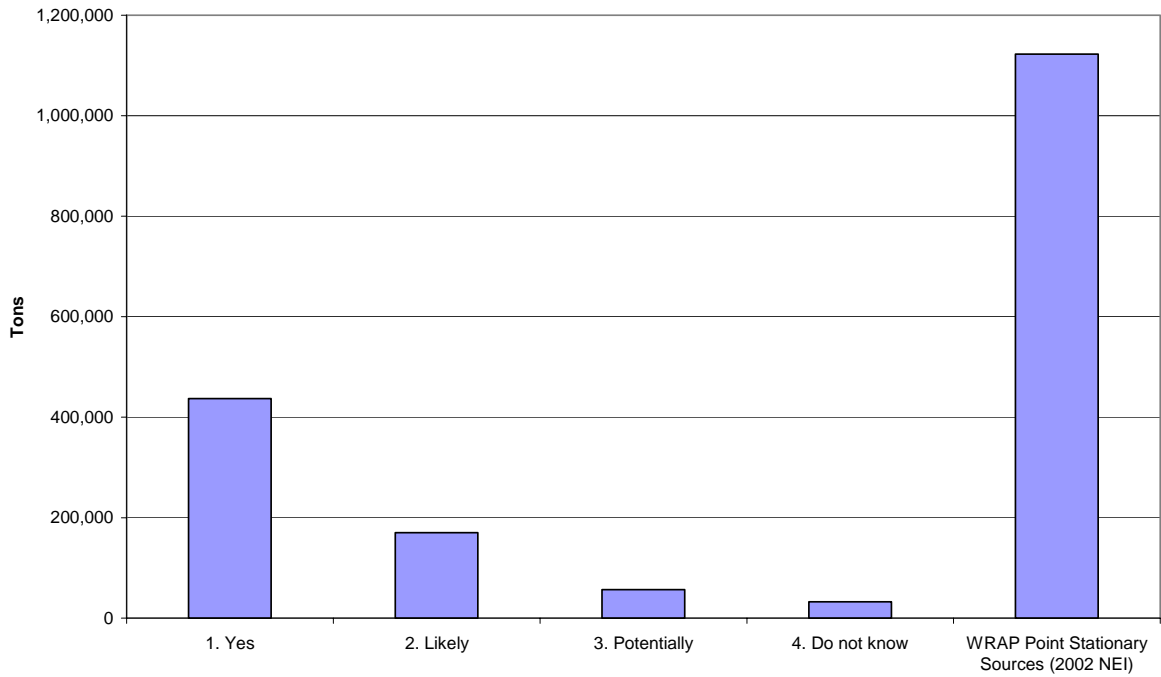


Figure 3-7. VOC Facility-Wide Emissions from Possibly BART-Eligible and Other Sources in the WRAP Region (2002 Emissions)

