

SCOPE OF WORK, SCHEDULE, DELIVERABLES AND BUDGET:

IDENTIFYING BART-ELIGIBLE SOURCES IN THE WRAP REGION

1.0 Introduction

The purpose of this project is to identify all best available retrofit technology (BART)-eligible sources in the region defined by the Western Regional Air Partnership (WRAP). BART eligibility as defined in 40 CFR Part 51 is based on three factors:

- Does the plant contain one or more emission units in one or more of the 26 BART source categories?
- Does the plant have units that were in existence on August 7, 1977, but not in operation before August 7, 1962? And
- Are potential emissions for SO₂, NO_x, PM₁₀, VOCs, or ammonia from these units greater than 250 tons per year?

This project consists of first establishing points of contact within each BART state and affected tribe, identifying the jurisdictions that have developed a list of BART-eligible sources, obtaining these BART lists, and documenting the procedures states and tribes have used to determine BART eligibility. The Contractor will then establish a procedure to identify BART-eligible sources for jurisdictions without BART source lists, and implement the procedure to the extent resources allow. The resulting information will then be compiled in a WRAP-wide BART-source database. A report will be prepared that summarizes the procedures used to determine the BART-eligible sources, and the procedures used by individual states.

2.0 Technical Approach

The Contractor will perform the tasks as described below.

Task 1 - Establish points of contact

The first step in identifying as many BART-eligible sources as possible is to identify all key contacts in state, local, and tribal organizations. The Contractor will work closely with WRAP to identify the key personnel in each of its member states and tribal organizations. As there are over 400 federally recognized tribes within WRAP's region, it will not be possible to talk with a representative of each tribe. The Contractor will also seek the advice of WRAP's Tribal Data Development Work Group, as well as The National Tribal Environmental Council (NTEC) and the Institute for Tribal Environmental Professionals (ITEP) in developing a list of tribal lands for inclusion in this project.

The Contractor will create a systematic tracking system for collecting data and recording communications with each party. A file will be created for each state/local agency or tribe along with a database to log key information (name, contact information, phone number etc.), record notes on phone conversations, and record other important information (e.g., "Does the agency have a BART-identification procedure?").

Task 2 - Identify which jurisdictions have developed a list of BART-eligible sources

WRAP has already undertaken a preliminary survey of its member states as to where they stand in developing a list of BART-eligible facilities and has summarized the key issues in each state. The Contractor will use this informal survey as a starting point when approaching each state about its current status and anticipated needs. (Note: No tribes were included in this preliminary survey; however, NTEC and ITEP will be included in the Contractor's scope of work.)

After developing the contact list as described in Task 1, the Contractor will contact each agency to update its status and discuss the procedures it used or is using to develop its BART list. The Contractor will develop a list of key questions to ensure that the same issues are being discussed with every agency. The answers will be recorded in the log mentioned above.

Task 3 - Document the procedures used to determine BART

Task 3 is tied closely to Task 4 and most likely will be undertaken concurrently. After identifying those jurisdictions that have a procedure for identifying BART-potential/eligible facilities, the Contractor will ask the jurisdiction for its source list and procedure. In some cases, a jurisdiction may have a written procedure in which case the Contractor will include the procedure in its file. In other cases, there may be no written procedure. In these cases, the Contractor will conduct an interview with the persons responsible for creating the BART list or distribute a written survey (whichever is preferred by the agency and WRAP). This standard questionnaire will solicit comparable information regarding each procedure.

After the Contractor has received all of the procedure descriptions and source lists, it will combine and summarize these procedures into one document, paying particular attention to the difficulties each jurisdiction noted and the means in which these were resolved. The Contractor will also compare the sources and the information submitted for each and record observations regarding this information that are relevant to the procedural summary. Additional detail may come from regulations defined in the operating permit. This summary document will contain a table that breaks the BART process into common steps. Each state, local, or tribal jurisdiction will have its own column in this table. Reading across the table, the reader will be able to see at a glance the commonalities and differences among the procedures used by the different jurisdictions.

The Contractor will accept the source lists and their associated data elements in the format preferred by each agency (e.g., in Excel spreadsheets, Access databases, hard copy documents, word-processing documents, etc.), but will convert the various formats into a standardized database for ease of use and comparison (see Tasks 5 and 6). The Contractor will ask each jurisdiction for primary information regarding each source (facility name, unit identifier, pollutant code, emissions, etc.) as directed by the database design task (Task 5), but will also solicit any additional information which helps clarify decisions or aids in future BART work.

Task 4 - Establish a procedure for identifying BART-eligible sources

The basic approach for identifying BART-eligible facilities is defined in EPA's guidance:

- Identify emission units in the 26 source categories eligible for BART;
- Identify the start-up dates of the emission units (units were in existence on August 7, 1977, but had not been in operation more than 15 years as of that date);
- Compare the potential emissions to 250 tons per year (TPY) cutoff (for visibility impairing pollutants); and
- Identify the emissions units and pollutants that constitute the BART-eligible source.

