

## 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.<sup>1</sup>

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.

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<sup>1</sup> The visibility-impairing pollutants are sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), particulate matter (PM<sub>10</sub>), and volatile organic compounds (VOCs). It is not currently clear whether ammonia (NH<sub>3</sub>) 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).<sup>2</sup> Ultimately, however, a stationary source was only identified as BART-eligible if it was identified as BART-eligible in the SO<sub>2</sub> 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

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<sup>2</sup> 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 SO<sub>2</sub>, 62 percent of NO<sub>x</sub> emissions, 57 percent of the PM<sub>10</sub> emissions, and 34 percent of the VOC emissions.

Of the 431 sources, electric generating units (EGUs) comprise over 75 percent of the SO<sub>2</sub> and NO<sub>x</sub> emissions, 60 percent of the PM<sub>10</sub> emissions, and a small fraction of the VOC emissions. The most significant non-EGU contributors to SO<sub>2</sub>, NO<sub>x</sub> and PM<sub>10</sub> 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](mailto: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.