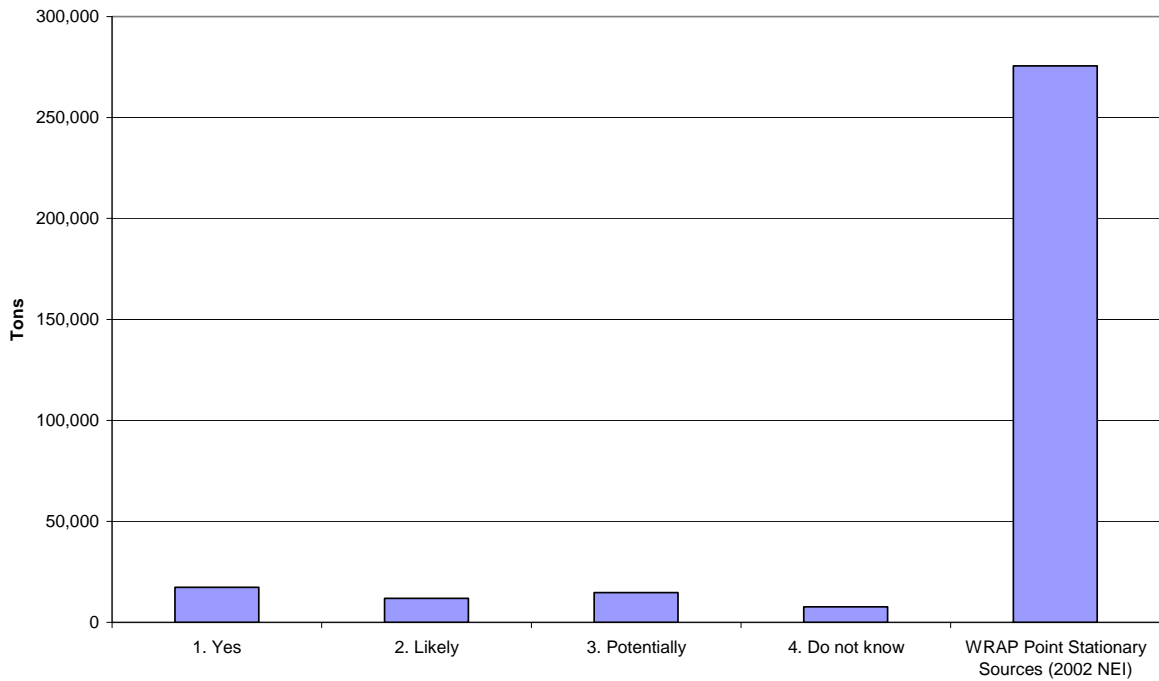
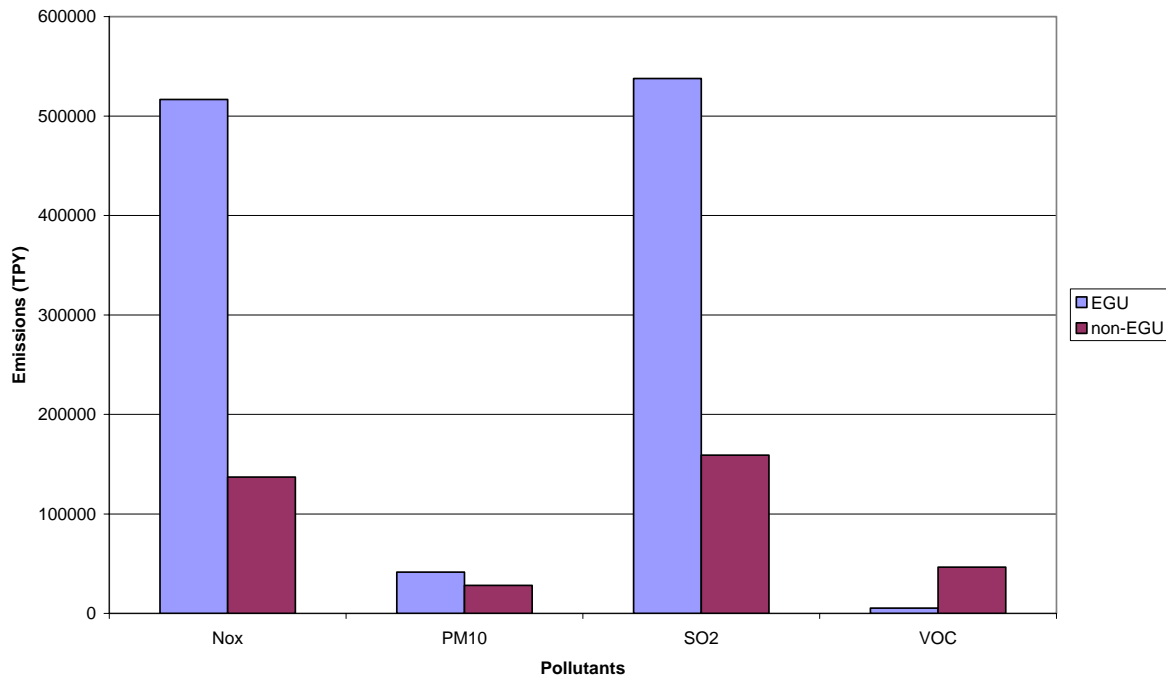


Figure 3-8 presents the overall breakdown of pollutant emissions between the EGU (BART 01) and non-EGU sources for the list of 431 sources. EGU emissions clearly represent the majority share for all pollutants except VOCs. Because this trend is so apparent, we focus the remainder of this discussion on non-EGU sources. For a more detailed look at individual EGU sources, see Appendix K which contains a list of EGU units, the data available on these units, the unit level of certainty of BART-eligibility, and their associated pollutant emissions.