Within these guidelines, each state, local agency or tribe in WRAP may use different methods to identify BART-eligible facilities. Under this task, the Contractor will develop a procedure for determining BART-eligibility for those jurisdictions without a list of BART sources. This procedure should be consistent for all sources in the region (i.e., similar sources in different states should be evaluated according to the same criteria). The procedure will be developed considering the individual procedures gathered under Task 3. After developing a draft procedure, the Contractor will distribute it to WRAP and its members for review and comment prior to finalization.

Also, the Contractor will submit a Travel Strategy memorandum that contains an approach for selecting specific agencies to visit in person to gather the necessary BART-related source information.

The remainder of this section addresses some of the steps likely to appear in many procedures and highlights some common issues. **These steps are provided for illustration purposes only and are not meant to be taken as the definitive BART-identification procedure.**

Searching Data Sources for BART Source Categories

The 26 BART source categories include large plants, such as steel mills, kraft pulp mills, and refineries, as well as specified unit processes, such as boilers, acid plants, and petroleum storage facilities. For the BART listings that relate to large plants, it will be relatively straightforward to identify these BART sources. It will be significantly more challenging to identify facilities that are not specifically called out as BART facilities, but have individual unit processes such as petroleum storage tanks and boilers that would be considered BART sources.

WRAP and the Northeast States for Coordinated Air Use Management (NESCAUM) have identified a list of SIC codes and SCCs that match the 26 BART source categories. The contractor will review this list of SIC codes and SCCs and add or delete codes to create the best possible search criteria. These SCCs and SICs will be used to extract facilities included in databases such as the final 1999 NEI or 2002 state inventories

Not all facilities have SIC codes or SCCs associated with them and SIC classifications can be very broad and potentially misleading. However, additional relevant source categorization information can be obtained by reviewing site, unit, and process descriptions. It will also be necessary to consult alternative data sources in order to compile a complete list of BART candidates. For example, the EPA's Emissions and Generation Resource Integrated Database (E-GRID) can be used to identify fossil-fuel steam electric plants. EPA's Envirofacts Aerometric Information Retrieval System (AIRS)/AIRS Facility Subsystem (AFS) can be

queried by SIC to extract additional facilities. Similarly, accessing regional and state permitting databases will be particularly important in identifying BART-eligible facilities. Other sources which may help address the completeness issue include the Toxics Release Inventory (TRI) which can be queried by SIC and the 1999 NEI for HAPs which can be queried by both SIC and Maximum Available Control Technology (MACT) code. Many of the 26 BART source categories overlap with MACT categories, thus, for example, querying the NEI on the MACT code for industrial boilers, may pick up additional units that would not be picked up by SIC or SCC. Another source of facility lists is Dunn and Bradstreet's "Zapdata" which can be searched by SIC code.

Screening Data Sources Using an Emission Threshold

Querying the data sources discussed above for BART categories is likely to yield a large number of facilities that are not BART-eligible unless some sort of emissions limit is placed on these sources. It is also possible that an arbitrarily placed threshold could eliminate some BART-eligible sources, so the Contractor will work with WRAP to define the method or threshold most likely to produce the best results.

It is also important to note that because there is no ambient air standard for ammonia, ammonia emissions are likely to be under-represented in our BART-potential sources using any emission threshold. To counter this problem, we suggest checking these databases for ammonia emissions: 1) EPA's Toxic Release Inventory (TRI); 2) the California Emission Inventory Data and Reporting System (CEIDARS) which is maintained by the California Air Resources Board (ARB) and contains ammonia emissions from industrial sources, and 3) State toxics inventories.

Determining Construction and Operating Dates

In the second step of the BART eligibility assessment, construction and operation dates must be assigned to each of the identified sources in order to determine if they were in existence on August 7, 1977, but were not in operation before August 7, 1962. The Contractor will evaluate each case individually based on available permit data and engineering judgment. Sources that were in operation before August 7, 1962, may be considered BART-eligible sources if they had been reconstructed and returned to operation between August 7, 1962 and August 7, 1977. This evaluation of reconstruction is made at the emission unit level and must represent an investment greater than 50% of the fixed capital cost of a comparable new source. To make this determination, the Contractor will review the state permit history of BART candidate facilities.

EPA's guidelines for BART determination consider a source in existence if an owner or operator has either begun on-site construction or entered into a binding contract to undertake construction prior to August 7, 1977, even though the construction may not have been completed until after August 7, 1977. To identify such situations, it will be important for WRAP states to make the lists of BART-eligible sources available to the public for review.

