

Table 2-2: Industrial, Area /with Nonroad, and Mobile Source Growth

Category (TPD)	1990	1999	2002	2005	Growth 99-02	Growth 02-05
NOx						
Stationary Point	184.0	181.8	194.2	200.9	12.4	6.7
Area /with Nonroad	26.8	27.1	27.6	27.9	0.5	0.3
Mobile	60.5	48.4	45.3	30.9	-3.1	-14.4
VOC						
Stationary Point	128.4	129.6	137.4	141.7	7.9	4.3
Area /with Nonroad	40.7	41.2	42.2	43.5	1.0	1.3
Mobile	78.2	30.7	26.5	18.8	-4.1	-7.7

For NOx for the 1999 to 2002 period (**Appendix A – Figure 1**), the required reductions are equal to the 6 percent ROP of 15.0 TPD plus the 1999-2002 Fleet Turnover Correction Factor of 4.2 TPD and the growth offset of 9.8 TPD. The 1999 to 2002 Required Reductions are 29.0 TPD. For the 2002 to 2005 period (**Appendix A – Figure 2**), the required reductions are equal to the 6 percent ROP of 14.8 TPD plus the 2002-2005 Fleet Turnover Correction Factor of 3.3 TPD and the growth offset of negative 6.8 TPD. The 2002 to 2005 Required Reductions are 11.3 TPD.

For VOC for the 1999 to 2002 period (**Appendix A – Figure 3**), the required reductions are equal to the 3 percent ROP of 6.0 TPD plus the 1999-2002 Fleet Turnover Correction Factor of 4.9 TPD and the growth offset of 4.8 TPD. The 1999 to 2002 Required Reductions are 15.7 TPD. For the 2002 to 2005 period (**Appendix A – Figure 4**), the required reductions are equal to the 3 percent ROP of 5.9 TPD plus the 2002-2005 Fleet Turnover Correction Factor of 3.5 TPD and the growth offset of negative 2.2 TPD. The 2002 to 2005 Required Reductions are 7.2 TPD.

Section 3: Emission Reductions to Comply with ROP

In Section 2 the target levels for 2002 and 2005 were determined. The target level represents the maximum amount of emissions that a nonattainment area can emit for a target year while complying with the ROP plan. The following table shows the target levels for NOx and VOC from Section 2.

Table 3-1: Target Levels

Target Levels, TPD	NOx	VOC
2002	234.8	144.5
2005	216.7	129.0

The following table compares the 2005 target levels for NOx and VOC to the emission projections from the urban airshed modeling for 2005 (**Attachment G**). The emission projections are on a typical weekday basis during the ozone season except for the Area with/Nonroad category. The emissions from this category were estimated using the EPA Draft NONROAD 2002a Model in order to be on the same basis as the 1990 Base Year Inventory.

Table 3-2: Comparison of 2005 Target Levels to Emission Projections

	NO _x , TPD	VOC, TPD
2005 Target Level	216.70	129.00
2005 Emission Projection	206.15	113.88
Surplus Reductions	10.55	15.12

As can be seen there is a total surplus of reductions of 25.67 TPD and the ROP is satisfied.

In the urban airshed modeling for 2005, the required reductions for attainment were achieved through a combination of federal rules and state regulations. The procedures and factors used to project the 2005 emissions are described below.

1. NO_x Controls

LDEQ promulgated a NO_x control rule (LAC 33:III, Chapter22) that establishes requirements for reducing NO_x emissions during the ozone season in the Baton Rouge nonattainment area as well as four parishes to the north of Baton Rouge. Affected facilities include those with one or more sources that collectively emit or have the potential to emit fifty tons per year or more of NO_x.

The rule establishes emission factors for boilers, heaters, furnaces, turbines and internal combustion engines. Further, the rule establishes requirements for permits, compliance demonstration, recordkeeping and reporting. Facilities must have controls operational by May 1, 2005.

The rule establishes the following emission limits:

- Electric Power Generating System Boilers
 Coal-fired0.21 lb/MMBtu
 Number 6 Fuel Oil-fired0.18 lb/MMBtu
 All Others (gaseous or liquid)..... 0.10 lb/MMBtu
- Industrial Boilers0.10 lb/MMBtu
- Process Heaters/Furnaces
 Ammonia Reformers0.23 lb/MMBtu
 All Others0.08 lb/MMBtu
- Stationary Gas Turbines
 Peaking Service, Fuel Oil-fired0.30 lb/MMBtu
 Peaking Service, Gas-fired0.20 lb/MMBtu
 All Others0.16 lb/MMBtu
- Stationary Internal Combustion Engines
 Lean-burn 4 g/HP-hour
 Rich-burn 2 g/HP-hour

Additionally, to address the severe area requirements, LDEQ has promulgated a revision to Chapter 22 (29LR1674) that establishes requirements for smaller NO_x sources - equal to or

greater than twenty-five tons per year and less than fifty tons per year. All other provisions of Chapter 22 remain the same.