Figure 3-8. Comparison of Emissions from EGU Units and Non-EGU Sources ("Yes", "Likely", "Potential", and "Do Not Know" Levels of Certainty of BART-eligibility)



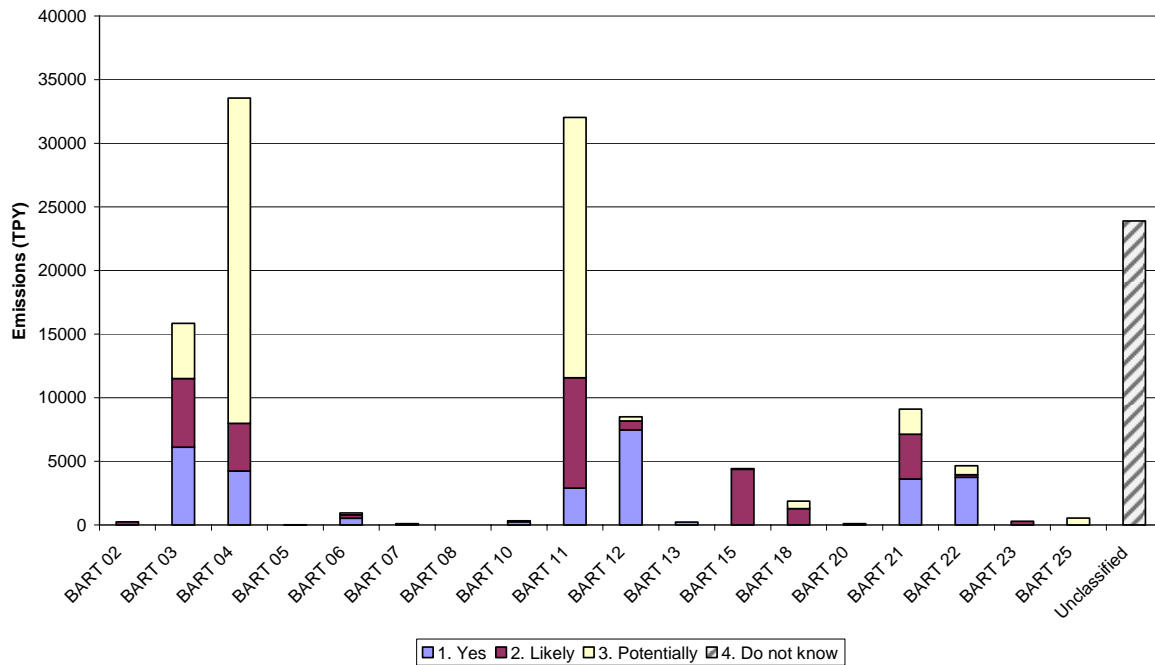
Figures 3-9 through 3-12 present total facility-wide emissions for each BART category by pollutant. (Each facility is counted under only one BART category consistent with Table 3-2). The relative contributions of the BART level of certainty are also shown for each BART category. The “Do Not Know” sources are shown as one bar on the charts because they are unclassified (for a BART category). EGUs (BART 01) are excluded from each of these graphs to provide better resolution of the several non-EGU sources.

On all of the graphs, the “Potentially-BART” sources make up significant sections of the larger emitting source categories. Although, there are 120 of these sources, a targeted review focusing on some of the recurring categories may be worthwhile.

Although, in Figures 3-9 to 3-12, the “Do Not Know” sources often show up as a significant contributor to a given pollutants’ emissions, the “Do Not Know” sources are either not BART-eligible or belong to one of the 26 BART categories. Unless the majority of the sources that are classified as “Do Not Know” actually fall into one particular category, a similar emissions trend to what is shown in these figures is expected. Here are some of the other trends that appear in the pollutant-specific graphs:

- For NO_x (Figure 3-9) the BART 04 (Portland Cement Plants) and BART 11 (Refineries) are the dominant categories and together emit over 60,000 TPY. BART 03 (Kraft Pulp Mills) contributes an additional 15,000 TPY.

Figure 3-9. NOx Facility-Wide Emissions from Possibly BART-Eligible Sources by Source Category (2002 Emissions) (Excluding BART Category 01)



- The PM₁₀ data (Figure 3-10) turn up trends similar to the NOx data. BART 11 (Refineries), BART 04 (Portland Cement Plants), and BART 03 (Kraft Pulp Mills) are again dominant categories and together emit approximately 15,000 TPY.
- In Figure 3-11, the dominant SO₂ emissions source is BART 11 (Refineries). Refineries emit more than 60,000 TPY of SO₂. Excluding EGUs, this is the single largest pollutant emission for any BART category. BART 12 (Lime Plants) makes a significant contribution as well at nearly 20,000 TPY. BART 03 (Kraft Pulp Mills) also emit a sizable amount at approximately 10,000 TPY.
- For VOCs (Figure 3-12), BART categories BART 03 and BART 11 make the largest contributions, with Refineries clearly the dominant category (>20,000 TPY).