As the product of this second component of the BART analysis, the Contractor will develop a list of candidate facilities that exclude facilities that were in existence after August 7, 1977 or operating prior to August 7, 1962. If construction dates cannot be obtained for a facility, the

facility will still be included on this listing as a potential BART source until further investigation on its operating history can be completed.

Reviewing Permits for Potential Emissions

The last criterion used to determine a source's BART-eligibility concerns the source's potential emissions. In order to be considered BART-eligible, the total potential to emit any single regional haze pollutant (i.e., SO₂, NO_x, PM₁₀, VOCs, or ammonia) for all of the BART sources located at a facility must be greater than 250 tons per year.

If the candidate facility has actual annual emissions of 250 TPY in the NEI or other inventory, it shall be assumed that the calculated potential emissions would be equal to or greater than the actual emissions and the source would be deemed BART-eligible. For facilities that have actual emissions less than 250 TPY, permit documents shall be reviewed to obtain potential to emit summary data in order to calculate the total potential to emit for all of their BART sources included in the facility. State permit files will also provide important information concerning facilities that are determined to be co-located, this is important to ensure that the total potential to emit includes all of the BART sources attributed to the facility.

As the product of this third component of the BART eligibility analysis, the Contractor will develop a list identifying all candidates that meet the potential to emit requirements. If potential to emit data are not available for a given facility, the facility will continue to be included on the list of BART-potential facilities unless otherwise informed by the state or the source that their potential emissions are below the threshold.

The Contractor will summarize in a spreadsheet the collected information concerning a facility's SIC codes and SCCs, the dates of construction and reconstruction, actual annual emissions, estimate of potential to emit, control information, and operating hours that state and local agencies can use to confirm their BART-eligible sources. If these sources are approved, they would be uploaded into the BART database discussed under Task 5.

Task 5 - Design a WRAP-wide BART-source database

The Contractor will clarify WRAP's needs in terms of being able to query, revise, output the data, and integrate it with WRAP's Emissions Data Management System (EDMS). The Contractor will also consult with the WRAP EDMS developer, as some of the information WRAP wishes to track under this project are not currently EDMS data elements (e.g., BART designation: BART-eligible or BART-potential; construction/reconstruction dates) and this may require additional elements to be included in the WRAP EDMS.

After identifying the users' needs and talking with the WRAP EDMS developer, database design and development will occur. The steps taken during database design and development are fairly standard and include the following:

- Develop a list of tables to accommodate the project needs;
- Determine the fields in each table and decide upon data types (numeric, text etc.) for each field;

- Set constraints and validation rules on each field to prevent data entry errors;
- Develop a Quality Assurance/Quality Control (QA/QC) Plan to catch data inconsistencies, outliers, and other errors;
- Develop programming procedures (specifying database functions) to automate input and output as necessary;
- Populate the database;
- Test and debug the database, run QA/QC checks, and make corrections as needed; and
- Create a data dictionary and other documentation.

The Contractor will write a brief design document before beginning any work to confirm that the design mirrors WRAP's intent and priorities. For example, WRAP has specified that data be stored on a unit level (not source) basis and include (among other things) source name, SCC, SIC codes, BART category, latitude/longitude coordinates, actual and potential emissions for VOCs, NO_x, SO₂, PM₁₀ and NH₃, control data and control efficiency, and whether or not a unit is potentially or clearly BART-eligible. At the end of the project, the Contractor will provide a data dictionary listing and defining all tables and fields within the database. Also, the final database will contain built-in queries that the project team agrees would be useful to WRAP users.

Task 6 - Populate and maintain the BART-source database

Under this task the Contractor will visit state, local and tribal agencies to retrieve hard-copy information. The Contractor will visit those agencies selected as a result of the Travel Strategy Memorandum developed under Task 4. In addition, the Contractor will conduct the following work under this task:

- Convert all source data received from jurisdictions with a BART list into a format compatible with the BART database (developed under Task 5) and upload that data into the BART database; and
- Create source lists using the procedure developed under Task 4 for those jurisdictions without a BART source list.

The list of candidate facilities will be narrowed as much as possible before permits are examined for detailed information on installation dates and potential emissions data. The Contractor will standardize the data extraction process by developing a template spreadsheet or database form so that all permit reviewers are reviewing the same data elements and converting them to a uniform electronic format that can easily be inserted into the database.

