

# WRAP 2018 Preliminary Reasonable Progress Emissions Inventory Analysis

## Scope of Work

The objective of this project is to provide the technical basis for making preliminary evaluations of reasonable progress toward individual Class I area visibility goals by the Western Regional Air Partnership (WRAP) by updating the WRAP region 2018 point and area sources emission inventory projections from the 2018 Base Case version 1 project, completed by Eastern Research Group, Inc. (ERG) in January 2006.<sup>1</sup> The primary sources of information used for the emissions inventory update are listed in Attachment 1, along with information to be provided by WRAP member State, Local, and Tribal (S/L/T) agencies with assistance from WRAP staff.

The focus of this project is on the most significant sources of visibility-impairing pollution within each state, and on the specific source categories whose 2018 emissions are known to be incorrect or otherwise need to be revised. The scope of this project is purposely limited and focused in order to complete the work in a timely and efficient manner for both the S/L/T agencies reviewing the data and providing comments, as well as for the Contractor performing the analysis and making the updates.

## SCOPE OF WORK

Task 1: 2018 Emission Summary Tables and List of Potential Changes. Develop state-level emission summary tables that show the anthropogenic emissions source categories and specific source classification codes (SCCs), which comprise the majority (~80%) of the 2018 anthropogenic point and area sources emissions for each visibility-impairing pollutant. Special considerations with regard to these summary tables include:

- Any changes made by the WRAP Regional Modeling Center (RMC) for the Base18b modeling analysis completed in June 2006, will be incorporated into the summary tables.
- For states and pollutants with anthropogenic emissions distributed over a very large number of individual SCCs, the state-level summary tables will include emissions for the top 20 SCCs having the largest emissions.
- Flags or notes will indicate the following information by SCC:
  - Basis for the growth factors (i.e., population, EGAS, DOE/EIA)
  - Assumptions/information used to determine any control technologies
  - Affirmative “subject-to-BART” determinations (to be provided by WRAP staff)

Based on the Contractors review of the summary tables, and the list of data sources and issues to address during the inventory update (Attachment 1), the Contractor will develop individual S/L/T agency packages that include the summary table and list of potential changes to make to each agency’s 2018 inventory. The Contractor will forward these packages to the WRAP staff assigned to this project, and initiate a phone call, or series of phone calls to discuss the potential changes to each agency’s inventory. Based on input from the WRAP staff, the Contractor may make changes to the packages before forwarding to the individual S/L/T agencies under Task 2.

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<sup>1</sup> <http://wrapair.org/forums/ssjf/documents/eiccts/projections.html>

Task 2: Input from S/L/T Agencies. The Contractor will e-mail each S/L/T agency package (from Task 1) to the appropriate S/L/T agency contacts, along with other questions to which each agency will need to respond in order to identify other potential changes to make to their inventory, such as::

- “Are there any post-2004 on-the-books controls (through December 2006) that should be taken into account when doing a 2018 revision?”
- “Which of these existing point sources projected to continue operation into 2018 are allowed a choice of fuels by their current permit (natural gas, fuel oil, et cetera) in their routine operations, and which fuel and annual emissions should be included in the 2018 preliminary reasonable progress emissions inventory?”
- For Arizona, and possibly Clark County, NV: “Confirm the data set for updating population-based growth factors for 2018.” It is assumed that no other demographic data will be used to update growth factors in the WRAP region.
- “For the SO<sub>2</sub> facility-level changes (excluding the oil and gas sector<sup>2</sup>), what are the SCCs affected?”

The Contractor will distribute the packages and any questions via e-mail to each S/L/T agency, will request that each agency reply in writing with responses to the questions within a 2 week period, and will suggest days/times for a conference call to discuss each agency’s response.

