SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Annual RECLAIM Audit Report for the 2003 Compliance Year

March 4, 2005

Executive Officer
Barry R. Wallerstein, D.Env.

Deputy Executive Officer
Engineering & Compliance
Carol Coy

Assistant Deputy Executive Officer
Engineering & Compliance
Mohsen Nazemi, P.E.

Senior Manager
RECLAIM Administration
Pang Mueller, P.E.

Authors: Danny Luong, P.E., A. Q. Analysis and Compliance Supervisor
Emily Chau, Air Quality Engineer II
Fortune Chen, Air Quality Engineer II
Tom Lee, Air Quality Engineer II
Don Nguyen, Air Quality Engineer II
Susan Tsai, Air Quality Engineer II
Cathy Ragland, Air Quality Inspector III

Contributors: Mark Bassett, Air Quality Specialist
Mark Coleman, Air Quality Specialist
Vicky White, Air Quality Specialist

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

GOVERNING BOARD

Chairman: WILLIAM A. BURKE, Ed.D.
Speaker of the Assembly Appointee

Vice Chairman: S. ROY WILSON, Ed.D.
Supervisor, Fourth District
Riverside County Representative

Members:

MICHAEL D. ANTONOVICH
Supervisor, Fifth District
Los Angeles County Representative

JANE W. CARNEY
Senate Rules Committee Appointee

BEATRICE J. S. LaPISTO-KIRTLEY
Mayor, City of Bradbury
Cities Representative, Los Angeles County/Eastern Region

RONALD O. LOVERIDGE
Mayor, City of Riverside
Cities Representative, Riverside County

GARY OVITT
Supervisor, Fourth District
San Bernardino County Representative

JAN PERRY
Councilmember, City of Los Angeles
Cities Representative, Los Angeles County/Western Region

MIGUEL A. PULIDO
Mayor, City of Santa Ana
Cities Representative, Orange County

JAMES W. SILVA.
Supervisor, County of Orange
Orange County Representative

CYNTHIA VERDUGO-PERALTA
Governor's Appointee

DENNIS YATES
Mayor, City of Chino
Cities Representative, San Bernardino County

EXECUTIVE OFFICER

BARRY R. WALLERSTEIN, D. Env.

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Introduction

The South Coast Air Quality Management District (AQMD) Governing Board adopted the Regional Clean Air Incentives Market (RECLAIM) program on October 15, 1993. The RECLAIM program represents a significant departure from traditional command-and-control regulations. RECLAIM's objective is to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. This is accomplished by establishing facility-specific emissions reduction targets without being prescriptive regarding the method of attaining compliance with the targets; each facility may determine for itself the most cost-effective approach to reducing emissions, including purchasing emission credits from facilities that reduce emissions below their target levels.

Rule 2015 - Backstop Provisions, includes provisions for annual program audits focusing on specific topics, as well as a more comprehensive three-year audit to ensure that RECLAIM is meeting all state and federal requirements and other performance criteria. This document constitutes the Rule 2015 annual audit for the 2003 compliance year (January 2003 through June 2004). A program review of the RECLAIM Reserve is also included pursuant to Rule 2020 – RECLAIM Reserve.

Chapter 1: RECLAIM Universe

When RECLAIM was adopted in October 1993, 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. Between program adoption and June 30, 2003, 99 facilities were included into the program, 67 were excluded from the program, and 94 facilities ceased operation. Thus, the RECLAIM universe consisted of 332 facilities on July 1, 2003. During Compliance Year 2003, five facilities were included into the RECLAIM universe, and 13 facilities shut down or were reported out of business. These changes resulted in a net decrease of eight facilities in the universe, bringing the total number of facilities to 324 at the end of Compliance Year 2003. With the exception of one shutdown facility that participated in both the NOx and SOx markets, all of these changes occurred within the NOx universe.

Chapter 2: RTC Allocations and Trading

The primary source of RTCs available for trading is the aggregate of all allocations issued to RECLAIM facilities. These RECLAIM allocations incorporated emission reduction requirements in AQMD rules and the control measures and projections specified in the Air Quality Management Plan (AQMP). RTCs can also be converted from credits generated under other AQMD rules – Mobile Source Emission Reduction Credits (MSERCs) and Area Source Credits (ASCs). During Calendar Year 2004, NOx RTC supplies in the program decreased by 1.1 tons for Compliance Year 2003 and increased 0.7 tons for Compliance Year 2004 and all years after. There was a decrease of 2.3 tons in SOx RTCs supply for Compliance Year 2003. Otherwise, SOx RTC supply remained the same for future years.

In accordance with the 2003 Air Quality Management Plan (AQMP) and the Best Available Retrofit Control Technology (BARCT) requirements under state law, the AQMD Governing Board adopted in January 2005 several rule amendments to the RECLAIM program. Among other amendments, the changes, when fully implemented, will result in cumulative reductions of 7.7 tons NOx per day, or more than 20 percent reduction, by Compliance Year 2011.

The Calendar Year 2004 trading market continues to be active with 772 registered RTC transactions. This is slightly less than the number of trades received during Calendar Year 2003. RTCs valued at a total of $21.2 million were traded during Calendar Year 2004. Since the inception of the RECLAIM program in 1994, over $720 million were traded in the RTC trading market.

NOx RTC prices were stable during 2004. NOx RTCs were traded under $1.00 per pound toward the end of the reconciliation period for each of the two cycles in the 2003 Compliance Year. In Calendar Year 2004, annual average prices for Compliance Year 2003 and 2004 SOx RTCs also declined compared to prices in Calendar Year 2003. All Annual average prices for NOx or SOx RTCs were under the $15,000 per ton level set under Rule 2015.

Chapter 3: Emissions Reductions

Aggregate NOx and SOx emissions from RECLAIM facilities continued to decrease from the inception of RECLAIM through Compliance Year 2003. Compliance Year 2003 aggregate NOx emissions from all RECLAIM facilities were below allocations by approximately 20 percent and aggregate SOx emissions were under allocations by slightly more than 10 percent.

In response to the energy crisis' effects on the RECLAIM NOx market, the AQMD Governing Board adopted rule amendments in May 2001 to stabilize RTC prices. The amendments included provisions to curtail RTC demand as well as increasing RTC supply. The Governing Board also adopted Rule 2020 – RECLAIM Reserve, which established the RECLAIM Air Quality Investment Program (AQIP), the Emissions Mitigation Fee Program, and the State Emission Reduction Credit Bank. These three programs were set up to provide eligible facilities with emission reduction credits. In Compliance Year 2003, no facility requested emission reduction from any of these three programs. A detailed review of these programs is presented in this Chapter pursuant to Rule 2020(k) – Program Review.

Chapter 4: New Source Review Activity

The annual program audit assesses New Source Review (NSR) activity from RECLAIM facilities in order to ensure that RECLAIM is complying with the federal and state NSR requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2003, five facilities joined the NOx program, while no facility joined the SOx program. Thirty-one RECLAIM facilities had NSR NOx emission increases due to expansion or modification in Calendar Year 2003. Three of these existing facilities also had NSR SOx emission increases. These data indicate that the RECLAIM program does not inhibit expansion and/or modification of sources at RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements for a 1.2-to-1 offset ratio for NOx and SOx emission increases on a programmatic basis. In Calendar Year 2003, RECLAIM provided an offset ratio of 775-to-1 for NOx and 1,342-to-1 for SOx on an aggregate basis, demonstrating federal equivalency. Compliance with the federally required offset ratio also demonstrates compliance with the state requirement of no net emissions increases from new or modified sources. In addition, RECLAIM requires application of Best Available Control Technologies for all new or modified sources with emission increases.

Chapter 5: Compliance

During Compliance Year 2003, 337 RECLAIM facilities were in the RECLAIM program. Of these, 327 facilities (97 percent) complied with their NOx Allocations and all 36 SOx facilities complied with their SOx Allocations. Preliminary results of the Compliance Year 2003 audits revealed that the overall RECLAIM NOx and SOx emission goals were met for this compliance year. However, not all facilities were determined to have complied with their individual allocations. NOx emissions in excess of individual facility NOx allocations totaled only 8 tons. The main reasons for allocation exceedances in Compliance Year 2003 were failure to purchase sufficient RTCs to reconcile with quarterly emissions, emission calculation errors, invalidation of Rule 1631 credits, and failure to follow missing data procedures.

Chapter 6: Job Impacts

RECLAIM facilities reported an overall net gain of 486 jobs during Compliance Year 2003. One facility claimed the RECLAIM program caused the loss of 10 jobs. Three other facilities reported a total of six jobs gained due to RECLAIM. Thirteen RECLAIM facilities shut down or were reported out of business during Compliance Year 2003. Only one of these facilities attributed the closing, in part, to RECLAIM.

Chapter 7: Air Quality and Public Health Impacts

The emissions reported by RECLAIM facilities from 1989 through 2003 are found to be in an overall downward trend. Quarterly NOx emissions remained relatively constant throughout Calendar Year 2003, hovering around ±5 percent of the mean NOx emissions. Quarterly SOx emissions ranged from approximately 8 percent below to 13 percent above the mean SOx emissions. Furthermore, analysis of the geographical distribution of emissions during the first ten years of the program on a quarterly basis does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act requires a 50 percent reduction in population exposure to ozone by December 31, 2000. Analysis of per capita exposure (the length of time each person is exposed) to ozone in 1998 and 2000 shows that the Basin achieved the December 2000 target for ozone well before the deadline. In fact, Los Angeles County, Orange County, and the South Coast Air Basin overall achieved attainment with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved attainment in 1996.

Air toxic health risk is primarily caused by emissions of VOCs and metals, rather than NOx or SOx emissions. Additionally, RECLAIM facilities are subject to the

same air toxic regulations as other sources in the Basin. Therefore, it can be concluded that there is no toxic impact due to the implementation of the RECLAIM program beyond what would have occurred pursuant to the rules and control measures RECLAIM subsumed.

INTRODUCTION

The South Coast Air Quality Management District's Regional Clean Air Incentives Market program (RECLAIM) was adopted in October 1993 and replaces certain command-and-control regulations with a new market incentives program for facilities that meet the inclusion criteria. The goal of RECLAIM is to provide facilities with added flexibility in meeting emissions reduction requirements and to lower the cost of compliance. The RECLAIM program was designed to meet all state and federal requirements for clean air programs, as well as other performance criteria such as equivalent air quality improvement, equivalent enforcement, lower implementation costs, lower job impacts, and no adverse public health impacts.

Since RECLAIM represents a significant change from traditional command-and-control regulations, the RECLAIM rules include provisions for program audits in order to verify that the RECLAIM objectives are being met. The rules provide for both annual audits and a more comprehensive audit of the first three years of program implementation. The audit results are used to help determine whether any program modifications are appropriate.

The RECLAIM Program Three-Year Audit and Progress Report was presented to the Governing Board May 8, 1998. This report presents the annual audit and progress report of RECLAIM's tenth compliance year (January 1, 2003 through June 30, 2004), also known as the 2003 compliance year. As required by Rule 2015(b)(1), this audit assesses:

- Emission reductions;
- Per capita exposure to air pollution;
- Facilities permanently ceasing operation of all sources;
- Job impacts;
- Average annual price of each type of RTC;
- Availability of RTCs;
- Toxic risk reductions;
- New Source Review permitting activity;
- Compliance issues;
- Emission trends/seasonal fluctuations; and
- Emission control requirement impacts on stationary sources in the program compared to other stationary sources identified in the AQMP.

The Annual Audit is organized into the following chapters:

1. RECLAIM Universe
   This chapter discusses changes in the universe of RECLAIM sources that occurred during the 2003 compliance year.
2. RTC Allocations and Trading
   This chapter summarizes changes in emissions allocations in the

RECLAIM universe, RTC trading activity, and the average annual price, availability, and supply of RTCs.

3. Emissions Reductions
   This chapter assesses emissions trends and reductions for RECLAIM sources and emissions control requirement impacts on these sources compared to other stationary sources. The program review of the RECLAIM Reserve pursuant to Rule 2020(k) is also presented.

4. New Source Review Activity
   This chapter summarizes NSR activity at RECLAIM facilities.

5. Compliance
   This chapter discusses compliance activities and the compliance status of RECLAIM facilities and evaluates the effectiveness of AQMD's compliance program and the NOx and SOx monitoring, reporting, and recordkeeping protocols.

6. Job Impacts
   This chapter addresses job impacts.

7. Air Quality and Public Health Impacts
   This chapter discusses air quality trends in the South Coast Air Basin, seasonal and geographic emission trends for RECLAIM sources, per capita exposure to air pollution, and the toxic impacts of RECLAIM sources.

CHAPTER 1
RECLAIM UNIVERSE

Summary

When RECLAIM was adopted in October 1993, 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. Between program adoption and June 30, 2003, 99 facilities were included into the program, 67 were excluded from the program, and 94 facilities ceased operation. Thus, the RECLAIM universe consisted of 332 facilities on July 1, 2003. During Compliance Year 2003, five facilities were included into the RECLAIM universe, and 13 facilities shut down or were reported out of business. These changes resulted in a net decrease of eight facilities in the universe, bringing the total number of facilities to 324 at the end of Compliance Year 2003. With the exception of one shutdown facility that participated in both the NOx and SOx markets, all of these changes occurred within the NOx universe.

Background

The RECLAIM program replaced the traditional "command-and-control" rules for a defined list of facilities participating in the program (the RECLAIM "universe"). The criteria for inclusion in the RECLAIM program are specified in Rule 2001 – Applicability. Facilities are generally subject to RECLAIM if they have NOx or SOx emissions greater than or equal to four tons in 1990 or any subsequent year, although certain facilities are categorically excluded from RECLAIM. The categorically excluded facilities include restaurants, police and fire fighting facilities, potable water delivery operations, and all facilities located in the Riverside County and Los Angeles County portions of the Mojave Desert Air Basin and the Salton Sea Air Basin. On January 7, 2005, the Governing Board amended Rule 2001 – Applicability and added agricultural facilities to the group of categorically excluded facilities. Furthermore, there are other categories of facilities that are not automatically subject to RECLAIM, but individual facilities in these categories have the option to enter the program at their discretion. These categories include ski resorts, prisons, hospitals, and publicly-owned municipal waste-to-energy facilities. An initial universe of 394 RECLAIM facilities was developed using these criteria based on 1990, 1991 and 1992 facility emissions data.

A facility that is not categorically excluded from the program may voluntarily join RECLAIM, regardless of its emission level. Additionally, a facility may be required to enter the RECLAIM universe if:

- It increases its emissions above the four-ton threshold; or
- It ceases to belong to an exempt category; or
- It is discovered by AQMD staff to meet the applicability requirements of RECLAIM, but was initially misclassified as not subject to RECLAIM.

The facilities in the RECLAIM universe were issued an annually declining allocation of emission credits ("RECLAIM Trading Credits" or "RTCs") that constitutes an annual emissions budget. RTCs may be bought or sold as the facilities deem appropriate.

RECLAIM facilities that permanently go out of business after January 1, 1994 (Cycle 1) or after July 1, 1994 (Cycle 2) are removed from the active emitting RECLAIM universe, but may retain their RTCs and participate in the trading market.

Universe Changes

The RECLAIM rules include several mechanisms to exclude facilities originally included in the universe and to add new facilities to the universe. The overall changes to the RECLAIM universe from the date of adoption through June 30, 2003 were: inclusion of 99 facilities (74 facilities were included and 25 facilities were created by partial change of operator of existing RECLAIM facilities), exclusion of 67 facilities, and 94 facility shutdowns. Thus, the net change in the RECLAIM universe during the first nine compliance years was a decrease from 394 to 332 facilities. During Compliance Year 2003, five facilities opted to join RECLAIM. During the same time period, 13 facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 324 facilities by June 30, 2004.

Table 1-1 summarizes the changes in the RECLAIM universe between the start of program and the end of Compliance Year 2003. The most current list of facilities in the RECLAIM universe as of June 30, 2004 is listed in Appendix A.

Table 1-1
RECLAIM Universe Changes

	NOx Facilities	SOx Facilities	Total Facilities
Start of Program	392	41	394
Inclusions—1994-2002	99	8	99
Exclusions—1994-2002	66	4	67
Shutdowns—1994-2002	93	9	94
End of Compliance Year 2002	332	36	332
Inclusions—2003	5	0	5
Exclusions—2003	0	0	0
Shutdowns—2003	13	1	13
End of Compliance Year 2003	324	35	324

Facility Inclusions and Exclusions

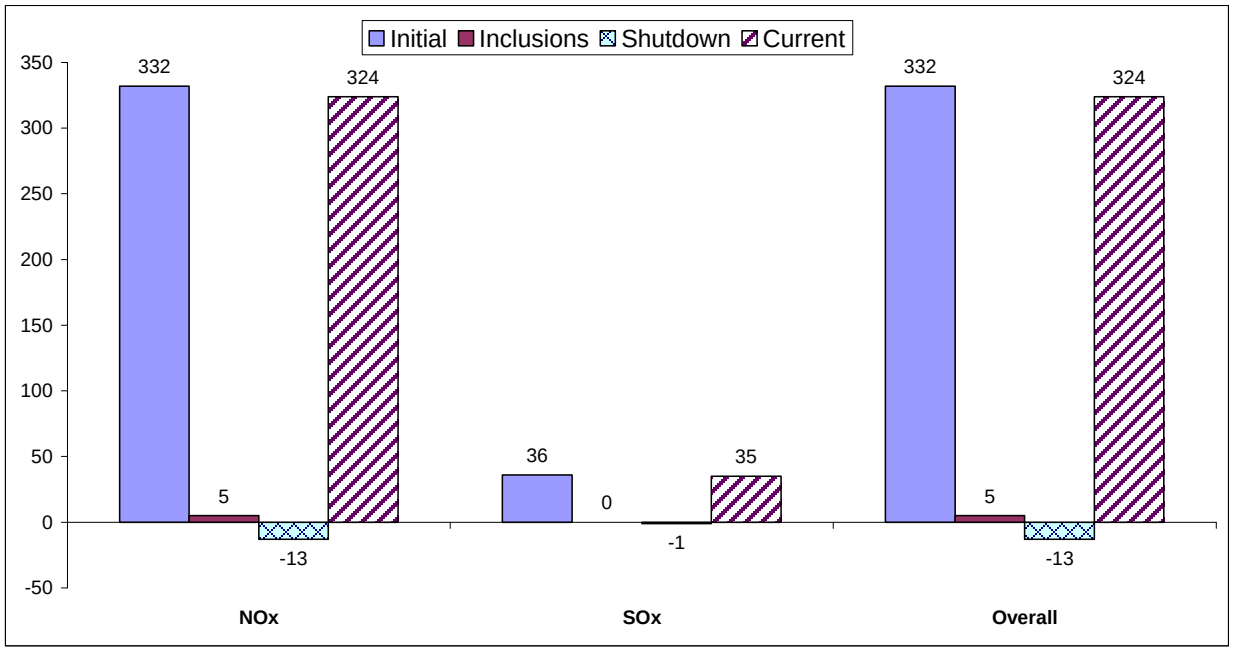
During Compliance Year 2003, five facilities opted to join RECLAIM voluntarily. A list of these facilities is shown in Appendix B. No facilities were excluded from RECLAIM during Compliance Year 2003.