Task 7 - Treatment of California Sources

California has a large number of BART-eligible sources, a significant number of which are likely already controlled at levels equivalent to or better than BART, given California's number of NAAQS non-attainment areas and generally more stringent control programs. The Contractor will implement a "control analysis approach" as the initial method to use to identify BART-eligible sources in California. This method functions to evaluate all BART-potential sources on a global level first and possibly reduce the size of the potential list to those sources that clearly do not currently have a BART-equivalent control level in place. This means the number of

sources that have to be dealt with on a more individual basis can be reduced, thereby saving time and resources. This approach would consist of the following steps:

1. Identify all stationary sources (by AQMD) that fall into one of the 26 BART source categories and that emit 100 TPY (or other threshold as determined by WRAP) or more of a visibility-impairing pollutant (excluding SO₂ since California has already identified BART-eligible sources for SO₂); use the ARB statewide inventory and the NEI as the starting points for this process.
2. District-by-district, evaluate each source list produced to determine the BART source categories represented.
3. For each represented source category, determine the pollution control limits/requirements in place.
4. Compare the limits in place (e.g., control efficiencies, emission limits, equipment standards) to other control requirements that might equal BART such as NSPSs, BACT/LAER Clearinghouse determinations, modern facility performance standards, data from control equipment vendors, etc. to determine if the potential BART-eligible sources are already controlled to levels that would represent BART or better.

In cases where Step 4, above, is proven correct (i.e., source is already controlled at levels equal to or better than BART), further explicit identification of BART-eligible sources would be irrelevant (i.e., no new BART requirements would be necessary) and is not required. In cases where Step 4, above, is not found to be the case (i.e., source is not already controlled to a level equal to or better than what BART would be), an explicit identification of BART sources will need to proceed by examining applicable BART criteria involving source categorization, emissions, and operation and existence dates. In cases where it is determined that site visits are required, the Contractor will communicate this to the WRAP Program Manager and gain approval for each visit.

The Contractor will focus on AQMDs that were “never in non-attainment” status (for federal and state ambient standards) for one of more pollutants. Areas that were “never in non-attainment” are much less likely to have a reason to have imposed stringent control requirements, or conversely, are more likely to have sources with room for emission control improvements (i.e., potentially more BART-eligible sources).

The Contractor will include a draft procedure for the Control Analysis Approach in the procedural document submitted under Task 4. This draft will include a list of the “never in non-attainment” areas by pollutant (and perhaps attainment areas) to give the reader some idea as to the scope of the Approach. After WRAP has reviewed the Control Analysis Approach, it will be revised and included in the final document submitted under Task 4.

Task 8 - Submit a draft and final report

The Contractor will prepare and submit documentation summarizing the procedures used to determine the list of BART-eligible and BART-potential sources for inclusion in the BART database. This report will also summarize the individual state and local procedures documented under Task 3. The report will discuss any assumptions made in creating the BART list, limitations of the methodology, and areas for future improvement. It will also contain a

discussion of the control analysis approach used to determine California's BART-eligible sources. In addition to the discussion of the overall procedure used, the document will contain supporting information in appendices and tables.

Supporting information such as interim memos, summaries of meetings or other key decision documents will be placed in an appendix. The documentation will also include reference tables for key items such as: contact names and agency affiliation for each participating state, local, and tribal agency; lists of SIC codes and SCCs and other parameters used to determine BART categories; and other important decision-making. The report will contain tables summarizing some of the key attributes of the database, e.g., total number of BART-eligible sources per state, total pollutant emissions by BART category, total number of BART-potential sources by state, total pollutant emissions by BART-eligible source (if the number of BART-identified sources is not too numerous), etc.

Finally, the report will contain the data dictionary including names of tables in the BART database, the name of the fields in each table, the data types assigned to each field, and lookup tables for any codes utilized in the database. A short definition of each table and field will also be included.

3.0 SCHEDULE AND DELIVERABLES

The schedule for milestones and deliverables is provided below:

Milestones and Deliverables	Task	Date (2004)
Finalize contract		By March 25
Hold kickoff call.		By April 2
Document existing procedures used to identify BART-eligible sources; obtain source lists.	Tasks 1, 2 and 3	May 15, 2004
Establish a procedure for establishing BART-eligible sources in remaining jurisdictions. Submit for review.	Tasks 4 and 7	June 2
Hold team meeting to discuss travel strategy and draft procedure.	Task 4	By June 7
Submit final travel strategy memorandum.	Task 4	By June 21
Submit final procedure	Tasks 4 and 7	By June 21
Submit database design.	Task 5	May 1
Populate BART database.	Tasks 6 and 7	October 15
Submit draft report.	Task 8	October 29
Submit final report.	Task 8	December 15

4.0 BUDGET BY TASK

The project budget by task is provided below:

	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7	Task 8	Total
Labor Cost - Total	\$4,759	\$2,194	\$7,902	\$9,516	\$2,512	\$43,004	\$14,600	\$12,289	\$96,776
Travel:									
To Outside of CA						\$730			\$730
To Northern CA							\$180		\$180
To Southern CA							\$340		\$340
To Western City				\$725					\$725
Other Direct Costs	\$84	\$43	\$162	\$170	\$48	\$121	\$227	\$205	\$1,060
Total Project Cost	\$4,843	\$2,237	\$8,064	\$10,411	\$2,560	\$43,855	\$15,347	\$12,494	\$99,811