Figure 3-10. PM₁₀ Facility-Wide Emissions from Possibly BART-Eligible Sources by Source Category (2002 Emissions) (Excluding BART Category 01)

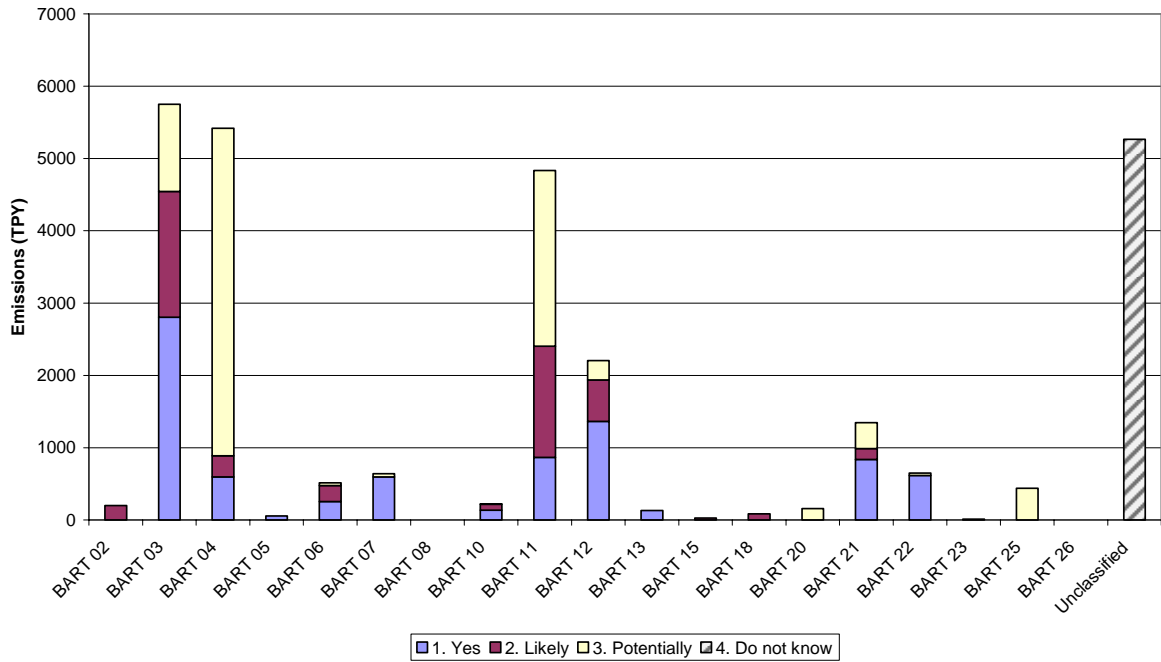


Figure 3-11. SO₂ Facility-Wide Emissions from Possibly BART-Eligible Non-EGUs (Excluding BART Category 01)