Facilities Permanently Ceasing Operations

Thirteen RECLAIM facilities permanently ceased operations between January 1, 2003 and June 30, 2004. Shutdown facilities have the option to retain or sell their RTCs. Of these thirteen facilities, one cited RECLAIM as a contributing factor in their decision to cease operation. Even though this company attributed the closure primarily to increased competition from lower cost imports and high utility costs, it was faced with added cost due to a lawsuit from an environmental group. As a result of the lawsuit, the company was required to purchase additional credits to replace non-SIP approved credits it used in previous years to offset emissions. Appendix C lists the shutdown facilities and brief descriptions of the known reasons for closing down operations.

With the exception of one facility which was both a NOx and SOx facility, all of the facilities which shut down were NOx facilities. These changes resulted in a net decrease of eight facilities in the RECLAIM Universe. Additionally, overall changes to the RECLAIM universe that occurred during Compliance Year 2003 for both NOx and SOx facilities are illustrated in Figure 1-1.

Figure 1-1
Universe Changes during Compliance Year 2003



CHAPTER 2
RTC ALLOCATIONS AND TRADING

Summary

The primary source of RTCs available for trading is the aggregate of all allocations issued to RECLAIM facilities. These RECLAIM allocations incorporated emission reduction requirements in AQMD rules and the control measures and projections specified in the Air Quality Management Plan (AQMP). RTCs can also be converted from credits generated under other AQMD rules – Mobile Source Emission Reduction Credits (MSERCs) and Area Source Credits (ASCs). During Calendar Year 2004, NOx RTC supplies in the program decreased by 1.1 tons for Compliance Year 2003 and increased 0.7 tons for Compliance Year 2004 and all years after. There was a decrease of 2.3 tons in SOx RTCs supply for Compliance Year 2003. Otherwise, SOx RTC supply remained the same for future years.

In accordance with the 2003 Air Quality Management Plan (AQMP) and the Best Available Retrofit Control Technology (BARCT) requirements under state law, the AQMD Governing Board adopted in January 2005 several rule amendments to the RECLAIM program. Among other amendments, the changes, when fully implemented, will result in cumulative reductions of 7.7 tons NOx per day, or more than 20 percent reduction, by Compliance Year 2011.

The Calendar Year 2004 trading market continues to be active with 772 registered RTC transactions. This is slightly less than the number of trades received during Calendar Year 2003. RTCs valued at a total of $21.2 million were traded during Calendar Year 2004. Since the inception of the RECLAIM program in 1994, over $720 million were traded in the RTC trading market.

NOx RTC prices were stable during 2004. NOx RTCs were traded under $1.00 per pound toward the end of the reconciliation period for each of the two cycles in the 2003 Compliance Year. In Calendar Year 2004, annual average prices for Compliance Year 2003 and 2004 SOx RTCs also declined compared to prices in Calendar Year 2003. All Annual average prices for NOx or SOx RTCs were under the $15,000 per ton level set under Rule 2015.

Background

When a facility enters the RECLAIM program, it is issued allocations for each compliance year based on the facility's operational history and the methodology specified in Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). Allocations are issued as RTCs, denominated in pounds of NOx or SOx within a specific year. Each RTC may only be used for emissions occurring within the term of the RTC. The RECLAIM program has two staggered compliance cycles – Cycle 1 for compliance period of January 1 through December 31 of each year and Cycle 2 for compliance period of July 1 of each year through June 30 of the following year. Each RECLAIM facility is assigned to either Cycle 1 or Cycle 2 and issued RTCs with corresponding periods of validity.

The issuance of allocations for future years provides RECLAIM facilities guidance to their future emission reduction requirements. Facilities can plan their compliance strategies by reducing actual emissions or securing required RTCs through trades (or a combination of the two), based on their operational needs.

Through trading, RECLAIM facilities may acquire RTCs issued for either cycle and apply them to emissions, provided that the RTCs are used for emissions occurring within their period of validity and the trades are made during the appropriate time period. After the end of each compliance year, RECLAIM facilities have a 60-day reconciliation period to account for their total annual emissions and to secure adequate RTCs.

In January 2005, the AQMD Governing Board adopted changes to the RECLAIM program. The primary goal of these changes was to implement the AQMP Control Measure #2003 CMB-10 and to achieve BARCT equivalency as required by California Health and Safety Code §40440. The changes will reduce NOx emissions by 7.7 tons per day when fully implemented in 2011. These amendments are described in details later in this chapter as well in pertinent parts in other chapters of this report.

Unlike other chapters in this report where data pertain to Compliance Year 2003, RTC prices discussed in this chapter are for Calendar Year 2004. RTC prices during Calendar Year 2003 were presented in the previous Annual RECLAIM Audit Report submitted to the Governing Board in March 2004.

RTC Allocations and Supply

The methodology for determining RTC Allocations is stated in Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). According to this rule, allocations for facilities may change when there is a change in the universe of RECLAIM facilities, when the reported historical activities are updated, and to compensate for additional emissions at facilities producing re-formulated gasoline. In addition, RTCs can be generated by conversions of emissions reductions from mobile and area sources. Changes in RTC supply due to these reasons during Compliance Year 2003 are discussed below. The aggregate of all RECLAIM facilities' allocations, conversions of emission reduction credits (ERCs) owned by RECLAIM and non-RECLAIM facilities, and conversion of ERCs from mobile sources and area sources, make up the total RTC supply in the program.

Allocations Adjustments Due to Inclusion and Exclusion of Facilities

Allocations for a facility are based on its historical operation and the emission reduction requirements under the command-and-control rules and the AQMP control measures subsumed by RECLAIM. As stated in Chapter 1 – RECLAIM Universe, five facilities opted to join, 13 facilities shut down and therefore removed from the RECLAIM Universe during Compliance Year 2003. Among the five facilities that opted in, four facilities were not issued any allocations since they had no prior operating history. The remaining facility was issued allocations based on its past operations totaling 0.7 tons of NOx RTCs for Compliance Years 2003 and after. There was no change in the supply of RTCs caused by facilities

that shut down as the facilities retain the ownership of the RTCs and are allowed to sell their RTCs.

Allocations Adjustments Due to Clean Fuel Production

Rule 2002(c)(12) – Clean Fuel Adjustment to Starting Allocation, provides refineries with RTCs to compensate for actual emissions directly related to the production of California Air Resources Board Phase II reformulated gasoline. The amount of RTCs eligible is based on actual emissions for the subject compliance year and historical production data. Based on the historical production data submitted under application, qualifying refineries were issued an aggregate baseline of 86.5 tons of NOx and 42.3 tons of SOx for Compliance Year 1999, 101.8 tons of NOx and 41.4 tons of SOx for Compliance Year 2000, and 98.4 tons of NOx and 40.2 tons of SOx for each subsequent Compliance Year. These facilities are required to submit records to substantiate actual emission increases due solely to production of reformulated gasoline annually. If actual emission increases or decreases for a subject year are different than the projected amount, the RTCs issued will be adjusted accordingly (i.e., excess RTCs issued will be deducted if emissions were less than the amount of RTCs issued; conversely, additional RTCs are issued if emission are higher than projected). For Compliance Year 2003, actual NOx emissions were lower but actual SOx emissions were slightly higher than those projected at the time the applications were approved. As a result, 1.80 tons of NOx RTCs were reduced from and an additional 0.01 tons of SOx RTCs were issued to refineries due to this rule section during Compliance Year 2003.

Changes in RTC Allocations Due to Activity Corrections

There was an adjustment made to the SOx allocation for one facility because a data entry error in prior years was found. This resulted in a net decrease of 2.29 tons of SOx RTCs supply in Compliance Year 2003 only. SOx RTCs for other years remained unchanged. Further, there was no change to NOx RTCs due to activity correction.

Conversions of Mobile Source Emission Reductions

Conversions of mobile source emission reduction credits (MSERCs) to RTCs are allowed under Rule 2008 – Mobile Source Credits, and several programs under Regulation XVI – Mobile Source Offset Programs. In Compliance Year 2003, there were no new RTCs issued as a result of conversion of MSERCs generated under Rule 1631 - Pilot Credit Generation Program for Marine Vessels, or Rule 1620 – Credits for Clean Off-Road Mobile Equipment.

An application for generating Mobile Source Emission Reduction Credits pursuant to Rule 1634 was approved in April of 2004. The proposal would reduce emissions by providing electrical power at truck stops for truck cabs and trailer refrigeration units. The project consists of 1865 parking spaces at 21 truck stops at various locations in the South Coast Air Basin. At the time of this report, none of the truck stops have been electrified. Credits are to be issued retrospectively for the first two years of credit generation, based on actual activity levels. The proposal did not include any projection of NOx emission reduction. No credit was issued under Rule 1634 in Compliance Year 2003.

Tables 2-1 and 2-2 summarize the changes in RTC supply that occurred in Compliance Year 2003 due to changes allowed under Rule 2002.

Table 2-1
Changes in supply of NOx RTCs during Compliance Year 2003 (tons/year)

Source	2003	2004 and on
Universe changes	0.72	0.72
Reformulated Gasoline	-1.80	0
Activity corrections	0	0
Net change	-1.08	0.72

Table 2-2
Changes in total supply of SOx RTCs during Compliance Year 2003 (tons/year)

Source	2003	2004 and on
Universe changes	0	0
Activity corrections	-2.29	0
Reformulated Gasoline	0.01	0
Net changes	-2.28	0

The changes to RTCs described in the above sections resulted in a net decrease in RTC supply of 1.08 tons of NOx RTCs for Compliance Year 2003 and an increase of 0.72 tons for Compliance Years 2004 and after. For SOx RTCs, the net decrease for Compliance Year 2003 was 2.28 tons. These changes are relatively small when compared to the total supply of RTCs (12,598 tons of NOx RTCs and 4,292 tons of SOx RTC for Compliance Year 2003). Figures 2-1 and 2-2 illustrate respectively the total NOx and SOx RTC supplies at the end of Compliance Year 2003.

Figure 2-1
NOx RTC Supply

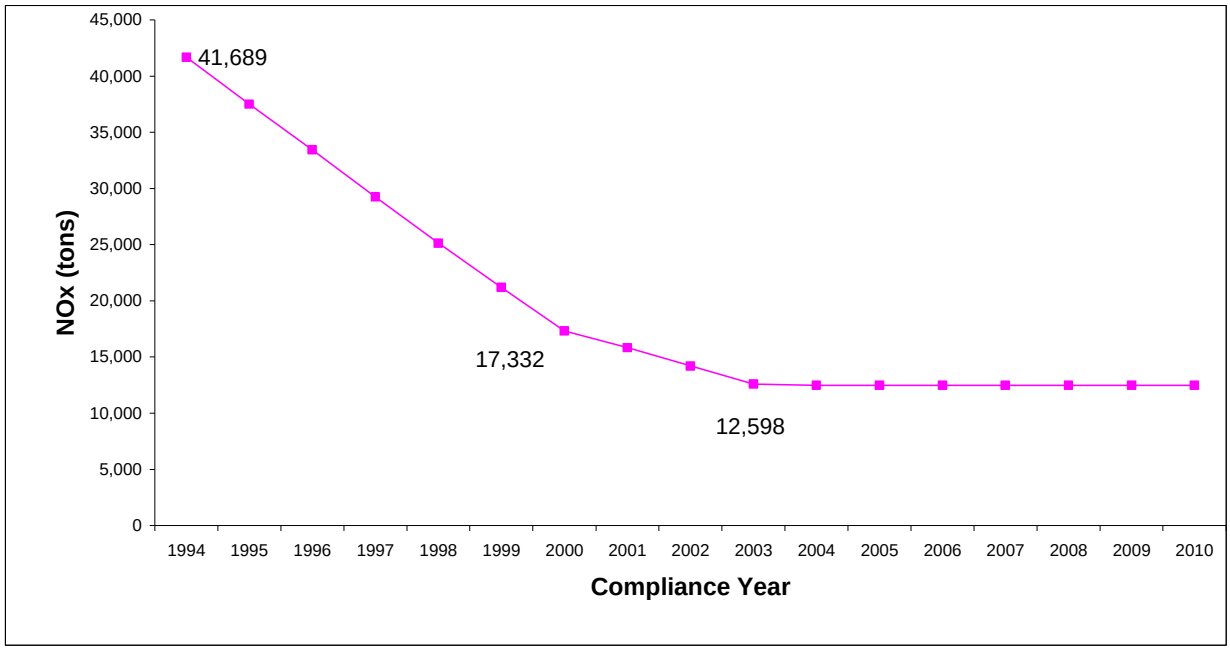
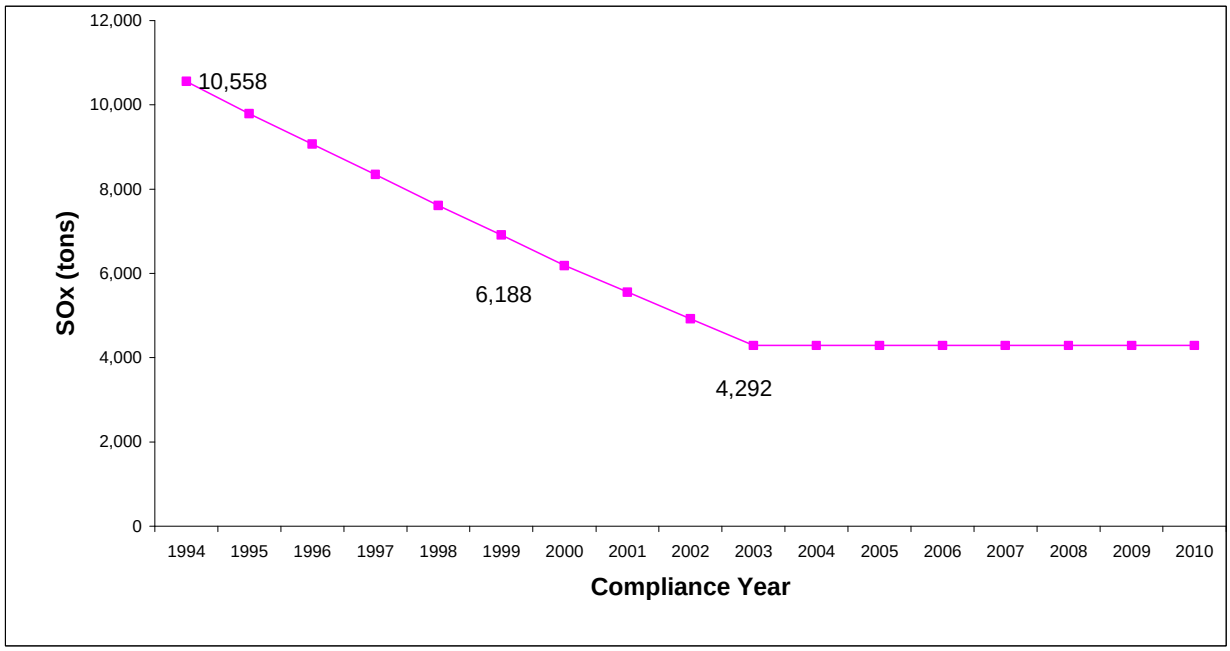


Figure 2-2
SOx RTC Supply

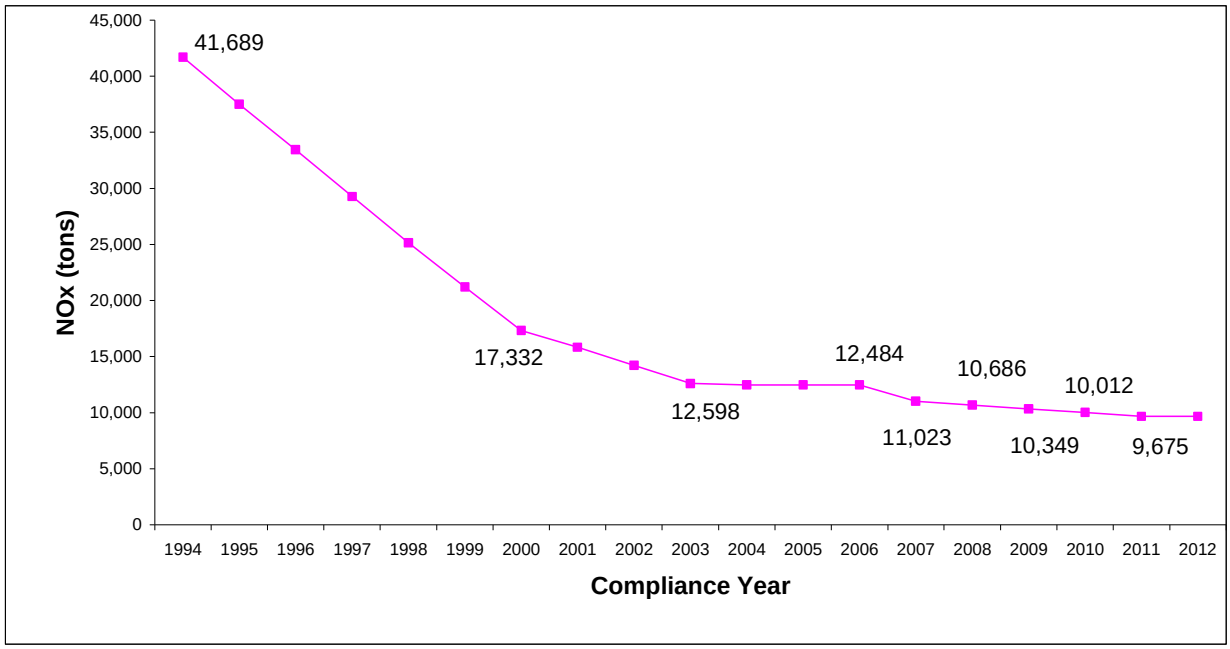


Allocations Adjustments in Compliance Years 2007 and Beyond

In an effort to achieve additional NOx reductions pursuant to the 2003 AQMP Control Measure #2003 CMB-10 and requirements for demonstrating BARCT equivalency under state law, the AQMD embarked on rule amendment process

in early 2004. The process included a detailed analysis of the state of control technology, and lengthy discussions with stake holders including regulated industry, environmental groups, CARB, and the USEPA. On January 7, 2005, the AQMD Governing Board adopted several changes to the RECLAIM program. Among other amendments, the changes will result in cumulative reductions of 7.7 tons NOx per day, or more than 20 percent reduction, from all RECLAIM facilities by Compliance Year 2011 when fully implemented. The reductions are to be implemented in phases (4 tons per day in 2007 and 0.925 tons per day in each of the following four years, 2008-2011). By adopting these rule amendments, the AQMD showed that, relative to the subsumed control measure, RECLAIM is achieving "equivalent or greater emission reductions at equivalent or less cost" as required by the California H&S Code §39616(e). Figure 2-3 shows the RTCs Supply for these years after the reductions. Other changes to the RECLAIM Rules are discussed in Chapter 1 – RECLAIM Universe and Chapter 5 – Compliance of this report.

