

## **Section 2: Emissions Inventory**

### **2.1 Overview**

Section 110(a)(2)(B) of the CAAA requires that emissions inventories (EIs) be prepared for ozone nonattainment areas. Because ozone is photochemically produced in the atmosphere when Volatile Organic Compounds (VOC) and Oxides of Nitrogen (NO<sub>x</sub>) are in the presence of sunlight, information on these precursor pollutants must be compiled. The EI identifies the sources of pollutant emissions 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, calculation of reduction targets, control strategy development for achieving the required emission reductions, emission 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, NO<sub>x</sub> and other pollutants for an area is summarized from the estimates developed for four general categories of emissions sources: point, area, on-road mobile, and non-road mobile.

### **2.2 Point Sources**

For the purposes of emissions inventory, point sources are defined as stationary commercial or industrial operations that emit 100 tons or more per year of VOC or NO<sub>x</sub>. The point source inventory consists of actual emissions for the base year 2002. Each facility meeting the emissions criteria submitted complete EI reports which contain site-specific data in conformance with EPA guidance for ozone maintenance areas.

### **2.3 Area Sources**

Area sources of emissions are sources that emit less than 100 tons per year of VOC or NO<sub>x</sub> and that are generally too numerous or too small to identify individually. Area sources are commercial, small-scale industrial and residential categories that use material or operate processes generating emissions. Area sources are divided into two groups characterized by the emission mechanism: hydrocarbon evaporative emission or fuel combustion emissions. Examples of hydrocarbon evaporative emission sources include: printing operations, industrial coatings, degreasing solvents, house paints, leaking

underground storage tanks, and gasoline service station underground tank filling, and vehicle refilling operations. Fuel combustion emission sources include stationary source fossil fuel combustion at residences and businesses, outdoor burning, structural fires, and wildfires.

#### **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 NO<sub>x</sub> 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 Grant Parish. (See Appendix B)

#### **2.5 Non-road Mobile Sources**

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 The Central States Air Resource Agencies in October 2004. According to the report, the latest version of the NON-ROAD emissions model (NON-ROAD 2004) was used to produce emissions estimates at the county [parish] level for most off-road sources. In addition, EPA guidance documents were consulted for emissions estimation methods for locomotives and commercial marine vessels. Bottom-up activity data were gathered for recreational boats, locomotives, and commercial marine vessels. For other source categories, NON-ROAD default activity data were used in conjunction with region specific fuels information to estimate emissions.