Section 2: Emissions Inventory

2.1 Overview

Section 110(a)(2)(B) of the CAAA and the Consolidated Emissions Reporting Rule (67 FR 39602, June 10, 2002) requires that emissions inventories (EI) be prepared for ozone nonattainment areas. Because ozone is photochemically produced in the atmosphere when volatile organic compounds (VOC) and nitrogen oxides (NOx) mix in the presence of sunlight, information on sources of these precursor pollutants must be compiled. The EI identifies the types of emission sources present in an area, the amount of each pollutant emitted, and the types of processes and control devices employed at each plant or source category. The EI provides data for a variety of air quality planning tasks, including establishing baseline emission levels, calculating emission reduction targets, developing control strategy for achieving the required emission reductions, emissions inputs into air quality simulation models, and tracking actual emission reduction against the established emissions growth and control budgets. The total anthropogenic inventory of emissions of VOC and NOx for an area is summarized from the estimates developed for four general categories of emissions sources: point, non-point, on-road mobile, and non-road mobile.

2.2 Point Sources

The State of Louisiana compiles a statewide EI for point sources on an annual basis. The reporting requirements for the nonattainment area are in accordance with those of the CAAA of 1990. Emissions data provided by the facilities are estimates of actual emissions for the facility during the previous calendar year. Estimation methodologies are required to follow state and federal guidelines utilizing AP-42 or other approved methods. Actual testing or measurement data may be substituted as available.

For the purposes of EI, point sources are defined as stationary commercial or industrial operations that emit 100 tons or more per year of VOC or NOx. Each facility meeting the emissions criteria submitted complete EI reports which contain site-specific data in conformance with EPA guidance for ozone maintenance areas. A list of point sources located in St. Mary Parish is included in Appendix A.

2.3 Non-point Sources

Non-point sources, also known as area sources, are the many small, individually unidentified points of air pollution emissions within a specified geographical area. Typically these sources are too

numerous or too small to be addressed individually and include, but are not limited to, activities such as dry cleaning, bakeries, graphic arts, auto refinishing, and consumer product usage. Emission factors used to estimate emissions are developed and applied for the aggregate source categories.

The data used for this section was provided by E.H. Pechan & Associates, Inc. through the Central Regional Air Planning Association (CENRAP). The methodology for the stationary non-point source section can be found in Section C, page 26, of the *Consolidation of Emissions Inventories (Schedule 9; Work Item 3)* of Appendix D at **http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2542**

2.4 On-road Mobile Sources

On-road mobile vehicles are those light and heavy duty gasoline and diesel automobiles and trucks that travel primarily on public highways. On-road mobile emissions of VOC and NOx were estimated using EPA's MOBILE6.2 motor vehicle emissions factor model. Data and projections are based on Highway Performance Monitoring System (HPMS) data from the annual US Highway Statistics Report Section V. The emission estimates assume the summertime use of federally required low Reid Vapor Pressure gasoline in St. Mary Parish. (See Appendix B)

2.5 Non-road Mobile Sources

Non-road mobile sources are often included as non-point sources because of the number and size of sources. Non-road mobile sources include, but are not limited to, railroad locomotives, aircraft, commercial marine vessels, farm equipment, recreational boating, and lawn equipment.

Non-road mobile emissions data was derived from the "Emission Inventory Development for Mobile Sources and Agricultural Dust Sources for the Central States" produced by Sonoma Technology, Inc. for CENRAP in October 2004[1]. The inventory was developed using NONROAD 2004, which is EPA's most current emissions factor model for most non-road mobile sources. For other source categories, NONROAD default activity data were used in conjunction with region specific fuels information to estimate emissions. In addition, EPA guidance documents were consulted for emissions estimation methods for locomotives and commercial marine vessels.

[1] http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2542