Figure 2-3
NOx RTC Supply after reductions adopted on January 7, 2005



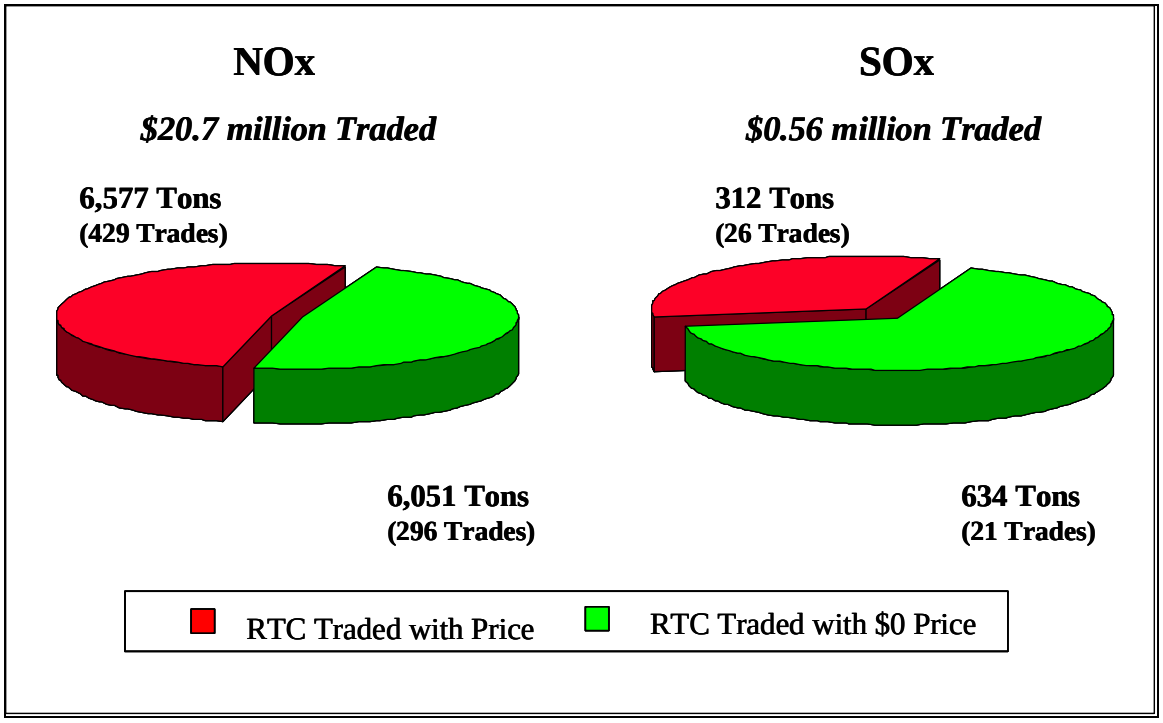
RTC Trading Activity

In Compliance Year 2003, the RTC Trading program was enhanced to include data from trades that involved continuous streams that extend infinitely forward in time (infinite trades). Traditionally, these streams of RTCs are traded as a block starting from Compliance Year 2011 and forward with prices set at a fixed price per pound (instead of price per pound per year). Unless otherwise stated, all data related to RTC trading include infinite trade data whereas RTC trading data reported in prior RECLAIM audit reports did not include these streams.

The RTC trading market continued to be active in Calendar Year 2004. There were 772 approved trades totaling 13,573 tons of NOx and SOx RTCs during Calendar Year 2004. These trades included both RTCs traded with prices and

transfers with $0 price. Since the inception of the RECLAIM program in 1994, a total of 357,050 tons of NOx RTCs and 128,514 tons of SOx RTCs were traded. Of these, 97,637 tons of NOx RTCs and 28,543 tons of SOx RTCs were traded with a total value of $722 million ($644 million for NOx and $78 million for SOx RTCs). The rest were traded without prices. Figure 2-4 summarizes trading activity in Calendar Year 2004 by pollutants.

Figure 2-4
Calendar Year 2004 Trading Activity



In Calendar Year 2004, 455 trades (429 of NOx and 26 of SOx) totaling 6,577 tons of NOx and 312 tons of SOx occurred with prices. These trades included current and future year RTCs. The total value of the RTCs traded with prices for Calendar Year 2004 was over $21 million. Most of the trades with prices were conducted through brokers. Trades with $0 price generally occur when a seller transfers RTCs to a broker, when there is a transfer between brokers, between facilities under common ownership, or between facilities that have gone through change of ownership.

In addition to traditional trades of RTCs for price, different variation of swaps of RTCs occurred between facilities. There were swaps of current year NOx RTCs for future year NOx RTCs and swaps of RTCs from different cycles. RTCs were also swapped for ERCs of other pollutants where one facility transferred NOx RTCs to a second facility. In return, the second facility transferred ERCs to the first facility. There were also swaps that involved a combination of RTCs and cash payment. Facilities swapping RTCs were required to report the equivalent price of RTCs under individual trades. Besides the traditional trading and swapping activities, there were also trades to lease RTCs. In that particular transaction, one facility agreed to lease its RTCs to another facility. The buying facility agreed to pay for the temporary ownership of the RTCs and also agreed

to pay a fixed agreed upon price if the RTCs were not returned at the lease expiration. Figures 2-5 and 2-6 present historical trades in tons of NOx and SOx RTCs traded, respectively. These figures show trades with and without prices from Calendar Year 1994 to Calendar Year 2004. Again, these figures include data from infinite trades whereas data in prior reports did not include these trades.

Figure 2-5
Total Quantity of NOx RTCs Traded

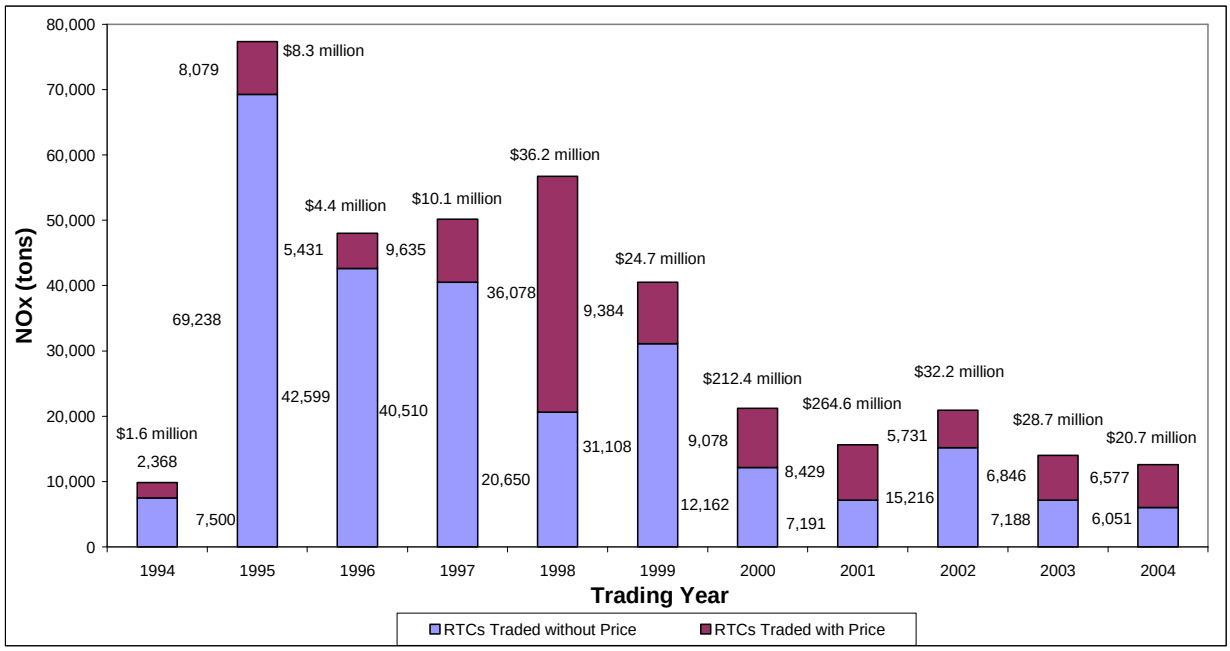
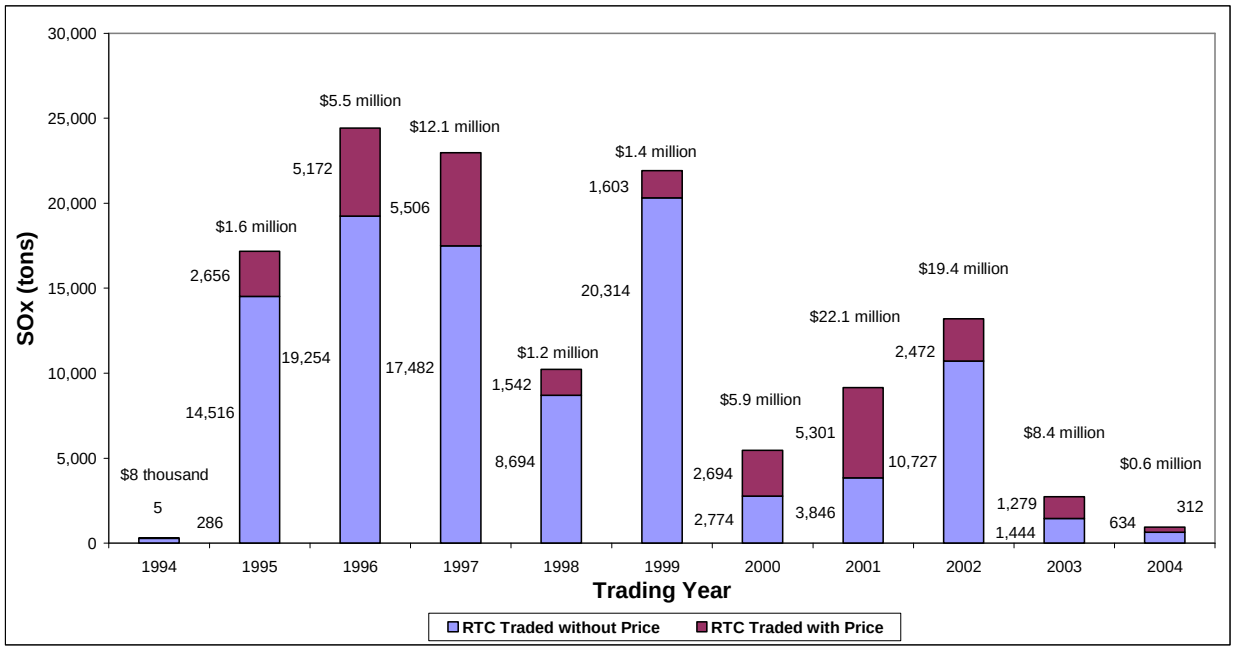


Figure 2-6
Total Quantity of SOx RTCs Traded



Comparison of Calendar Year 2004 Trading Activity to Previous Years

Overall trading activity in Calendar Year 2004 was slightly lower when compared to that in Calendar Year 2003. A total of 772 trades were registered with AQMD in Calendar Year 2004 compared to 813 in Calendar Year 2003. In terms of total quantity traded, 13,573 tons of NOx and SOx RTCs were traded in Calendar Year 2004 versus 16,758 tons in Calendar Year 2003. However, the total value of RTCs traded was only $21.2 million which were less than 60% of the $37.1 million transacted in Calendar Year 2003. This is reflective of a general decline in NOx RTCs prices for both current and future years RTCs (see Figure 2-7). Prices of NOx RTCs are much lower than those in 2000 and 2001. Figure 2-7 compares prices of RTCs in 2004 to those between 1999 and 2003. Figure 2-8 compares prices of RTCs in 2004 to those between 1994 and 1999. These two figures together show that NOx RTCs prices fell back to the price ranges seen between 1995 and 1999.

Trading activity in SOx market has markedly decreased in Calendar Year 2004. The total quantity as well as total trading value of SOx RTCs traded in Calendar Year 2004 were lowest compared to previous years since Compliance Year 1995. In Calendar Year 2004, just over $0.56 million in value of SOx RTCs were traded, whereas, over $8.4 million in value of SOx RTCs were traded in Calendar Year 2003 and over $19 million were traded in Calendar Year 2002. SOx RTCs traded with prices in Calendar Year 2004 were only for Compliance Years 2004 and 2005. There are only two infinite streams of SOx RTCs traded in the same period. One of the two was a result of a change of ownership; the other was for the transfer to a broker apparently to offer for sale. However, there was no buyer for these RTCs in Calendar Year 2004.

RTC Prices

NOx RTC prices were stable during trading calendar year 2004. Excluding the infinite trades, average NOx RTCs prices for Compliance Years 2004 and beyond were around $2.40 per pound which were about the same prices of NOx RTCs in 1999 (see Figure 2-7). Annual average prices for Compliance Years 2003 and 2004 SOx RTC decreased from last year prices as illustrated in Figure 2-9. There were no trades that involved price and SOx RTC of Compliance Year 2005 and beyond.

Figures 2-7 through 2-9 show annual average prices for NOx and SOx RTCs traded each year since 1994. As shown in these figures, all annual average prices for NOx and SOx RTCs during 2004 were below the $15,000 per ton level set under Rule 2015.

In Compliance Year 2003, the RTC Trading program was enhanced to include data from infinite trades. Infinite trades often involved change of ownership applications in which one facility transferred all its RTCs to a new facility without monetary exchange. Where infinite streams were traded with prices, the prices for infinite streams were conventionally traded at a single aggregate price for the block, which usually starts from Compliance Year 2011 and extending infinitely forward in time. There were 101 trades of NOx involving infinite streams in Calendar Year 2004. Among these trades, 52 were traded with price totaling 557 tons and a value of $3.8 million. There were only two trades of SOx that involved infinite streams. These two trades were not traded with price.

Figure 2-7
Yearly Average Prices for NOx RTCs during Calendar Years 1999 through 2004

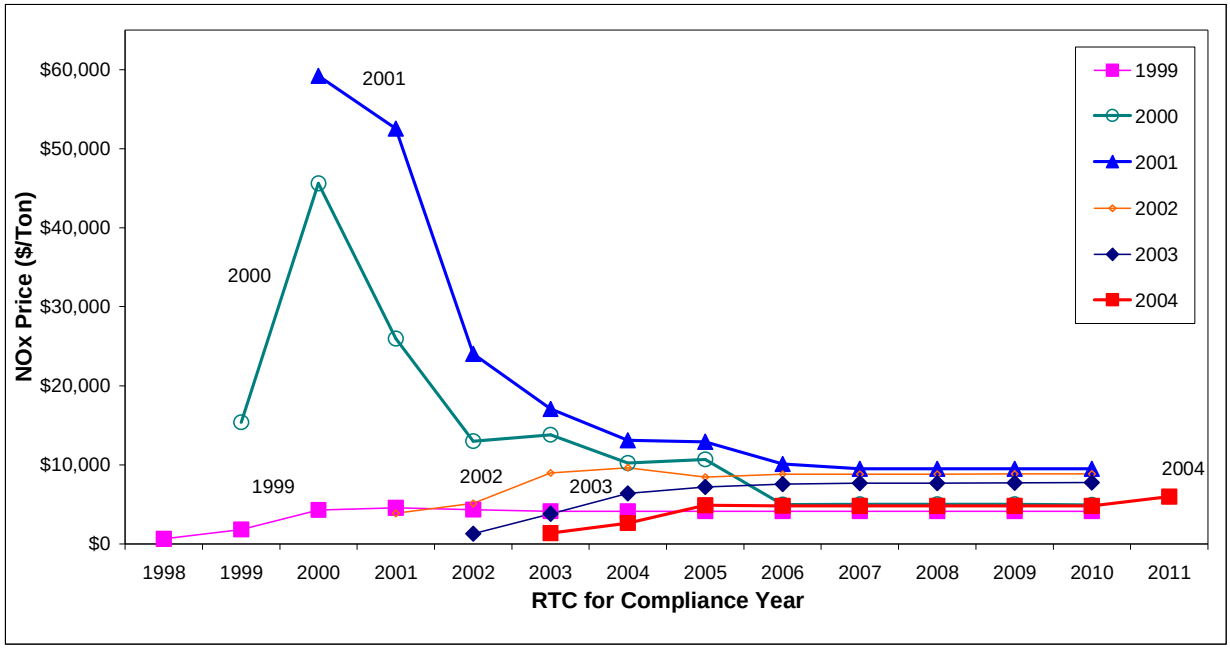


Figure 2-8
Yearly Average Prices for NOx RTCs during Calendar Years 1994 through 1999 and Calendar Year 2004