The rule proposes the following emission limits:

- Electric Power Generating System Boilers
 - Coal-fired0.50 lb/MMBtu
 - Number 6 Fuel Oil-fired 0.30 lb/MMBtu
 - All Others (gaseous or liquid)0.20 lb/MMBtu
- Industrial Boilers.....0.20 lb/MMBtu
- Process Heaters/Furnaces
 - Ammonia Reformers0.30 lb/MMBtu
 - All Others0.18 lb/MMBtu
- Stationary Gas Turbines
 - Peaking Service, Fuel Oil-fired0.37 lb/MMBtu
 - Peaking Service, Gas-fired.....0.27 lb/MMBtu
 - All Others0.24 lb/MMBtu
- Stationary Internal Combustion Engines
 - Lean-burn 10 g/HP-hour
 - Rich-burn..... 2 g/HP-hour

LDEQ estimates that 8 additional facilities will be affected by the proposal.

2. VOC Controls

To address severe area requirements, LDEQ has promulgated revisions to LAC 33:III, Chapter 21 (29LR1677) that establishes requirements for smaller VOC sources - equal to or greater than twenty-five tons per year and less than fifty tons per year.

The following sections of Chapter 21 are affected by the proposal:

- 2104 – Crude Oil and Condensate
- 2108 – Marine Recovery
- 2115 – Waste Gas Disposal
- 2123 – Organic Solvents
- 2125 – Vapor Degreasers
- 2143 – Graphic Arts
- 2147 – Limiting VOC Emissions from SOCMi Reactor Processes and Distillation Operations
- 2149 – Limiting VOC Emissions from Batch Processing
- 2151 – Limiting VOC Emissions from Cleanup Solvent Processing
- 2153 – Limiting VOC Emissions from Industrial Wastewater

LDEQ estimates that 16 facilities will be affected by the proposed revision.

3. Mobile Source Controls

Mobile source controls that will reduce NOx and VOC emissions in 2005 in the Baton Rouge nonattainment area include a vehicle inspection and maintenance (I/M) program and federal motor vehicle control programs (FMVCP). All mobile source control programs have

been modeled with EPA's current version of its onroad emissions model, MOBILE6. Below is a brief summary of these mobile source control programs.

a. Vehicle I/M Program – LDEQ has promulgated a revision to the low enhanced vehicle I/M program for the Baton Rouge nonattainment area. LDEQ received full approval from EPA for its low enhanced I/M program (Final Rule, 67 FR 60594). The program includes gas cap testing and visual anti-tampering checks on 1980 and newer gasoline-fueled cars and trucks weighing less than 10,000 lbs (gross vehicle weight rating). On-board diagnostic (OBD) testing is conducted on 1996 and newer vehicles. Annual emission testing is conducted using a decentralized network of certified motor vehicle inspection stations.

b. National Low Emission Vehicle (NLEV) Credits – Final EPA rulemaking for the NLEV program was published in the Federal Register on March 9, 1998 (63 FR 11374). For vehicle model years 2001-2003, the NLEV program reduces tailpipe emissions from passenger cars and light-duty trucks up to 6,000 pounds gross vehicle weight. NLEV phase-in credits are estimated directly using MOBILE6 and are accounted for in the fleet emission factor outputs.

c. Tier 2/Low Sulfur Gasoline Program Credits – The final rule on Tier 2 motor vehicle emissions standards and sulfur control requirements for passenger cars, light trucks, and medium-duty cars including SUVs and minivans rated between 8,500 and 10,000 pounds, was published on February 10, 2000 (65 FR 6698). As with the NLEV program, MOBILE6 is configured for estimation of credits derived from the Tier 2 program beginning with calendar year 2004 and later.

4. Nonroad Source Controls

Nonroad source controls that will reduce NO_x and VOC emissions in 2005 in the Baton Rouge nonattainment area include four federal off-road measures. These measures affect diesel engines, recreational and commercial marine vessels, and locomotives. Following is a summary of these federal measures:

a. Nonroad Diesel Engines - The final rule on control of emissions from nonroad diesel engines was published on October 23, 1998 (63 FR 205). The rule was established to reduce emissions from nonroad diesel engines and equipment by establishing stringent new emissions standards and requirements to ensure that engines maintain their level of emission performance as they age, to provide compliance flexibility to engine and equipment manufacturers, and to establish a voluntary program to encourage the introduction of low-emitting engines.

b. Marine Spark-Ignition Engines – The final rule for control of emissions from new, gasoline, spark-ignition marine engines was published on October 4, 1996 (61 FR 194). The rule established, beginning in 1998, more stringent standards for manufacture of engines used in outboards, personal watercraft, and jet boats.

c. Marine Compression-Ignition Engines - The final rule for control of emissions from new, compression-ignition, marine diesel engines, equal to or greater than 37 kilowatts, was published on December 29, 1999 (64 FR 249). The rule sets emission standards for engines and takes effect between 2004 and 2007, depending on engine size.

d. Locomotives and Locomotive Engines - The final rule for control of emissions from locomotives and locomotive engines was published on April 16, 1998 (63 FR 73). The rule sets emission standards for engines and includes a variety of compliance and enforcement provisions and regulations concerning the preemption of certain state and local controls for locomotives.