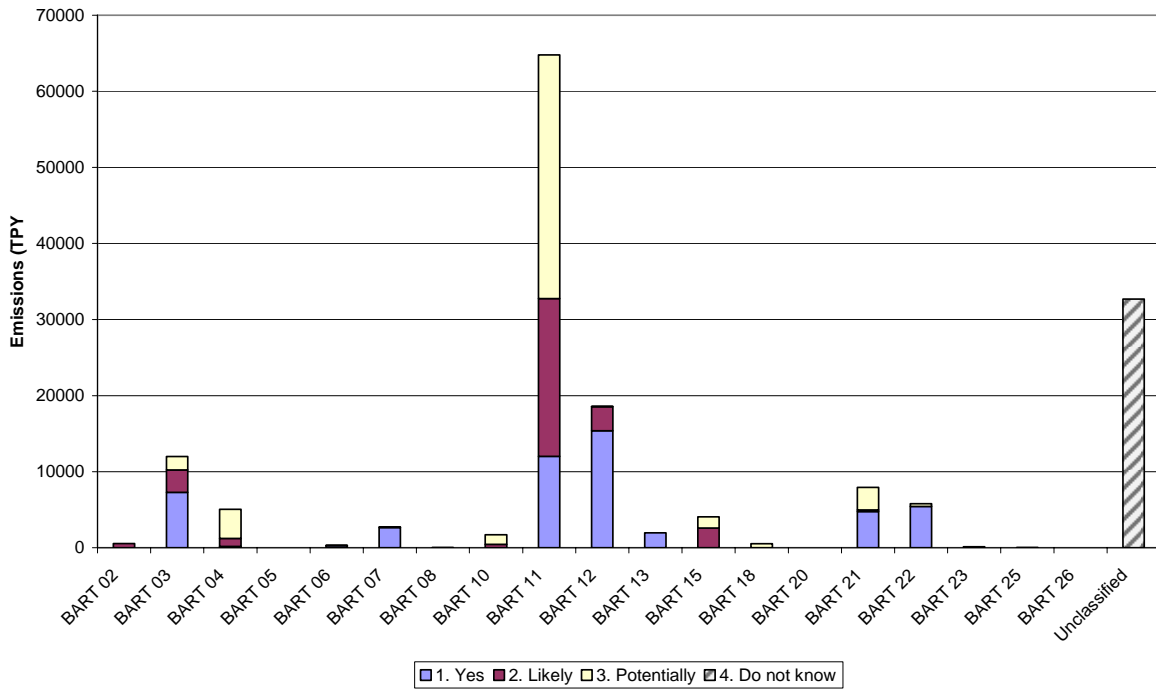
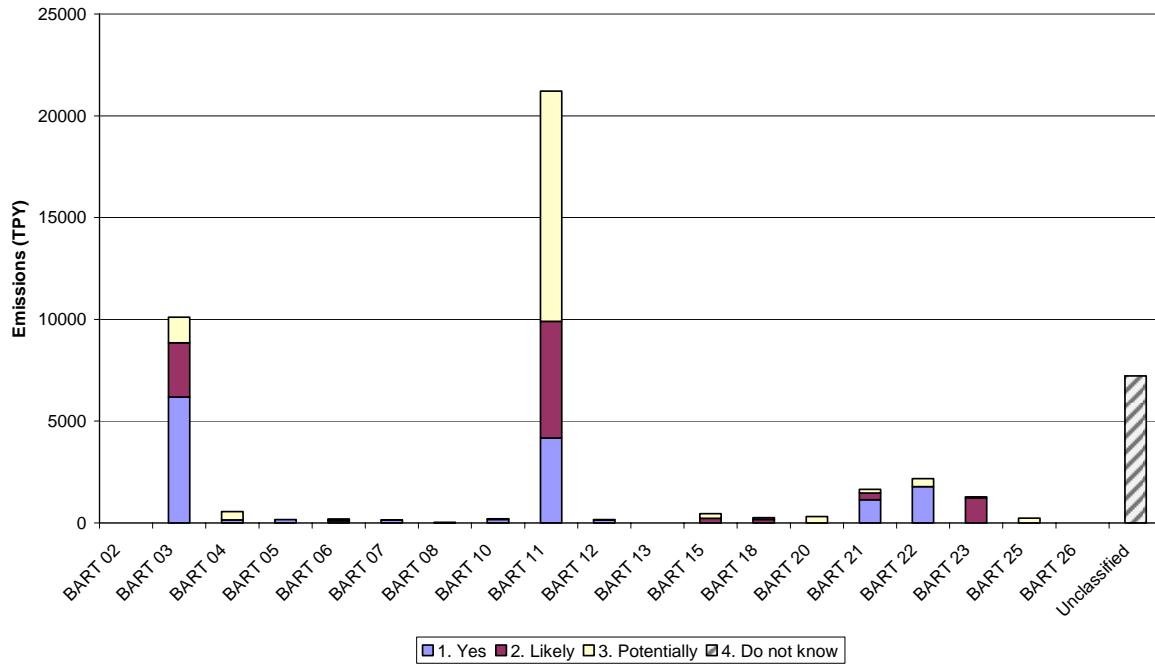


Figure 3-12. VOC Facility-Wide Emissions from Possibly BART-Eligible Sources by Source Category (2002 Emissions) (Excluding BART 01)



4.0 NEXT STEPS

State implementation plans (SIPs) must include a list of BART-eligible sources. This report presents a preliminary list of eligible and possibly-eligible sources that can be maintained and modified prior to SIP submittal as new information is obtained by WRAP members and contractors and as the eligibility of some sources may change as a result of reconstructions and shut-downs.