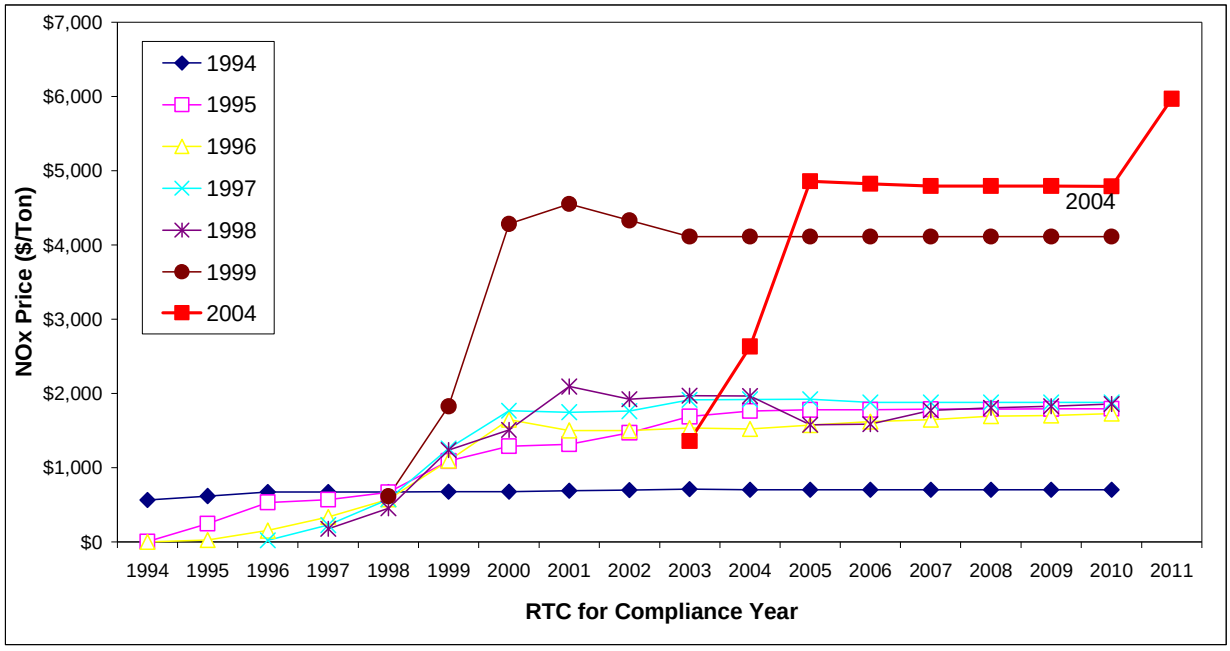
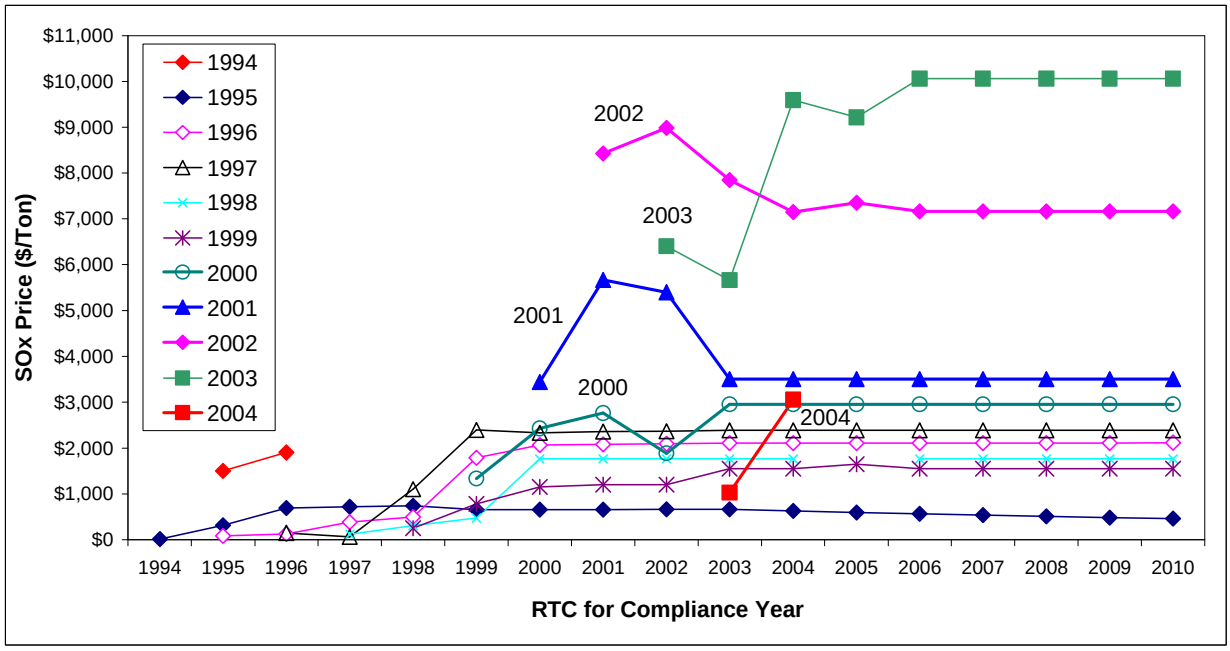


Figure 2-9
Yearly Average Prices for SOx RTCs



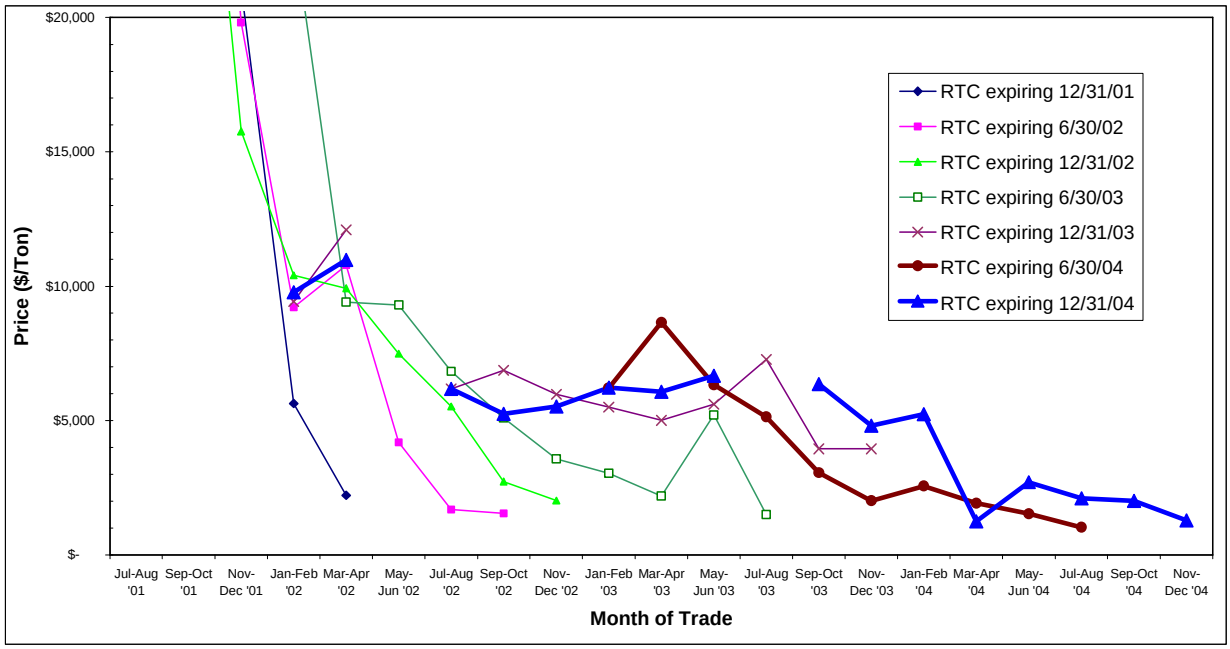
The Effects of the May 2001 Rule Amendment on RTC Prices

In response to the price spike in 2000, the AQMD started a review of the program in the second half of 2000. The cause of the price spike was summarized in the

White Paper on Stabilization of NOx Prices presented to the Governing Board for approval on January 11, 2001. RECLAIM rules were amended in May 2001 to adopt recommendations presented in the White Paper. The actions adopted by the Governing Board included removing power producing facilities from the RECLAIM market, requiring power producing facilities to install Best Available Retrofit Control Technologies (BARCT) on all electric generating units, setting up emission reduction reserves for power producing facilities that choose to participate, requiring facilities with more than 50 tons of NOx emissions to submit compliance plans to specify steps to achieve compliance with their allocations through Compliance Year 2005, and facilities with emissions between 25 and 50 tons NOx emissions to submit forecast reports through Compliance Year 2005. In addition, the May 2001 amendments also added new requirements to trade reporting so that market trading information can be provided to RECLAIM participants in a timely manner. RTC trades must be reported to the AQMD within five days of trade agreement. Additional information regarding RTC ownership was also required. In addition, future trades and contingent trades were also required to be reported to the AQMD within five days of reaching an agreement.

These concerted efforts were aimed to reduce demand and increase supply of NOx RTCs and also to make the trading market more efficient. After the rule adoption in May 2001, NOx RTC prices have been on a steady decline. Figure 2-10 illustrates this downward trend on a monthly basis starting from June 2001 for NOx RTCs that were near expiration. In Calendar Year 2004, the price trend for NOx RTCs valid for the same period returned to the pattern seen prior to the energy crisis in 2000, in that prices for RTCs started out high at the beginning of the compliance year and gradually declined over the course of the year. NOx RTCs that expired in December 2003 and June 2004 were traded at prices less than $1 per pound in the 60 day-period following their expiration date during which facilities are allowed to trade to reconcile their emissions.

Figure 2-10
Changes in Monthly Average Prices for NOx RTCs since July 2001



CHAPTER 3
EMISSION REDUCTIONS

Summary

Aggregate NOx and SOx emissions from RECLAIM facilities continued to decrease from the inception of RECLAIM through Compliance Year 2003. Compliance Year 2003 aggregate NOx emissions from all RECLAIM facilities were below allocations by approximately 20 percent and aggregate SOx emissions were under allocations by slightly more than 10 percent.

In response to the energy crisis' effects on the RECLAIM NOx market, the AQMD Governing Board adopted rule amendments in May 2001 to stabilize RTC prices. The amendments included provisions to curtail RTC demand as well as increasing RTC supply. The Governing Board also adopted Rule 2020 – RECLAIM Reserve, which established the RECLAIM Air Quality Investment Program (AQIP), the Emissions Mitigation Fee Program, and the State Emission Reduction Credit Bank. These three programs were set up to provide eligible facilities with emission reduction credits. In Compliance Year 2003, no facility requested emission reduction from any of these three programs. A detailed review of these programs is presented in this Chapter pursuant to Rule 2020(k) – Program Review.

Background

One major objective of the RECLAIM program audit is to assess whether RECLAIM is achieving its targeted emission reductions. The annual allocations given to RECLAIM facilities reflect the required emission reductions mirroring the reductions anticipated under the command-and-control rules. As such, RECLAIM is designed to achieve by 2003 the same level of emissions reductions as would have been achieved in aggregate by implementing the subsumed rules and command-and-control measures.

In 2000, power producing facilities increased their power generation in response to the California energy crisis. The corresponding increases in NOx emissions caused a sudden surge in the NOx RTC prices that adversely impacted other RECLAIM participants and the overall objective of the program. To correct this problem, the Governing Board amended Regulation XX to bifurcate power producing facilities from the rest of the RECLAIM program participants to stabilize the RTC prices. Power producing facilities are still subject to the requirements of the RECLAIM Program except that they cannot purchase additional RTCs to offset their emissions. Instead these facilities may participate, if needed, in the Emission Mitigation Fee Program. The Board also adopted Rule 2020 – RECLAIM Reserve, to provide a reserve of NOx emission reductions that can be used for the RECLAIM Air Quality Investment Program (RECLAIM AQIP), Emission Mitigation Fee Program, or natural gas turbine power plant peaking sources. A program review as required under Rule 2020 (k) – Program Review, is included in this chapter.

Emissions Audit Process

AQMD has conducted annual audits on the data submitted by RECLAIM facilities for the past ten compliance years to ensure the integrity and reliability of the data. The process begins when each facility submits a comprehensive Annual Permit Emissions Program (APEP) report within sixty days of the end of each compliance year. AQMD staff then reviews the APEP reports to assess the accuracy of reported emissions. This process includes field inspections to check the equipment, monitoring devices, and operational records. It also involves verification of emissions data reported during the course of the year (daily, monthly, quarterly, and annually).

These audits have revealed that some facilities made errors in quantifying their emissions, such as arithmetic errors, use of inappropriate emission factors, or inappropriate use of missing data substitution. Consequently, the reported emissions in the APEP reports for those facilities were adjusted to correct the errors. Whenever AQMD staff found discrepancies, they were discussed with the facility operators. In cases where staff feels that the facility may have additional input, facilities were provided an opportunity to review the changes and to present additional data or arguments in support of the data in their APEP reports. This kind of rigorous audit process reinforces RECLAIM's emissions monitoring and reporting requirements and enhances the validity and reliability of the reported emissions data.

Emission Trends and Analysis

RECLAIM achieves its emission reduction goals on an aggregate basis by ensuring that aggregate annual emissions are below allocations. Allocations are based on projected emission levels in 2003 if the rules and control measures identified in the AQMP that RECLAIM subsumed were implemented.

Table 3-1 summarizes emissions from RECLAIM facilities for each of the first ten compliance years. Emissions data for Compliance Year 2003 contained in this report have been compiled based on emissions from completed audits combined with emissions extracted from the APEP or QCER reports for those facilities with audits still under review.

Table 3-1
Annual NOx Emissions[1] for Compliance Years 1994 through 2003

	Annual NOx Emissions (tons)	% Change from 1994	Total NOx RTCs[2] (tons)	NOx RTCs Left Over (tons)	NOx RTCs Left Over (%)
1994	25,314	0.0%	40,127	14,813	37%
1995	25,764	1.8%	36,031	10,267	28%
1996	24,796	-2.0%	32,017	7,221	23%
1997	21,786	-13.9%	27,919	6,133	22%
1998	20,982	-17.1%	24,678	3,696	15%
1999	20,775	-17.9%	21,013	238	1.1%
2000	20,491	-19.1%	17,197	-3,294	-19%
2001	15,721	-37.9%	15,693	-28	-0.18%
2002	10,943	-56.8%	14,044	3,101	22%
2003	9,942	-60.7%	12,484	2,542	20%

1. The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.
2. Total RTCs = Allocations + Converted ERCs

Table 3-1 shows that there were excess RTCs left over after accounting for emissions for the first six compliance years (1994 through 1999). Therefore, RECLAIM facilities have not exceeded their NOx allocations on an aggregate basis for these initial years. However, beginning in Compliance Year 2000, power producing facilities operated at a production level significantly higher than their past operation levels due to California's energy crisis. The high production level continued into Compliance Year 2001 but has significantly declined through Compliance Year 2003. Table 3-2 illustrates the impact of NOx emissions from the power producing facilities on the overall RECLAIM NOx allocations in Compliance Year 2000. Table 3-3 categorizes Compliance Year 2003 emissions in the same fashion as Table 3-2 to illustrate emission trend between 2000 and 2003. Although power producing facilities were initially allocated 1,705 tons of NOx RTCs for Compliance Year 2003 based on their historical operations, these facilities only emitted 684 tons of reported NOx in Compliance Year 2003. This level was at least 6,100 tons (90%) less than the emissions from power producing facilities in Compliance Year 2000. The decrease in emission was due to the installation of NOx control equipment at power producing facilities and a reduced generation level. There was also appreciable reduction in emissions from non-power producing facilities even though to a lesser extent. Non-power producing facilities emitted only 9,258 tons of NOx which is over 4,400 tons (32%) less than their emissions in Compliance Year 2000. In aggregate, annual NOx emissions in Compliance Year 2003 totaled 9,942 tons from RECLAIM facilities. This is more than 51% less than the 20,491 tons of NOx emissions in Compliance Year 2000. Thus, both sectors contributed to the decreases in emissions between Compliance Years 2000 and 2003. As a result, Compliance Year 2003 NOx emissions are again achieving aggregate RECLAIM emission reduction goals and are below the total allocations by 20%.

Table 3-2
Impact of NOx Emissions from Power Producing Facilities on the Overall NOx Allocations for Compliance Year 2000

	Compliance Year 2000				
	Non-Power Producing Facilities (a)		Power Producing Facilities (b)		All Facilities (a) + (b)
	RTCs Held	Initial Allocations	RTCs Held	Initial Allocations	
Allocations (tons)	12,345	14,895	4,852	2,302	17,197
Emissions (tons)	13,703		6,788		20,491
Difference [tons] (Exceedance)	(1,358)	1192	(1,936)	(4,486)	(3,294)

Table 3-3
NOx Emissions for Compliance Year 2003

	Compliance Year 2003				
	Non-Power Producing Facilities (a)		Power Producing Facilities (b)		All Facilities (a) + (b)
	RTCs Held	Initial Allocations	RTCs Held	Initial Allocations	
Allocations (tons)	10,445	10,779	2,039	1,705	12,484
Emissions (tons)	9,258		684		9,942
Difference [tons] (Exceedance)	1,187	1,521	1,355	1,021	2,542

As shown in Table 3-4, RECLAIM facilities have not exceeded their SOx allocations on an aggregate basis during any of the ten completed compliance years (1994 through 2003). This indicates that RECLAIM met its programmatic SOx emission reduction goals and demonstrated equivalency in SOx emissions reduction compared to the traditional command-and-control measures. Table 3-4 shows that SOx emissions in Compliance Year 2003 continued the declining trend and decreased approximately 47 percent from 7,232 tons in 1994 to 3,855 tons in 2003. Figures 3-1 and 3-2 illustrate the comparison of emissions and the RTC supply for NOx and SOx respectively.