Prior to the conference calls, the Contractor will obtain and review the following information as a basis for interpreting any comments or questions by the agencies related to the 2018 projections for new electric generating units (EGUs):

- The latest Department of Energy, Energy Information Administration (DOE/EIA) electricity generation projections;
- The latest Department of Commerce, Census Bureau projections for year 2018;
- Input from the WRAP Stationary Sources Joint Forum (SSJF) pertaining to changes in the 2018 version 1 inventory related to the allocation (number), location (state/county), or emission rates of future/new EGUs expected to be operational by 2018. For example, based on the recent mandate in the State of Idaho, no coal-fired EGUs will be built there, so this will need to be changed in the 2018 base case.

Task 3: Revised WRAP 2018 Point and Area Source Emissions Inventory. The Contractor will revise the WRAP 2018 point and area sources emissions projections based on S/L/T agency and WRAP staff input, and update 2018 pivot tables. The Contractor will distribute the updated pivot tables to WRAP and S/L/T agencies, along with a technical memorandum that explains the methodology, data used, assumptions applied, and the results. Based on comments received, the Contractor will finalize the revised WRAP 2018 point and area sources emissions projections, and submit a final memo and set of pivot tables.

Task 4: Revised WRAP 2018 NIF and SMOKE/IDA Files. Using the revised WRAP 2018 point and area sources emissions inventory developed in Tasks 1 through 3, above, the Contractor will generate a set of revised 2018 NIF and IDA files and submit these to the WRAP and the RMC.

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<sup>2</sup> [http://wrapair.org/forums/ssjf/documents/eiccts/Projections/Report-WRAP\\_SO2-oct11\\_Final.pdf](http://wrapair.org/forums/ssjf/documents/eiccts/Projections/Report-WRAP_SO2-oct11_Final.pdf)

Task 5: Technical Memorandum and September 2007 Workshop Preparation and Presentation.  
 The Contractor will prepare a memorandum describing “Lessons Learned” about forecasting WRAP region point and area source emissions inventories for the regional haze planning process. The Contractor will prepare slides based on this memorandum, and make a presentation at a WRAP workshop to be held no later than September 30, 2007.

**SCHEDULE**

<b>Task/Activity</b>	<b>Completion Date (2007)</b>
Finalize contract modification	February 1
Task 1: Complete summary tables	February 16
Task 2: Prepare state-specific questionnaires and submit summary tables and questionnaires to S/L/T agencies	February 23
Task 2: Conduct conference calls with S/L/T agencies	Weeks of March 5 and March 12, no later than March 16
Task 2: Receive final changes from S/L/T agencies and WRAP	2 weeks after each agency conference, and no later than March 30
Task 3: Complete revised projections and submit draft technical memorandum	April 6
Task 3: Receive comments on draft technical memorandum	April 13
Task 4: Submit revised NIF and SMOKE/IDA files	April 20
Task 3: Submit final memorandum and pivot tables	April 30
Task 5: Submit draft memorandum	July 16
Task 5: Submit final memorandum	August 16
Task 5. Deliver presentation at workshop.	No later than September 30

**BUDGET**

The budget for this project is \$75,000 based on the following task breakdown:

- Task 1: \$11,240
- Task 2: \$16,100
- Task 3: \$31,800
- Task 4: \$4,280
- Task 5: \$11,580

The following assumptions were used as a basis for the cost estimate:

- The data sources/issues to be analyzed and quantified by the Contractor for purposes of updating the WRAP 2018 emissions inventory under this project are limited to those contained in this SOW and Attachment 1. Any additional data sources/issues that are discovered during the course of this project, or any analysis needed to quantify the emission impacts from these currently unknown data/issues may not be able to be addressed within the timeframe and budget allotted for Tasks 1 through 4.