Although state and tribal representatives played a major role in developing this report, their involvement in the BART-identification process is likely to grow as SIPs and TIPs are formulated and as it becomes increasingly necessary to work with local officials and facility operators to obtain the necessary data. At the same time, a regional database should be maintained for regional planning and consistency purposes. The states and tribes, therefore, should act as conduits of information between the regional report/database and local officials and facility operators. Although WRAP staff and contractors will accept comments from local agencies and facility operators, communication through state and tribal WRAP members is the more efficient and preferred approach.

Identification of BART-eligible sources is expected to be a continuous process extending well beyond the comment period for this draft report. Therefore, although comments and new data will be accepted regarding the eligibility of particular sources, it would be most productive at this time to direct comments towards the quality and clarity of the report, the methods employed, and the nature of presenting the results, especially since this report will provide the basis or starting point for further BART investigations.

The following priorities have been identified for WRAP members to consider while working to complete their BART-eligibility determinations:

- Check for any possibly-eligible sources which may not have been identified in this report. Emissions in the 1999 and/or 2002 NEI, for instance, may have been less than 100 TPY due to economic or maintenance reasons. Nine source categories are identified below which may be relatively more susceptible to missing sources. Comparison of Title V lists to this report's master list may provide a good check. (The master list spreadsheet, not Appendix H, should be used for this purpose, as it contains the sources found to be not eligible.)
 - *BART 10 – Hydrofluoric, Sulfuric, and Nitric Acid Plants*
 - *BART 13 – Phosphate Rock Processing Plants*
 - *BART 15 – Sulfur Recovery Plants*
 - *BART 18 – Fuel Conversion Plants*
 - *BART 20 – Secondary Metal Production Facilities*
 - *BART 21 – Chemical Process Plants*
 - *BART 22 – Fossil Fuel-fired Boilers with a Heat Input Capacity Greater than 250 MMBtu per hour*

- *BART 23 – Petroleum Storage and Transfer Facilities with a Capacity of Greater than 300,000 Barrels*
 - *BART 26 – Charcoal Production Facilities*
- For those facilities identified as likely eligible, potentially eligible, or “do not know,” determine whether the facility as a whole contains at least some eligible or no eligible emission units, thereby categorizing all facilities as either eligible or not eligible. This may be accomplished by examining a select portion, rather than all the units at a facility. This task is important to determine specifically which facilities need to be further analyzed for BART or included in an alternative program. In addition, it will determine specifically which source categories may need to be analyzed for suitability in an emissions trading program and also which should be included in a BART-like analysis to demonstrate that an alternative is better than BART.
 - Determine the BART-eligible sources at the unit level for all EGUs and other sources which are relatively large. A start at determining the BART-eligibility on a unit level for EGUs is contained in Appendix K. This Appendix contains a list of all units at EGUs found in the NEI. These units have been divided up into five tables based on BART-eligibility certainty. One table contains all the units that have been determined to be BART-eligible with a high degree of confidence (“Yes” units). The second table has a list of “Maybe” BART-eligible units which includes “Likely”, “Potential” and “Do Not Know” units. A table of units that have been determined not to be BART-eligible is included, as well as a table of EGU sources that have been determined not to be BART-eligible. The fifth table contains a list of other types of units located at an EGU source that may need to be reviewed for BART-eligibility. The table of “Maybe” units contains a comment field that highlights the specific information needed to complete the BART-eligibility determination.
 - Improve the control technology and control efficiency information in the WRAP emission inventory, particularly for larger eligible sources.

Finally, the completeness and rigor of identifying BART-eligible sources may depend in part on whether a state or tribe implements BART or an alternative program to BART. In the former case, eligibility must be determined with thorough completeness and certainty. In the latter case, BART per se will not be implemented. Rather, a program including all BART-eligible (and quite possibly additional) sources will be implemented which must provide for greater reasonable progress than what BART would be expected to produce at BART-eligible sources. If the alternative program is certain to include all BART-eligible sources (e.g., all sources emitting more than 100 tpy) and provide for greater reasonable progress, it may not be necessary to identify BART-eligible sources with as much confidence and specificity.