Table 3-4
Annual SOx Emissions[1] for Compliance Years 1994 through 2003

	Annual SOx Emissions (tons)	% Change from 1994	Total SOx RTCs[2] (tons)	SOx RTCs Left Over (tons)	SOx RTCs Left Over (%)
1994	7,232	0.0%	10,365	3,133	30%
1995	8,064	+11.5%	9,612	1,548	16%
1996	6,484	-10.3%	8,894	2,410	27%
1997	6,464	-10.6%	8,169	1,705	21%
1998	6,793	-6.1%	7,577	784	10%
1999	6,378	-11.8%	6,911	533	8%
2000	6,009	-16.9%	6,185	176	3%
2001	5,003	-30.8%	5,557	554	10%
2002	4,374	-39.5%	4,924	550	11%
2003	3,855	-46.7%	4,292	437	10%

[1] The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31, and Cycle 2 compliance years are from July 1 through June 30.
[2] Total RTCs = Allocations + Converted ERCs

Figure 3-1
NOx Emissions and Available RTCs

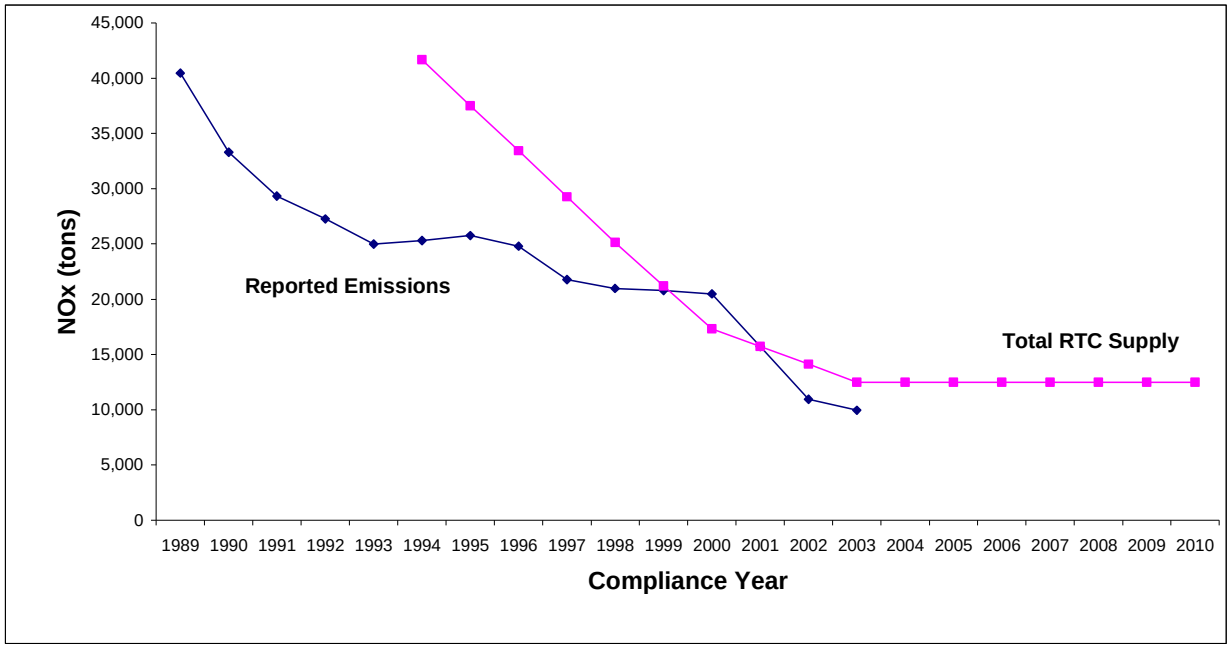
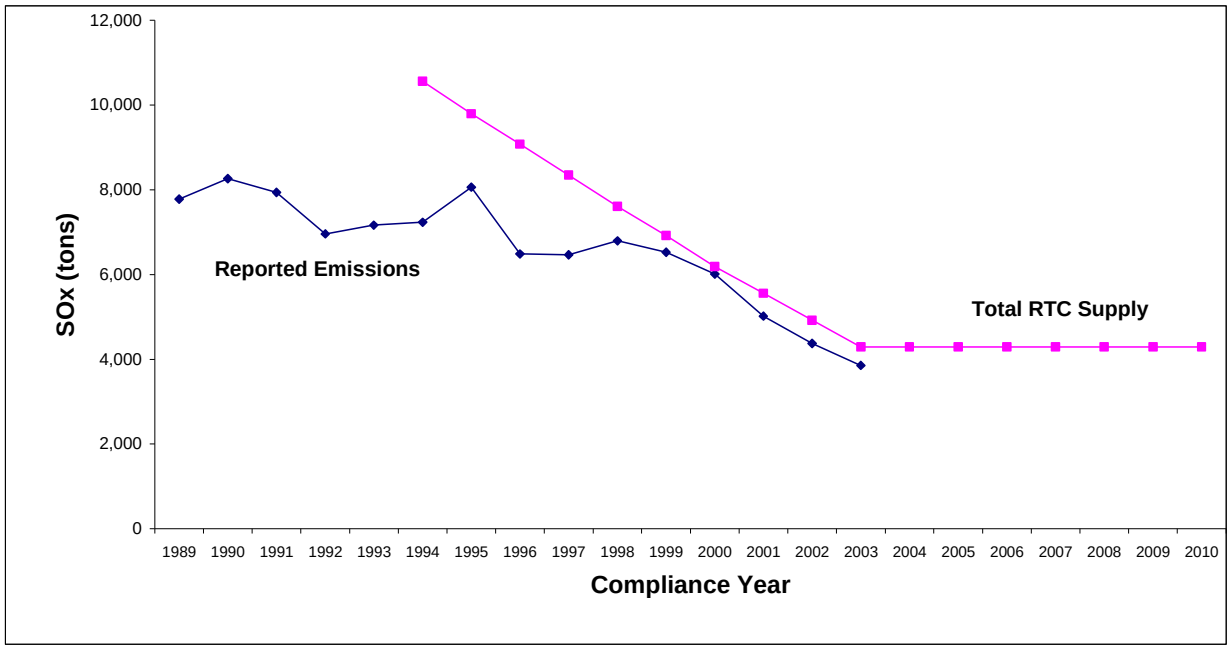


Figure 3-2
SOx Emissions and Available RTCs



Comparison to Command-and-Control Rules

As mentioned previously, RECLAIM subsumed a number of command-and-control rules[1], and sought to achieve equivalent reductions as these subsumed rules. RECLAIM facilities are exempt from the requirements of these rules as they are applicable to NOx or SOx emissions. No change was made to these subsumed rules during Compliance Year 2003.

In an effort to achieve additional NOx reductions pursuant to the 2003 AQMP Control Measure #2003 CMB-10 as well as address requirements for demonstrating BARCT equivalency in accordance with California Health and Safety (H&S) Code §40440, the AQMD and all interested parties including representatives from industry, the environmental community, as well as CARB and U.S. EPA embarked on a rule development process in March 2004. After months of detailed analysis, public participation, and public hearing, the AQMD Governing Board approved, among other RECLAIM rule amendments, a cumulative reduction of 7.7 tons NOx per day from all RECLAIM facilities by Compliance Year 2011. Further details are discussed in Chapter 2 – RTC Allocations and Trading. Other amendments are discussed in Chapter 1 – RECLAIM Universe and Chapter 5 – Compliance.

Program Amendments

Rule 2015 – Backstop Provisions, requires that the AQMD review the program and implement necessary measures to amend the program whenever aggregate emissions exceed the allocations by five percent or more, or whenever the average price of RTCs exceed $15,000 per ton. As shown in Chapter 2, annual

[1]See Tables 1 and 2 of Rule 2001

average prices for NOx and SOx RTC prices were below the $15,000 per ton level. In addition, Compliance Year 2003 aggregate NOx and SOx emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2.

A program review was initiated in 2000 upon recognition of the RTC shortage and the surge of RTC prices. This effort culminated in the amendments of the RECLAIM rules on May 11, 2001, to implement the following key backstop measures:

- Isolating power producing facilities from the rest of the RECLAIM facilities;
- Requiring power producing facilities to submit compliance plans delineating enforceable schedules for installation of Best Available Retrofit Control Technology (BARCT) on power producing facilities by the end of 2003;
- Requiring non-power producing facilities with 50 tons or more NOx emissions to submit compliance plans specifying approaches to complying with the facility allocations;
- Requiring non-power producing facilities with NOx emissions greater than 25 tons but less 50 tons to submit forecast reports demonstrating compliance with annual allocation for Compliance Years 2002 through 2005;
- Requiring timely registration of RTC trades to provide RECLAIM facilities with better price information;
- Creating an Emission Mitigation Fee Program to provide a means for power producing facilities to comply with annual allocations;
- Creating an RECLAIM AQIP to provide small RECLAIM facilities with needs for additional emission reduction credits;
- Creating a reserve of emission reductions to support the Emission Mitigation Fee Program and RECLAIM AQIP.

Pursuant to Rules 2009 and 2009.1, compliance plans were due by September 1, 2001. A report was presented to the Governing Board on November 9, 2001, presenting data collected under these compliance plans and the expected compliance with allocations for power producing and non-power producing sectors through Compliance Year 2005.

Rule 2020 – RECLAIM Reserve

The May 2001 rule amendments also included mechanisms to increase RTC supplies. Under Rule 2020, the Board established a Reserve of emission reduction for use in the RECLAIM AQIP, the Emission Mitigation Fee Program, and the State Emission Reduction Credit Bank. These programs are available only through Compliance Year 2004.

The RECLAIM AQIP is set up for structural buyers of RTCs who may obtain available emission reductions from the program by demonstrating their eligibility and paying a participation fee of $7.50 per pound of NOx emissions. Structural buyers are RECLAIM facilities that are either new facilities built after October 1993 or facilities that emitted 6 tons or less of NOx in the 1999 compliance year, and meet certain conditions contained under Rule 2000 (c)(74). The amendments have been effective in stabilizing NOx RTC prices, which have been significantly lower than the $7.50 per pound level since the rules were amended. Therefore, no request for emission reductions was received under the RECLAIM AQIP.

The Emission Mitigation Fee Program is available only to power producing facilities that meet the requirements under Rule 2004(o) – Emission Mitigation Fee Program for Power Producing Facilities. A power producing facility may obtain emission reductions from the Emission Mitigation Fee Program provided it has not sold since January 11, 2001, any NOx RTCs valid for the compliance year that it is requesting emission reductions. An equivalent amount of NOx RTCs is deducted from the requesting facility's future year allocations (up to two years from the compliance year requested) to protect the environment. When emission reductions are available under the Emission Mitigation Fee Program, the reductions are distributed to the participants on a prorated basis to replace the future allocations that were deducted up-front. Four power producing facilities requested emission reductions during Calendar Year 2001. No request was received since then.

Emission reductions from the RECLAIM Reserve are available to certain natural gas turbine power plant peaking sources through the State Emission Reduction Credit Bank. Two qualified facilities, Drew Substation and Century Substation, both located in Colton and operated by PureEnergy Operating Services LLC., applied to use the emissions reductions from the State Emission Reduction Credit Bank. These facilities, each of which has eight natural gas-fired peaking turbines, opted into the NOx RECLAIM program in Compliance Year 2001. Each facility was issued 58 tons per year of non-tradeable NOx RTCs for the period of May 2, 2001 through October 31, 2003. Total emissions from the two facilities during Compliance Year 2003, through the October credit expiration date, were 2.47 tons. For the purpose of determining programmatic compliance, only the credits from the State Emission Reduction Credit Bank that were actually used to offset emissions were included in the allocation for these two facilities.

Fees paid by sources who have obtained offsets through the RECLAIM Reserve are used to fund qualified emission reduction programs. These projects must meet the requirements of the State Implementation Plan (SIP) and approved pilot credit generation rules, or the State Emission Reduction Credit Bank. Table 3-5 lists the pilot credit generation rules adopted by the Board and their SIP approval status.

Table 3-5
Pilot Credit Generation Rules

Rule Description	Approval Status (Approval Date)
Rule 1612.1 – Mobile Source Credit Generation Pilot Program	Approved (2/7/2002)
Rule 1631 - Pilot Credit Generation Program for Marine Vessels	Original Rule Approved (2/7/2002) 10/2002 Amendments (11/24/2003)
Rule 1632 - Pilot Credit Generation Program for Hotelling Operations	Approved (2/7/2002)
Rule 1633 – Pilot Credit Generation Program for Truck/Trailer Refrigeration Units	Approved (2/7/2002)
Rule 1634 – Pilot Credit Generation Program for Truck Stops	Approved (11/24/03)
Rule 2507 – Pilot Credit Generation Program for Agricultural Pumps	Approved (2/7/2002)

The deadline for submitting for emission reduction proposals under the Emission Mitigation Fee Program and the RECLAIM AQIP was January 1, 2004. Therefore, no new projects were approved in Calendar Year 2004. Projects that were initiated in past years continued to generate credits under rules 1612.1, 1631, and 2507. No proposals submitted under other pilot credit generation rules have been approved.

Two proposals for generating Mobile Source Emission Reduction Credits under Rule 1612.1 were approved in 2003. Contracts have been finalized and one of the projects has started to generate credits. At the time of this report, the credit quantification for that project is not complete. The other project is in the initial stage of implementation and no activity has been reported. These projects are summarized in Table 3-6. A total of 25 tons of emission reductions per year is expected from the replacement of diesel-fueled heavy-duty vehicles.

Table 3-6
Emission Reductions Achieved Pursuant to Rule 1612.1

Contractor	Description	Location of Reduction Project	Rule	Expected NOx Reductions (tons)
City of Ontario	15 CNG Class 7/8 Refuse Haulers	Ontario	1612.1	12
City of Long Beach	22 CNG Class 7/8 Refuse Haulers	Long Beach	1612.1	13

Tables 3-7 and 3-8 show reported NOx reductions of 362.9 tons in 2003 and 336.7 tons in the first three quarters of 2004 from the repowering of marine

vessels under Rule 1631. It must be noted that all of the emissions reductions shown in these tables are based on reported activity levels. These projects have not been fully audited, and no credits have been deposited in the RECLAIM Reserve nor used by RECLAIM facilities.

Tables 3-9 and 3-10 show that a total of 16.1 tons of emission reductions were generated in the fourth quarter of 2003 and the first three quarters of 2004 from the electrification of agricultural pumps under Rule 2507. The total reported NOx emission reduction available for the Mitigation Fee Program from credits generated in 2003 and 2004 under Rules 1631 and 2507, after the required ten percent retirement, is 644.2 tons. These credits were not used by RECLAIM facilities.

Table 3-7
Emission Reductions Achieved Pursuant to Rule 1631 During Calendar Year 2003

Contractor	Number of Marine Vessels Generating Credits	Location of Reduction Project	Total NOx Reductions [1] (tons)	10% Retirement [2] (tons)	NOx MSERCs (tons)
OceanAir Environmental	23	District Waters	332.1	33.2	298.9
Seaboard Marine	9	District Waters	30.82	3.1	27.7
		Total:	362.9	36.3	326.6

[1] Data provided by Technology Advancement Office. Records submitted to support these emission reductions are being audited. No emission reduction credits have been deposited into the Mitigation Fee Program. The level of emission reduction may change after completion of audits.

[2] Ten percent of all credits generated are retired for the benefit of the environment pursuant to rule requirements.

Table 3-8
Emission Reductions Achieved Pursuant to Rule 1631 During the First Three Quarters of Calendar Year 2004[1]

Contractor	Number of Marine Vessels Generating Credits	Location of Reduction Project	Total NOx Reductions [2] (tons)	10% Retirement [3] (tons)	NOx MSERCs (tons)
Millenneum Maritime	1	District Waters	13.93	1.4	12.5
OceanAir Environmental	24	District Waters	283.6	28.4	255.3
Seaboard Marine	10	District Waters	39.17	3.9	35.3
		Total:	336.7	33.7	303.1

[1] As of date of preparation of this report, records for the fourth quarter of 2004 have not been fully compiled.
[2] Data provided by Technology Advancement Office. Records submitted to support these emission reductions are being audited. No emission reduction credits have been deposited into the Mitigation Fee Program. The level of emission reduction may change after completion of audits.
[3] Ten percent of all credits generated are retired for the benefit of the environment pursuant to rule requirements.

Table 3-9
Emission Reductions Achieved Pursuant to Rule 2507 During the Fourth Quarter of Calendar Year 2003

Contractor	Number of Agricultural Pumps Generating Credits	Location of Reduction Project	Total NOx Reductions[2] (tons)	10% Retirement[3] (tons)	NOx MSERCs (tons)
Air Quality Management Services	17	Coachella Valley	0.6	0.1	0.5
		Total:	0.6	0.1	0.5

Table 3-10
Emission Reductions Achieved Pursuant to Rule 2507 During the First Three Quarters of Calendar Year 2004[1]

Contractor	Number of Agricultural Pumps Generating Credits	Location of Reduction Project	Total NOx Reductions[2] (tons)	10% Retirement[3] (tons)	NOx MSERCs (tons)
Air Quality Management Services	29	Coachella Valley	15.5	1.6	14.0
		Total:	15.5	1.6	14.0

[1] As of date of preparation of this report, records for the fourth quarter of 2004 have not been fully compiled

[2] Records submitted to support these emission reductions have been audited. No emission reduction credits have been deposited into the Mitigation Fee Program, pending audit of 4th quarter 2004 records.

[3] Ten percent of all credits generated are retired for the benefit of the environment pursuant to rule requirements.

In August 2003 the Governing Board approved three control strategy proposals for generating NOx and PM_{10} emission reductions for use in the State Emission Reduction Credit Bank. The projects are summarized in Table 3-11. At the time of this report, contracts are still being finalized, and no credits have been generated by these projects in Compliance Year 2003. When fully implemented, these projects are expected to generate 11.9 tons of NOx reduction per year.

Table 3-11
Credit Generation Projects Approved in 2003 for the State Emission Reduction Credit Bank

Contractor	Location of Reduction Project	Description	Expected NOx Reductions (tons/yr)
Colton Unified School District	Colton	Expand CNG Refueling Infrastructure	6.2
Coachella Valley Unified School District	Coachella Valley	Build CNG Refueling Infrastructure	3.3
URS Corporation (City of Colton Public Utilities)	Colton	Replace 1 Heavy-duty Vehicle with CNG Vehicle	2.4

In February 2004, the Governing Board authorized the Executive Officer to use funds collected from power producing facilities to purchase excess RTCs from the RECLAIM market to offset emissions excluded from facility allocations during the energy crisis. A total of 72.5 tons of excess RTCs were purchased. This amount was sufficient to cover all remaining unmitigated excess emissions covered by the Governor's Executive Order.

Impact of Changing Universe

As discussed in Chapter 1, changes to the NOx RECLAIM universe during Compliance Year 2003 were: five new facilities opted into RECLAIM, no new facilities were brought into RECLAIM, no existing facility was excluded, and thirteen facilities ceased operations. All of the changes involved NOx facilities except for one NOx and SOx facility that shut down. Staff conducted an analysis to evaluate the impact on emissions reductions due to such changes in the RECLAIM universe.

When a new facility joins the RECLAIM universe, they are required to obtain sufficient RTCs to offset their NOx or SOx emissions. These RTCs must be obtained through the trading market and are not issued to the facility (external offsets used, if any, to obtain permits are converted to RTCs). Such facilities increase the overall demand for the fixed supply of RTCs because they increase total RECLAIM emissions without increasing the total supply of RTCs. For Compliance Year 2003, no facility was brought into the RECLAIM Universe because it exceeded four tons per year.