- The changes to the California 2018 point and area sources emissions inventory will be provided in the form of percentage changes by (CA) emission inventory code (EIC) or SCC relative to the WRAP emissions inventory used in the Base18b modeling. The contractor will not reformat, recompile, or recalculate any data pertaining to California other than applying the percent changes to the previous Base18b inventory to obtain the revised 2018 inventory for California.
- The revised 2018 oil and gas inventory to be provided by ENVIRON for the WRAP Stationary Sources Joint Forum<sup>3</sup> will be provided at the state, county and SCC level for both point and area sources, related to production and distribution, but not refining. All Oil and Gas point and area source emissions for production and distribution activities in the 2018 Base Case Version 1 emissions inventory will be removed from this project, in consultation with WRAP and ENVIRON staff.
- Other direct charges include:
  - Telephone charges (i.e., for 15 conference calls lasting 1 hour each, using a toll free line paid for by the Contractor).
  - Travel by Contractor Project Manager to two meetings in a WRAP state, one during the development portion of the project, and the second for a planned September 2007 workshop.

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<sup>3</sup> [http://wrapair.org/forums/ssjf/documents/eictts/OilGas/ENVIRON\\_Work\\_Plan.pdf](http://wrapair.org/forums/ssjf/documents/eictts/OilGas/ENVIRON_Work_Plan.pdf)

## Attachment 1

### Data Sources and Issues to Address During WRAP 2018 Point and Area Sources Emissions Inventory Revision

- 1.0 Errata from “WRAP Point and Area Source Emissions Projections for the 2018 Base Case Inventory, Version 1” (ERG – January 2006)<sup>4</sup>:
  - a. Revised WY point source inventory
  - b. Addition of point source emissions for Yakama Forest Products (Confederated Tribes of the Yakama Nation)
  - c. Missing annual emissions for 3 post-2002 compressor stations in ND
  - d. Missing annual emissions for 1 post-2002 compressor station in Arapahoe Tribe of the Wind River Reservation
  - e. VOC reductions for 2 wood products facilities in OR
  - f. Missing FIPS for 4 post-2002 facilities in WY
  - g. Missing FIPS for 2 post-2002 facilities in WA
  - h. Potentially overestimated construction/wind erosion PM10 in OR and WA
  - i. Retirement/replacement lookup error for TASCOPaul facility in ID
  - j. Other source-specific changes<sup>5</sup>
- 2.0 Issues from “2018 SO<sub>2</sub> Emissions Evaluation for Non-Utility Sources” (Pechan – October 2006) – (only applies to facilities in AZ, NM, OR, UT, and WY):
  - a. Revised SO<sub>2</sub> emissions for copper smelters (based on estimated permitted allowable emissions)
  - b. Revised SO<sub>2</sub> emissions for petroleum refineries (FCCUs, new refinery, fuel combustion process growth)
  - c. Revised SO<sub>2</sub> emissions for pulp and paper facilities (declining forecast of pulpwood receipts)
  - d. Revised SO<sub>2</sub> emissions for chemical manufacturing facility (declining forecast of phosphate rock production used for phosphate fertilizer production)
  - e. Revised SO<sub>2</sub> emissions for cement and lime manufacturing facilities
- 3.0 Post-2004 “on-the-books controls” as provided by the S/L/T agencies for 2004 through 2006.
- 4.0 Errors in area source fuel combustion emissions in ND and MT.
- 5.0 Mandate in ID for no future coal-fired power plants.
- 6.0 California changes (percentage by EIC or SCC) to be provided by the ARB

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<sup>4</sup> Some of these changes may have already been addressed within the Base18b emissions inventory, which are addressed under Task 1. Also, some of these changes related to oil and gas sources will be addressed by ENVIRON, and are not included in this project.

<sup>5</sup> Note that the Contractor may not be able to address all changes suggested by an agency within the scope of this project. See the assumptions described under the budget section of this SOW.

- 7.0 Errors in some EGU facility and unit IDs (e.g., inconsistent facility/unit IDs on some records for the same facility/unit) need to be corrected.
- 8.0 Null values in SCC field in existing pivot tables need to be corrected by asking S/L/T agency to provide the correct SCC values.