The shutdown of a RECLAIM facility results in a reduction in actual emissions. The shutdown facility retains its RTC holdings, which it may continue to hold as an investment, transfer to another facility under common ownership, or trade on the market. Therefore, although the facility is no longer emitting, its RTCs may be used at another facility. This has the opposite effect on the RTC market as does a new facility — in this case the overall demand for RTCs is reduced while the supply remains constant. In this category, the RECLAIM universe saw thirteen facilities shutdown in Compliance Year 2003.

A facility is excluded from the Universe if it is determined that the circumstance that caused the inclusion changed or was found to be inaccurate. The RTCs that were issued to the facility for the future years are also withdrawn. This also decreases the supply of RTCs. For Compliance Year 2003, no facility was excluded from the RECLAIM universe.

Some facilities that did not initially meet the inclusion criteria subsequently chose to enter the program. These facilities were issued RTC allocations based upon their operational history using the same methodology as was used for the facilities in the initial universe. Inclusions shift the accounting of emissions from the universe of non-RECLAIM sources to the universe of RECLAIM sources without actually changing the overall emissions inventory. They also change the rules and requirements that apply to the affected facilities. Five facilities chose to opt into the NOx RECLAIM program. Of these, two facilities were new construction and had no prior operating history. The other three were existing facilities. Among them, one did not receive any allocations and the other was issued 0.7 tons of allocations for each compliance year from 2003.

In short, new facilities and shutdown facilities change the demand for RTCs without changing the supply while exclusions and inclusions make corresponding changes to both the demand and the supply, thereby mitigating their own impact on the markets.

Table 3-12 summarizes NOx emissions and allocations from new facilities and facilities that were shut down, excluded from the program, or included into the program for the Compliance Year 2003.

Table 3-12
NOx Emissions Impact from the Changes in Universe (Tons)

Category	2003 NOx Emissions (tons)	2003 NOx Initial Allocations (tons)
Shutdown Facilities	0.3	103.7
Excluded Facilities	None	Not applicable
Included Facilities	12	0.7
RECLAIM Universe	9,942	12,484

CHAPTER 4
NEW SOURCE REVIEW ACTIVITY

Summary

The annual program audit assesses New Source Review (NSR) activity from RECLAIM facilities in order to ensure that RECLAIM is complying with the federal and state NSR requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2003, five facilities joined the NOx program, while no facility joined the SOx program. Thirty-one RECLAIM facilities had NSR NOx emission increases due to expansion or modification in Calendar Year 2003. Three of these existing facilities also had NSR SOx emission increases. These data indicate that the RECLAIM program does not inhibit expansion and/or modification of sources at RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements for a 1.2-to-1 offset ratio for NOx and SOx emission increases on a programmatic basis. In Calendar Year 2003, RECLAIM provided an offset ratio of 775-to-1 for NOx and 1,342-to-1 for SOx on an aggregate basis, demonstrating federal equivalency. Compliance with the federally required offset ratio also demonstrates compliance with the state requirement of no net emissions increases from new or modified sources. In addition, RECLAIM requires application of Best Available Control Technologies for all new or modified sources with emission increases.

Background

Emissions increases from the construction of new or modified stationary sources in non-attainment areas are regulated by both federal and state NSR requirements to ensure that progress toward attainment of ambient air quality standards is not hampered. RECLAIM is designed to comply with federal and state NSR requirements without hindering facilities' ability to expand or modify their operations.

Sources in extreme non-attainment areas such as the South Coast Air Basin are required by Title 42, U.S.C. §7511a(e), to mitigate their emissions increases by providing emissions offsets at a 1.2-to-1 ratio or higher. Rule 2005 – New Source Review for RECLAIM requires RECLAIM facilities to provide, at the time when permits to operate are issued, sufficient RTCs to offset the annual emission increase for the first year of operation at a 1-to-1 ratio. After the first year of operation, the same rule also requires RECLAIM facilities to provide sufficient RTCs to offset at a 1-to-1 ratio the annual emissions from the newly permitted equipment at the commencement of each compliance year. Although RECLAIM allows a 1-to-1 offset ratio for emissions increases, RECLAIM complies with the federal offset requirement by demonstrating compliance with the 1.2-to-1 offset requirement on an aggregate basis. The annual reductions of aggregate allocations generate sufficient excess emissions reductions to mitigate the difference between the RECLAIM emissions offset ratio and the higher offset ratios required under federal law.

RECLAIM requires Best Available Control Technology (BACT) analysis for new or modified sources with emissions increases of RECLAIM pollutants. This provision demonstrates compliance with both the state and federal requirements regarding control technologies. In addition to offset and BACT requirements, RECLAIM subjects those RTC trades, which are conducted to mitigate emissions increases over the sum of the facility's starting allocation and non-tradable credits, to trading zone restrictions to ensure net ambient air quality improvement within the sensitive zone, as established in Health and Safety Code §40410.5. This annual audit report assesses NSR permitting activities for the 2003 calendar year to verify that programmatic compliance of RECLAIM with state and federal NSR requirements has been maintained.

NSR Activity

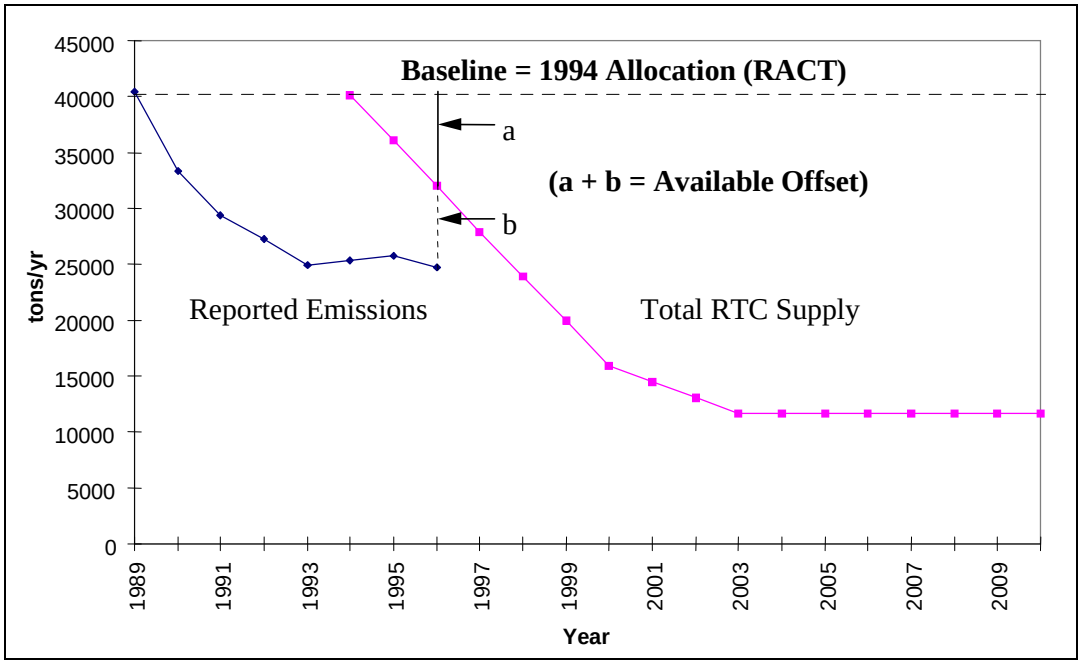
Evaluation of NSR data for Calendar Year 2003 indicates that RECLAIM facilities continue to successfully expand or modify their operations while complying with NSR requirements. Two new facilities and three existing facilities joined the NOx program, and no new or existing facilities joined the SOx program. There was no NSR activity recorded for the five facilities new to RECLAIM as there was no permit to operate issued in 2003 to these facilities. Thirty-one existing RECLAIM facilities experienced a total of 41 tons of NOx NSR emission and 5 tons of SOx NSR emission increases due to expansion or modification.

NSR Compliance Demonstration

RECLAIM is designed to comply with the federal NSR offset requirements. Meeting the NSR requirement (offset ratio of 1.2-to-1) also indicates compliance with the state requirement of no net emission increases from new or modified sources. Section 173 (c) of the federal Clean Air Act (Act) states that only emissions reductions beyond the requirements of the Act, such as Reasonably Available Control Technology (RACT), shall be considered creditable as emissions reductions for offset purposes. Since the initial allocations (total RTC supply in compliance year 1994) already met federal RACT requirements, any emissions reductions beyond the initial allocations are available for NSR offset purposes.

The methodology for determining the available offsets for NSR emissions increases from RECLAIM facilities is illustrated in Figure 4-1. In the figure, the solid line indicated by the letter "a" represents the programmatic reductions beyond the 1994 allocation level (baseline) via declining allocations. The dotted line indicated by the letter "b" accounts for the unused RTCs, (allocations - reported emissions) which also qualify as available NSR offsets. Consequently, the combined total of "a" and "b" is considered the total available offset for calculating the offset ratio to demonstrate compliance with federal NSR requirements.

Figure 4-1
Available Offsets for NSR Emissions Increase



To determine the NSR offset ratio, the available offset for each year is compared to the NSR emission increase for the same year according to the following methodology:

1. Offset Available = 1994 Initial Allocation (all available RTCs) - Annual Emission Reported (RTC used); “a” + “b” as shown in Figure 4-1
2. Offset Ratio = [1 + (Offset Available/NSR Emission Increase)] to 1 (One is added to “Offset Available/NSR Emission Increase” to reflect the fact that the NSR Emission Increase is included in reported emissions and, therefore, offset at a 1-to-1 ratio by the RTCs used to offset reported emissions)

Tables 4-1 and 4-2 summarize the NSR emission increases and the offset ratios calculated based on the above methodology for each calendar year since the start of the RECLAIM program in 1994. As noted in the tables, the aggregate offset ratios for RECLAIM facilities are 775-to-1 and 1,342-to-1 for NOx and SOx emissions, respectively, in Calendar Year 2003.

Table 4-1
Emission Reductions and Offset Ratios for NOx

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
NSR Emission Increase (tons)	66	393	174	318	275	75	121	141	148	41
Offsets Available (tons)	11,028	14,253	18,341	15,331	19,753	20,648	21,008	25,752	30,728	31,747
Offset Ratio	168:1	37:1	106:1	49:1	73:1	276:1	175:1	184:1	209:1	775:1

Table 4-2
Emission Reductions and Offset Ratios for SOx

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
NSR Emission Increase (tons)	37	42	63	62	8	0	0	0	0	5
Offsets Available (tons)	2,242	2,299	3,901	3,881	3,698	4,113	4,548	5,555	6,183	6,703
Offset Ratio	62:1	56:1	63:1	64:1	451:1	N/A	N/A	N/A	N/A	1,342:1

RECLAIM continues to generate sufficient excess emissions reductions to provide greater than 1.2-to-1 offset ratios as required by federal law. This compliance with the federal offset requirements is built into the design of the RECLAIM program through the annual reductions of the allocations assigned to RECLAIM facilities.

BACT and modeling are also required for any RECLAIM facility that installs new equipment or modifies existing sources if the installation or modification results in an increase in emissions of RECLAIM pollutants above the facility's original (1994) allocation and Non-Tradable Credits. Furthermore, the RTC trading zone restrictions in Rule 2005 – New Source Review for RECLAIM, limit trades conducted to mitigate emission increases over the sum of the facility's starting allocation and non-tradable credits to ensure net ambient air quality improvement within the sensitive zone as required by state law.

The result of the review of the NSR activity in Calendar Year 2003 shows that RECLAIM is in compliance with both state and federal NSR requirements. AQMD will continue to monitor NSR activity under RECLAIM in order to assure continued progress toward attainment of ambient air quality standards without hampering economic growth in the Basin.

Rule 2004(q) Modeling Requirements

Rule 2004 as amended in May 2001 requires RECLAIM facilities with actual NOx or SOx emissions exceeding their initial allocation in Compliance Year 1994 by forty (40) tons per year or more to conduct modeling to analyze the potential

impact of the increased emissions. The modeling analysis is required to be submitted within 90 days of the end of the compliance year. For Compliance Year 2003, three RECLAIM facilities were found to be subject to this requirement. Two facilities with NOx emissions and one facility with SOx emissions exceeded their respective initial allocations for Compliance Year 1994 by forty (40) tons or more. Two of the three facilities performed the modeling and submitted the results according to the rule requirement. The third facility was notified of the modeling requirement.

CHAPTER 5
COMPLIANCE

Summary

During Compliance Year 2003, 337 RECLAIM facilities were in the RECLAIM program. Of these, 327 facilities (97 percent) complied with their NOx Allocations and all 36 SOx facilities complied with their SOx Allocations. Preliminary results of the Compliance Year 2003 audits revealed that the overall RECLAIM NOx and SOx emission goals were met for this compliance year. However, not all facilities were determined to have complied with their individual allocations. NOx emissions in excess of individual facility NOx allocations totaled only 8 tons. The main reasons for allocation exceedances in Compliance Year 2003 were failure to purchase sufficient RTCs to reconcile with quarterly emissions, emission calculation errors, invalidation of Rule 1631 credits, and failure to follow missing data procedures.

Background

RECLAIM facilities are provided with the flexibility to choose among compliance options, either trading RTCs or reducing emissions, to meet their annual allocations. However, this flexibility must be supported by standardized emission monitoring, reporting, and recordkeeping (MRR) requirements to ensure the reported emissions are real, quantifiable, and enforceable. In order to meet clean air goals, AQMD must ensure that the annual emissions targets for the RECLAIM facilities are being met. As a result, compliance is one of the most critical elements of the RECLAIM program.

The MRR requirements were designed to provide more accurate and up-to-date emission reports. Once facilities install and complete the certification of the required monitoring and reporting equipment, they are relieved from command-and-control rule limits and requirements. Mass emissions from RECLAIM facilities are then determined by the monitoring and reporting equipment. Failure to obtain quality assured data from the monitoring equipment or failure to file daily emissions reports by the required time results in emissions determined instead by a rule prescribed methodology known as Missing Data Procedure (MDP). Depending on the performance of the monitoring equipment (i.e., availability of quality assured data), the MDP uses a tiered approach to calculate emissions. As availability of quality assured data increases, the calculated emissions become more representative of the actual emissions.

Allocation Compliance

Requirements

At the beginning of the program, each RECLAIM facility received an annual allocation for each compliance year from 1994. Upon entry to the RECLAIM program, each facility new to the program is also issued annual allocations according to the same methodology as those facilities that were initially included at the start of the program. With the knowledge of emission goals, RECLAIM

facilities have the flexibility to decide how to manage their emissions in order to meet their allocations in the most cost-effective manner. Facilities may buy RTCs to increase their allocations or sell unneeded RTCs.

At the end of each quarter and each compliance year, each facility must hold sufficient RTCs in its Allocation account to cover its year-to-date emissions for the compliance year. Facilities may buy or sell RTCs from each other at any time of the year in order to ensure that their emissions are covered. In addition, after the end of each compliance year, there is a 60-day reconciliation period during which facilities have a final opportunity to buy or sell RTCs for that compliance year. At the end of this reconciliation period, each facility is required to certify the emissions for the preceding compliance year by submitting its Annual Permit Emissions Program (APEP) Report.

Compliance Audit

AQMD has conducted annual audits on the data submitted by RECLAIM facilities to ensure the integrity and reliability of the data each compliance year since the beginning of the program in 1994. The audit process includes field inspections to check the equipment, monitoring devices, operational records, and checking emissions calculations to verify the emissions reported to AQMD's Central Station or submitted in Quarterly Certified Emissions Reports (QCERs) and APEP reports. These inspections revealed that some facilities made errors in quantifying their emissions, such as arithmetic errors, use of inappropriate emission factors, or inappropriate use of missing data substitution. Therefore, some of the reported emissions in the QCER or APEP reports had to be adjusted after completion of the audits.

Whenever an audit revealed a facility to be in exceedance of its annual allocation and the facility data appeared incomplete or inaccurate, the facility was provided an opportunity to review the audit and to present additional data to further refine the audit results. Emissions data are ensured to be valid and reliable through this extensive and rigorous audit process.

Compliance Status

Based on quarterly certification reports, APEP reports or completed AQMD audit results, enforcement action was taken on ten NOx facilities that did not reconcile their emissions with allocations. This corresponded to an overall compliance rate of 97 percent (327 out of 337 facilities) for NOx RECLAIM facilities and 100 percent (36 out of 36 facilities) for SOx RECLAIM facilities. The amount of excess emissions from these facilities totaled only 8 tons of NOx. Appendix D lists these facilities that were determined to have been unable to reconcile NOx emissions for Compliance Year 2003. Staff is conducting audits of emissions reported by facilities. As audits are completed, the list of facilities that exceeded their allocations is updated whenever applicable. The up-to-date list is available to the public at District Headquarters by contacting RECLAIM Administration Team staff. Additional cases of allocation violation may be identified after audits are finalized.

Based on the certified quarterly or annual emissions reports submitted by the facility or completed annual RECLAIM compliance audits conducted by AQMD staff, the main reasons for why facilities had an allocation exceedance are

summarized below. For some facilities, more than one of these factors contributed to the exceedances.

- **Failure to Reconcile**
  Nine facilities did not have sufficient RTCs to cover their reported emissions either at the quarterly reconciliation or the annual reconciliation.
- **Emission Calculation Errors**
  One facility exceeded their allocations due to using an incorrect emission factor to calculate emissions. Other typical errors include using the wrong pressure and/or temperature correction factors and making arithmetic errors in the calculations.
- **Invalidation of Rule 1631 Credits**
  One facility exceeded their allocations due to the invalidation of Rule 1631 credits, as detailed in Chapter 2 of the 2002 Annual RECLAIM Audit Report.
- **Failure to Follow Missing Data Procedures**
  RECLAIM rules require facilities to report emissions according to MDP when valid data are not obtained from the monitoring equipment or when daily emission reports for major sources are not submitted on time. MDP uses a conservative approach to estimate emissions. Only one facility had an allocation exceedance because it failed to properly apply MDP to its major source units.

Power Producing Facilities

As illustrated in Table 3-3, power producing facilities had aggregate Compliance Year NOx emissions of 684 tons and held 2,039 tons of allocations. These emissions are considerably lower than the emissions associated with the heightened level of operations in 2000 and 2001. In addition, all power producing facilities met their individual allocations in Compliance Year 2003 based on their reported emissions or completed audits where available. Overall, the reduced emissions are a result of the fact that power producing facilities have been retrofitted with control equipment.

In May 2001, the AQMD Governing Board amended the RECLAIM rules to bifurcate power producing facilities from the rest of the RECLAIM facilities. In an effort to stabilize RTC prices, power producing facilities were prohibited to acquire NOx RTCs from the rest of the RECLAIM facilities. Instead, power producing facilities are allowed to participate in the Mitigation Fee Program set up under Rule 2004(o). The details of the Mitigation Fee Program are discussed in Chapter 3 of this report. The AQMD Executive Order expired upon amendment of the RECLAIM rules in May 2001. In addition, the Governor of California issued an Executive Order in June 2001 to exclude emissions from being accounted under the annual allocations of a qualified power producing facility. No provision for deduction of future allocations was included in the Governor's Executive Order, which expired in October 2001.

No facility requested participation in these programs in Calendar Year 2003. Funds collected under these programs are invested to generate NOx emissions reductions. In addition, the AQMD Governing Board authorized the Executive

Officer to purchase, with the collected funds, excess NOx RTCs from the market. As of the end of August 2003, adequate RTCs have been purchased from the market to offset all deductions due to the AQMD Executive Order, Mitigation Fee Program and partially the Governor's Executive Order. In February 2004, the AQMD Governing Board authorized the purchase of additional excess RTCs. Enough RTCs were purchased from a Power Producing Facility to fully offset the remaining excess emissions qualified under the Governor's Executive Order. Therefore, all excess emissions qualified under the three programs were fully offset by excess RTCs purchased from RECLAIM facilities and the deductions of future year allocations made to participating facilities were fully replaced.

Impact of Missing Data Procedure

MDP was designed to provide a method for determining emissions when an emission monitoring system fails to yield valid emissions. These occurrences may be caused by failure of the monitoring systems or the data acquisition and handling system (DAHS), which is required for major sources. In addition, major sources are required to use MDP for determining emissions whenever daily emissions reports are not submitted by the applicable deadline. Different sets of MDP are defined for different source classifications.

In addition to MDP for major sources, there are also MDP defined in the RECLAIM rules for large sources and process units. These procedures are applicable when a process monitoring device fails or when the facility operators fail to record process rates or fuel usage. However, the resulting emissions reports are reasonably representative of the actual emissions because average or maximum emissions from previous operating periods are allowed to be used.

According to Compliance Year 2003 APEP reports, 87 NOx facilities and 15 SOx facilities used MDP in reporting their annual emissions. In terms of mass emissions, only 4.5 percent of the total reported NOx emissions and 4.7 percent of the total reported SOx emissions in the APEP reports for Compliance Year 2003 were calculated using MDP. Table 5-1 summarizes the impact of MDP on annual emissions for the past nine years from the 1995 through 2003 compliance years (MDP did not apply during the 1994 compliance year).

Table 5-1
MDP Impact on Annual Emissions

Emittant	Percent of Reported Emissions Using Substitute Data[1]								
	1995	1996	1997	1998	1999	2000	2001	2002	2003
NOx	23% (65)	20% (61)	18% (83)	7.3% (77)	9.6% (84)	6.5% (82)	8.1% (47)	3.4% (85)	4.5% (87)
SOx	40% (12)	16% (11)	16% (17)	13% (15)	20% (13)	10.7% (13)	11% (9)	4.8% (14)	4.7% (15)

1. Numbers in parenthesis represent the number of facilities that reported use of MDP in each compliance year.

As indicated in the table, the impact of MDP on reported emissions has significantly decreased since the beginning of the program. In most of the cases where MDP was used, the substituted data were representative of actual emissions, as explained below. Based on past audits, the data seem to suggest

that facilities have gained experience in the operation and maintenance of the monitoring equipment to achieve much higher quality emissions data over time.

Most of the issues associated with Continuous Emissions Monitoring Systems (CEMS) certifications were resolved prior to the 1999 compliance year. Very few facilities have had to submit emissions reports based on the worst case scenario under MDP that considerably overstates the actual emissions from major sources. This scenario is applicable to sources that failed to have their CEMS certified in a timely manner where required, and therefore, no valid CEMS data can be used in the substitution. In cases where prior CEMS data is available, MDP is applied in tiers depending on the duration of missing data periods and the availability of monitoring systems. As the duration of missing data periods gets shorter and the historic availability of monitoring systems gets higher, the substitute data yielded by MDP become more representative of actual emissions.

As an example, most facilities that reported emissions using MDP in 1995 did so because they did not have their CEMS certified in time to report actual emissions. Since their CEMS had no prior data, MDP called for an application of the most conservative procedure to calculate substitute data by assuming continuous operation at the maximum rated capacity of their equipment, regardless of the actual operational level during the missing data periods. As a result, the calculation yielded substitute data that may have been much higher than the actual emissions. On the other hand, 87 facilities reported NOx emissions using MDP in 2003. Even though this is higher than those in 1995 in terms of the number of facilities, Compliance Year 2003 is much lower than Compliance Year 1995 in terms of the percentage of emissions reported. Since most CEMS have been certified and had been reporting actual emissions by the beginning of the 1997 compliance year, facilities that had to calculate substitute data were able to apply less conservative methods of calculating MDP for systems with high availability and shorter duration of missing data periods. Therefore, the substitute data they calculated for their missing data periods were more representative of the actual emissions.

It is important to note that the portions of annual emissions that are attributed to MDP include actual emissions from the sources as well as the possible overestimated emissions due to MDP bias. For example, it is estimated that 4.5 percent of NOx annual emissions were reported using MDP in 2003. This does not mean that 4.5 percent of 2003 reported NOx emissions were not real. A portion of the 4.5 percent may be overestimated emissions due to MDP bias, but a significant portion (or possibly all) of it could have been actual emissions from the sources. Unfortunately, the portion that represents the actual emissions cannot be readily estimated because the extent of this effect varies widely depending on source categories and operating parameters. As an example, refineries tend to operate at maximum capacity for 24 hours/day and seven days/week, barring major breakdowns or other unforeseeable circumstances. Therefore, missing data emissions calculated for such facilities could be more reflective of the actual emissions than those calculated for facilities that do not operate on a continuous basis. On the other hand, MDP could significantly overestimate emissions from sources that operate intermittently.

For Compliance Year 2003, the majority of NOx emissions data quantified using MDP (51 percent) and SOx emissions data quantified using MDP (78 percent) were reported by refineries. However, as mentioned before, these reported

emissions are more likely to be actual emissions instead of overstated emissions due to the continuous nature of refinery operations.

Emissions Monitoring

Overview

The accuracy of reported RECLAIM facility emissions—and thereby the enforceability of the RECLAIM program—is assured through a three-tiered hierarchy of MRR requirements. The MRR category into which equipment at a facility falls is based on what kind of equipment it is and on the level of emissions produced or potentially produced by the equipment. RECLAIM divides all NOx sources into major sources, large sources, process units, and equipment exempt pursuant to Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II. All SOx sources are divided into major sources, process units, and equipment exempt pursuant to Rule 219. Table 5-2 shows the monitoring requirements applicable to each of these categories.

Table 5-2
Monitoring Requirements for RECLAIM Sources

Source Category	Major Sources (NOx and SOx)	Large Sources (NOx only)	Process Units and Rule 219 Equipment (NOx and SOx)
Monitoring Method	Continuous Emission Monitoring System (CEMS)	Fuel Meter or Continuous Process Monitoring System (CPMS)	Fuel Meter and/or Timer
Reporting Frequency	Daily	Monthly	Quarterly

Continuous Emission Monitoring Systems (CEMS)

Requirements

CEMS represent both the most accurate and the most reliable method for continuously monitoring all of the parameters necessary to directly determine mass emissions of NOx and SOx, as well as the most costly method. These attributes make CEMS the most appropriate method for the largest equipment in the RECLAIM universe, major sources, which are relatively few in number but represent a majority of the total emissions from all equipment.

Alternatives to CEMS, namely Alternative Continuous Emission Monitoring Systems (ACEMS), are allowed under the RECLAIM regulation. These are devices that do not directly monitor NOx or SOx mass emissions, instead, they correlate multiple process parameters to arrive at mass emissions. The requirements for ACEMS are that they must be determined by the AQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility, and timeliness.

Compliance Status

By the end of Calendar Year 1999, almost all facilities that were required to have CEMS had certified or provisionally approved their CEMS. The uncertified CEMS are for sources that recently became subject to major source reporting requirements or sources that modified their CEMS. It is expected that there will be a few new major sources each year. Therefore, there will continue to be a small number of CEMS in the certification process at any time. However, there are no longer any CEMS that have been in the process for a significant length of time and that are experiencing delays due to unusual circumstances.

Standing Working Group on RECLAIM CEMS Technical Issues (SWG)

CEMS technical issues, which delayed certification of many CEMS, arose over the course of RECLAIM implementation. To address these issues and further assist facilities in complying with major source monitoring requirements, a Standing Working Group (SWG) on RECLAIM CEMS Technical Issues was formed to provide a forum in which facility representatives, consultants and AQMD staff could discuss and work out technically sound and reasonable solutions. In the past, the SWG met quarterly to discuss progress and also bring up new issues. However, the SWG no longer meets regularly, but can be convened as necessary.

Semiannual and Annual Assessments of CEMS

RECLAIM facilities have been conducting the Relatively Accuracy Test Audit (RATA) of certified CEMS—using private sector testing laboratories approved under the AQMD Laboratory Approval Program (LAP)—at their prescribed intervals, either semiannually or annually depending on the most recent relative accuracy value (the sum of the average differences and the confidence coefficient). The interval is annual only when all relative accuracies are 7.5 percent or less.

To verify the quality of CEMS, the RATA report compares the CEMS data to reference method data taken simultaneously by a LAP-approved source testing contractor. The relative accuracy performance requirements for the RATAs are ±20 percent for pollutant concentration, ±15 percent for stack flow rate, and ±20 percent for pollutant mass emission rate (the product of concentration and stack flow rate). The RATAs also determine whether CEMS data must be adjusted for low readings compared to the reference method (bias adjustment factor), and by how much. The RATA presents two pieces of data, the CEMS bias (how much it differs from the reference method on the average) and the CEMS confidence coefficient (how variable that bias or average difference is).

Table 5-3 summarizes passing rates for RATAs of certified CEMS, for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculation), and NOx and SOx mass emissions through the 2003 calendar year.

Table 5-3
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2003[1]

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO_2		Total Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx^2	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
349	100	62	100	21	100	48	100	357	100	349	100	62	100

1. All passing rates calculated from data submitted before January 1, 2004 and may exclude data from the 4th quarter of calendar year 2003. About 10 percent of test audits are still submitted in paper form and are not included in this table.
2. Does not include SOx emissions calculated from total sulfur analyzers.

Table 5-4 summarizes the 2004 calendar year passing rates for RATAs of certified CEMS, for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculation), and NOx and SOx mass emissions.

Table 5-4
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2004[1]

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO2		Total Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx^2	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
370	100	77	100	21	100	51	100	379	100	370	100	77	100

1. All passing rates calculated from data submitted in electronic form before January 1, 2005 and may exclude some data from the 4th quarter of calendar year 2004. About 10 percent of test audits are still submitted in paper form and are not included in this table.
2. Does not include SOx emissions calculated from total sulfur analyzers.

As indicated in Tables 5-3 and 5-4, the passing rates for NOx/SO2 concentration, stack flow rate, and mass emissions were high. Since the inception of RECLAIM there have been significant improvements with respect to the availability of reliable calibration gas, the reliability of the reference method, and an understanding of the factors that influence the ability to obtain valid total sulfur analyzer data. A greater familiarity with individual sources on the part of testing laboratories has also contributed to the high passing rates.

Electronic Data Reporting of RATA Results

Facilities operating CEMS under RECLAIM are required to submit RATA results. Traditionally, these results are presented in formal source test reports. AQMD with help of the SWG, set up an electronic reporting system, known as Electronic Data Reporting (EDR), to allow RATA results to be submitted on diskettes or by electronic mail using a standardized format. This system minimizes the amount of material the facility has to submit to the AQMD and also facilitates the RATA review process. With this added option, many facilities have employed the EDR system to report RATA results that, in turn, has helped the AQMD in expediting the review process.

Emissions Reporting

Requirements

RECLAIM is designed to take advantage of electronic reporting technology to streamline reporting requirements for both facilities and AQMD, and to help automate tracking compliance. Under RECLAIM, facilities report their emissions electronically on a per device basis to the AQMD's Central Station computer as follows:

- Major sources must use a Remote Terminal Unit (RTU) to telecommunicate rule compliance data to the AQMD Central Station. The RTU collects data, performs calculations, generates the appropriate data files, and transmits the data to the Central Station.
- Rule compliance data for large sources and process units may be transmitted via RTU. Alternatively, RECLAIM facilities may compile the data manually for large sources and process units and transmit it to the Central Station via modem. The data may be transmitted directly from the facility or through a third party.

Compliance Status

The main concern for emission reporting is the timely submittal of daily reports from major sources. If daily reports are not submitted within the specified deadlines, RECLAIM rules may require that emissions from CEMS be ignored and the emissions be calculated using MDP. Daily emission reports are submitted by the RTU of the CEMS to the AQMD Central Station via telephone lines. Often communication errors between the two points are not readily detectable by the facility operators. Undetected errors will cause the facility operators to believe that the daily reports were submitted when they were not received by the AQMD. In order to provide operators a means to confirm the receipt of the reports, the AQMD set up an internet based application (known as Web Access to Electronic Reporting System (WATERS)) to view the electronic reports that were submitted to and received by the Central Station. This system helps to reduce the instances where MDP had to be used for late or missing daily reports in that the operators can re-submit the daily reports if there were communication errors.

Protocol Review

Even though it is only required for the first three compliance years of the RECLAIM program, staff continues to review the effectiveness of enforcement and MRR protocols. Based on such review, appropriate revisions to the protocols may be needed to achieve improved measurement and enforcement of RECLAIM emission reductions while minimizing administrative cost to the District and RECLAIM participants.

Since the program was adopted, staff has produced rule interpretations and implementation guidance documents to clarify and resolve specific concerns about the protocols raised by RECLAIM participants. In situations where staff could not make interpretations to existing rule requirements to adequately address the issues at hand, the protocols or rules have been amended. Since

the last annual report, RECLAIM rules were amended in June 2004 and January 2005.

In June 2004, Rule 2015 – Backstop Provisions was amended to address an EPA State Implementation Plan (SIP) approvability issue regarding breakdown emissions. The rule amendment established a procedure to monitor breakdown emissions and to mitigate any emissions not covered by RTCs. Then, in January 2005, several additional RECLAIM rules were amended to enhance the MRR protocols as follows:

- **Alternative RATA Procedures for Intermittently Operated Major Sources**
  Some facilities, such as power plants, have major sources that were intermittently operated during a long period of time (often more than seven months). In the past, this type of facilities have to start up their major sources that otherwise would have been idle just to conduct RATAs when they become due. The Protocol was amended to include an alternative RATA consisting of an alternative testing method known as Cylinder Gas Audit (CGA) for qualified intermittently operated sources. Such equipment would be allowed to delay the RATA due date to the end of the subsequent quarter after passing a CGA.

- **Alternative NOx Testing Method for Standardized Fuel Sources With High Oxygen Content in the Exhaust Stream**
  Prior to these rule amendments, large sources and process units that had to demonstrate compliance with RECLAIM NOx concentration limits using the F-factor approach for oxygen were limited to situations where oxygen content in the exhaust stream was less than 19 percent. With these rule amendments, these sources can alternatively apply for a permit condition to demonstrate compliance on a mass basis.

- **Alternative Electronic Emissions Reporting Option for Non-Major Sources**
  In recognizing the rising popularity of the internet, the rule amendments provide facilities an additional, alternative option of electronically reporting emissions through the AQMD's internet website.

AQMD will continue to work closely with RECLAIM participants to resolve their issues and concerns in the most timely and appropriate manner.

CHAPTER 6
JOB IMPACTS

Summary

RECLAIM facilities reported an overall net gain of 486 jobs during Compliance Year 2003. One facility claimed the RECLAIM program caused the loss of 10 jobs. Three other facilities reported a total of six jobs gained due to RECLAIM. Thirteen RECLAIM facilities shut down or were reported out of business during Compliance Year 2003. Only one of these facilities attributed the closing, in part, to RECLAIM.

Background

AQMD staff has assessed RECLAIM's impacts on jobs in the regional economy each year of the program. The assessment for Compliance Year 2003 was performed by examining job data submitted by RECLAIM facilities as part of their Compliance Year 2003 Annual Permit Emissions Program (APEP) reports.

The APEP report forms include a survey of the number of manufacturing, non-manufacturing and sale of products jobs at each facility at the beginning of the compliance year. Companies are also asked to specify on the APEP form the number of jobs added and the number of jobs eliminated during the compliance year, the extent to which any net increase or decrease in the number of jobs was attributable to the RECLAIM program, and their reasons for attributing job loss or creation to RECLAIM. Some facilities were contacted by AQMD staff and asked to clarify or further explain their responses on the APEP form.

Job Impacts

The job impact data gathered from Compliance Year 2003 APEP reports are summarized in Table 6-1, which shows a net gain of 1,443 "Manufacturing" jobs, a net loss of 61 "Sales of Products" jobs, and a net loss of 896 "Non-Manufacturing" jobs. A total of 125 facilities reported 6,662 overall job gains, while a total of 153 facilities reported 6,176 overall job losses. According to this analysis, there was a net gain of 486 jobs for RECLAIM facilities in the Basin. This represents a net change in jobs of less than one percent during Compliance Year 2003.

Thirteen RECLAIM facilities were reported shut down or out of business during Compliance Year 2003 (see Appendix C). Eight of these companies ceased their operations during prior compliance years, but did not report the closure or cancel their RECLAIM permits immediately and were not included in the list of shut-down facilities in previous RECLAIM annual audit reports. Because these facilities did not operate during the 2003 Compliance Year, most of the job losses related to their closure have been included in APEP reports for previous years.

One of the facilities that shut down in Compliance Year 2002 attributed the plant closure, in part, to RECLAIM. However, rising energy costs and increased competition from imported products were identified as the primary reasons. The company did not submit APEP reports for 2002 or 2003. When contacted by AQMD staff, they reported 92 jobs at the start of the 2002 Compliance Year and a net loss of 88 jobs occurring during the first quarter. These job losses were not included in the annual report for 2002.

None of the facilities whose APEP reports indicate that they ceased operations during the 2003 Compliance Year identified the RECLAIM program as a contributing factor. Three companies were found to have shut down, but did not submit APEP reports for Compliance Year 2003. AQMD staff attempted, unsuccessfully, to contact representatives from these companies.

Table 6-1
Job Impacts at RECLAIM Facilities During the 2003 Compliance Year

Description	Manufacture	Sales of Products	Non-Manufacture	Total
Initial Jobs	56,184	1,366	82,315	139,865
Overall Job Gain	4,224	59	2,379	6,662
Overall Job Loss	2,781	120	3,275	6,176
Final Jobs	57,627	1,305	81,419	140,351
Net Job Change	1,443	-61	-896	486
Percent (%) Job Change	3%	-4%	-1%	0.35%
Facilities Reporting Job Gains	95	21	73	125
Facilities Reporting Job Losses	113	35	97	153

To properly assess RECLAIM's impact on jobs in the regional economy, AQMD staff has identified and reviewed the APEP forms from those facilities that reported job losses specifically due to the RECLAIM program. The only facility to report any job losses due to RECLAIM in Compliance Year 2003 also reported in their APEP report that they ceased operations in June of 2002 (prior to the start of Compliance Year 2003) due to high manufacturing costs, and listed 0 jobs at the start of the 2003 Compliance Year. According to their Compliance Year 2003 APEP, they experienced a total of 10 jobs lost due to RECLAIM. They did not cite the cost of complying with air pollution regulations as a contributing factor in their plant closure. The facility kept their permit active in hope that they could re-start operation in Compliance Year 2003. However, at the time this report was prepared, the facility no longer holds any active permit.

One facility reported a gain of 3 jobs due to the RECLAIM program. Two other companies reported no job gains in any of the categories listed on the APEP, but indicated the addition of a total of 3 jobs due to RECLAIM. The detailed information for facilities that reported job gains and losses due to RECLAIM in APEP forms for Compliance Year 2003 are summarized in Appendix E.

It should also be noted that the analysis of job impacts is confined to job gains and losses that occurred at RECLAIM facilities. It does not address jobs created or eliminated in the economy outside of RECLAIM facilities as a result of the RECLAIM program.

CHAPTER 7
AIR QUALITY AND PUBLIC HEALTH IMPACTS

Summary

The emissions reported by RECLAIM facilities from 1989 through 2003 are found to be in an overall downward trend. Quarterly NOx emissions remained relatively constant throughout Calendar Year 2003, hovering around ±5 percent of the mean NOx emissions. Quarterly SOx emissions ranged from approximately 8 percent below to 13 percent above the mean SOx emissions. Furthermore, analysis of the geographical distribution of emissions during the first ten years of the program on a quarterly basis does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act requires a 50 percent reduction in population exposure to ozone by December 31, 2000. Analysis of per capita exposure (the length of time each person is exposed) to ozone in 1998 and 2000 shows that the Basin achieved the December 2000 target for ozone well before the deadline. In fact, Los Angeles County, Orange County, and the South Coast Air Basin overall achieved attainment with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved attainment in 1996.

Air toxic health risk is primarily caused by emissions of VOCs and metals, rather than NOx or SOx emissions. Additionally, RECLAIM facilities are subject to the same air toxic regulations as other sources in the Basin. Therefore, it can be concluded that there is no toxic impact due to the implementation of the RECLAIM program beyond what would have occurred pursuant to the rules and control measures RECLAIM subsumed.

Background

RECLAIM is designed to achieve the same, or a higher level of, benefits in terms of air quality and public health as would have been achieved from implementation of the control measures and command-and-control rules that RECLAIM subsumed. Therefore, as a part of each annual program audit, AQMD evaluates per capita exposure to air pollution, toxic risk reductions, emission trends, and seasonal fluctuations in emissions. AQMD also maintains quarterly emissions maps depicting the geographic distribution of RECLAIM emissions. This chapter addresses:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Geographic patterns of emissions;
- Per capita exposure to air pollution; and
- Toxics impacts.

Emission Trends for RECLAIM Sources

Concerns were expressed during program development that RECLAIM might cause sources to increase their aggregate emissions during the early years of the program due to perceived over-allocation of emissions. The analysis of emissions from RECLAIM sources indicates that this did not occur. Figures 7-1 and 7-2 show NOx and SOx emissions for RECLAIM sources for 1989 through 2003.

Figure 7-1
NOx Emission Trend for RECLAIM Sources

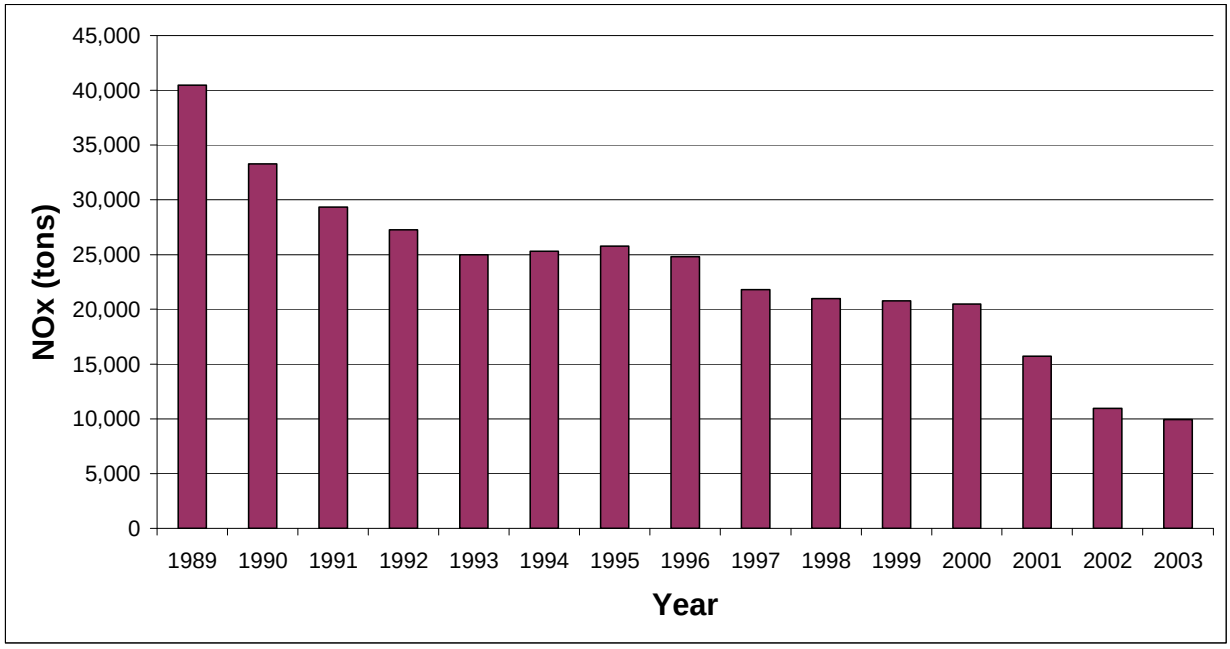
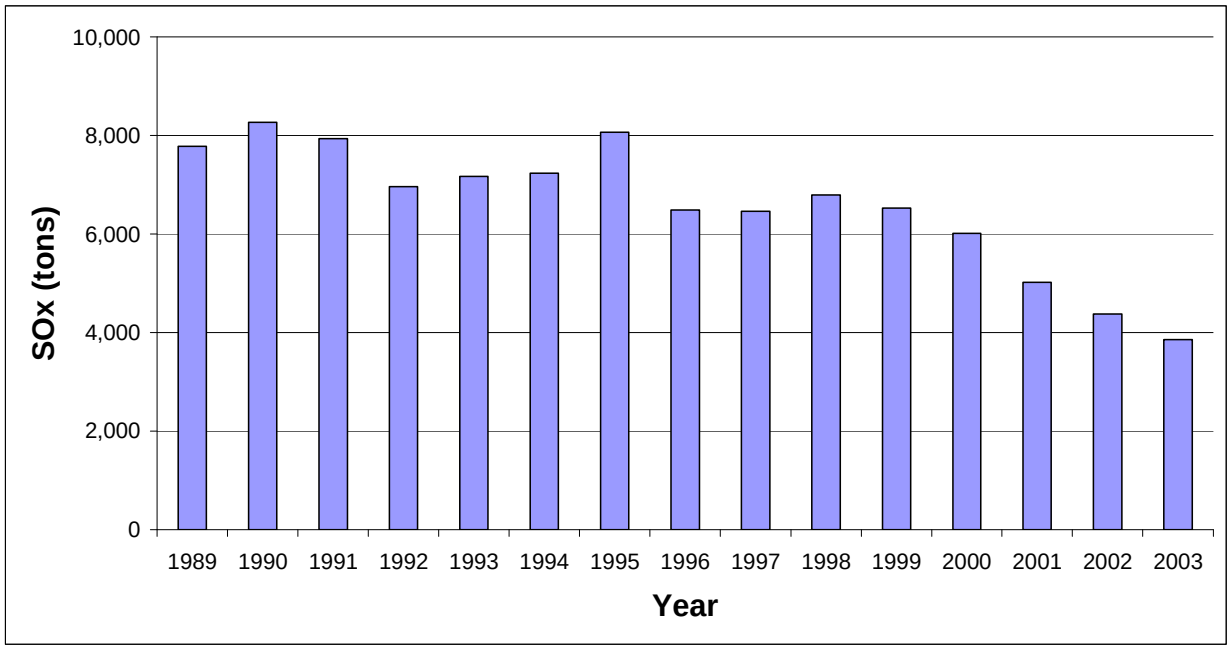


Figure 7-2
SOx Emission Trend for RECLAIM Sources



As indicated in Figures 7-1 and 7-2, there is an overall downward trend in both NOx and SOx emissions. When comparing SOx emissions for 1997 through 2003, there was a slight increase in SOx emissions in 1998, with 1999 SOx emissions comparable to 1997. However, since 1998, SOx emissions have decreased every year. Overall, the figures clearly show that RECLAIM facilities did not increase their aggregate emissions during the earlier years of the program, dispelling the concerns about higher emissions in the early years.

Seasonal Fluctuation in Emissions for RECLAIM Sources

During program development, another concern was that RECLAIM might cause facilities to shift emissions from the winter season into the summer ozone season, thus exacerbating air quality. To address this concern, AQMD staff analyzed quarterly emissions during calendar year 2003 to assess if there had been such a shift in emissions. Where available, completed audited quarterly emissions data was used for this analysis. Where completed audits were unavailable, emissions as reported by facilities (either under the Annual Permitted Emissions Program or the Quarterly Certification of Emissions Report) were used.

Figure 7-3
Calendar Year 2003 NOx Quarterly Emissions

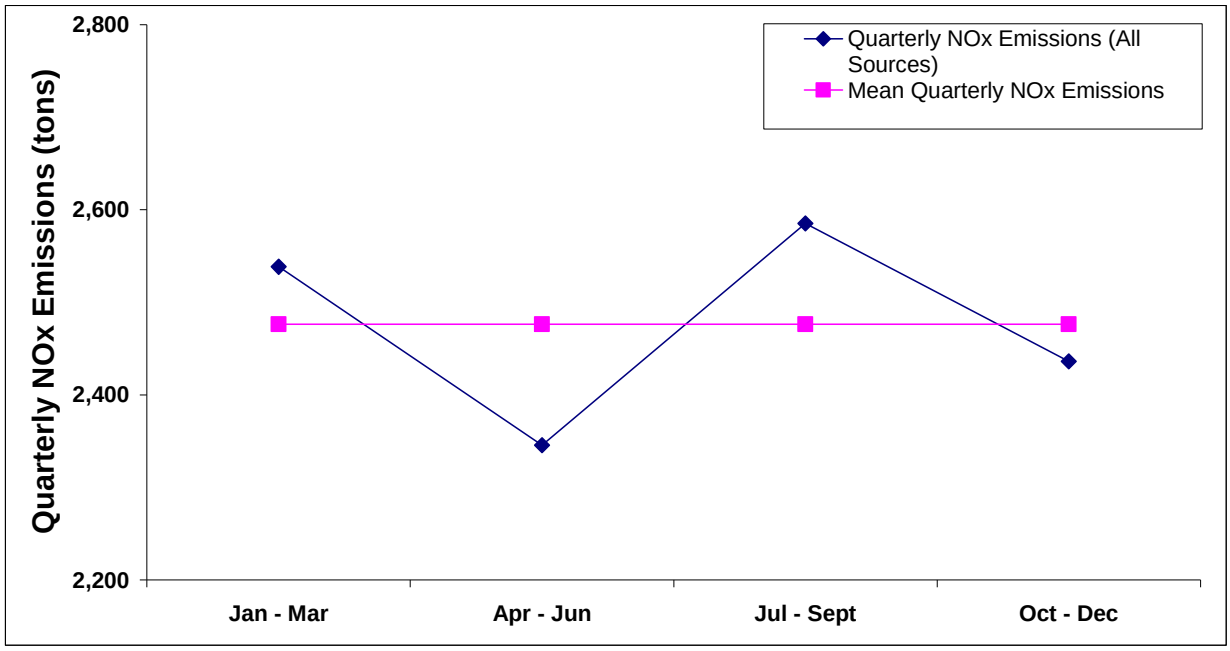


Figure 7-4
Calendar Year 2003 SOx Quarterly Emissions

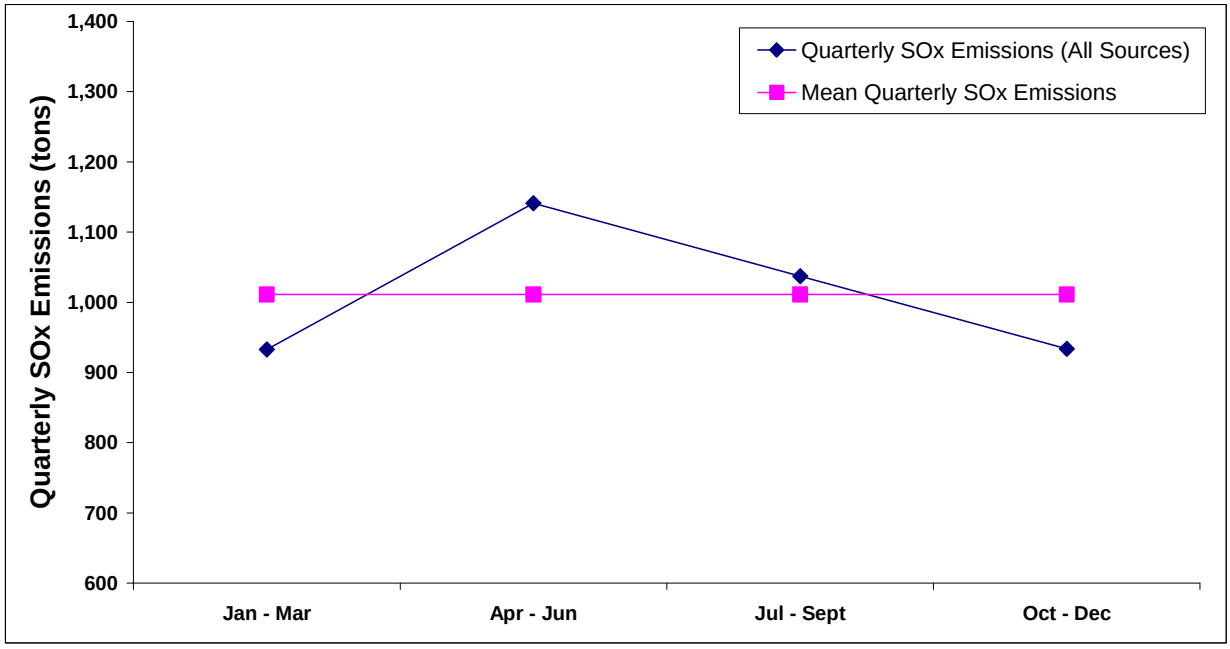


Figure 7-3 shows the mean quarterly NOx emission, which is the average of the four quarterly emissions, versus the actual quarterly emissions. Aggregate quarterly NOx emissions were relatively constant throughout the year, only varying about the mean quarterly emission with maximum percent differences in the third quarter (July through September) of 4 percent above the mean and 5

percent below the mean in the second quarter (April through June). Thus, even though there is a slight increase in NOx emissions during the July through September period, the level of increase is similar to that prior to RECLAIM.

Figure 7-4 shows quarterly SOx emissions during Calendar Year 2003. Quarterly SOx emissions vary about the mean quarterly emission with maximum percent differences in the second quarter (April through June) of 13 percent above the mean and 8 percent below the mean in the first quarter (January through March). Therefore, there was no seasonal shift of SOx emissions from the winter season into the summer ozone season.

Geographic Distribution of Emissions

As part of this program audit, AQMD staff examined the quarterly emissions maps, which were developed pursuant to Rule 2015(b)(2), for any notable changes in the geographic distribution of emissions. RECLAIM facilities have the flexibility to increase emissions as much as they need to, as long as they can provide RTCs to offset the emissions exceeding their allocations; however, there are NSR implications if they increase above their Compliance Year 1994 Allocation including non-tradable credits. Because of this flexibility and the ability of RECLAIM facilities to purchase RTCs from other facilities, some people were concerned that RECLAIM could alter the geographic distribution of emissions in the Basin and adversely affect air quality in certain areas.

Quarterly emissions for both NOx and SOx were mapped for Compliance Year 2003 (all four quarters of 2003 and the first two quarters of 2004). These maps are included in Appendices F and G. The quarterly emission maps do not show any distinct shift in the geographic pattern of emissions. AQMD will continue to review additional quarterly maps and assess the geographic patterns of emissions as the information becomes available.

Per Capita Exposure to Pollution

The predicted effects of RECLAIM on air quality and public health were thoroughly analyzed through modeling during program development. The results were compared to projected impacts from the continuation of the traditional command-and-control regulations and implementation of control measures in the 1991 AQMP. One of the criteria examined in the analysis was per capita population exposure.

Per capita population exposure reflects the length of time each person is exposed to unhealthful air quality. The modeling performed in the analysis projected that the reductions in per capita exposure under RECLAIM in Calendar Year 1994 would be nearly identical to the reductions projected for implementation of the control measures in the 1991 AQMP, and the reductions resulting from RECLAIM would be greater in Calendar Years 1997 and 2000.

Table 7-1 compares the projected Calendar Years 1994 and 1997 per capita exposures to ozone based upon continuation of the command-and-control regulatory approach and the implementation of the control measures in the 1991 AQMP with the actual per capita exposure in the Basin for Calendar Years 1994 and 1997. Table 7-2 summarizes Calendar Years 1998 through 2004 ozone data in terms of the number of days that exceeded the state and federal ambient ozone standards and the Basin's maximum concentration during each of the

seven calendar years. The data also shows that Calendar Year 2004 had the least number of days exceeding the state and federal ambient ozone standards and had the lowest maximum Basin concentration since 1998.

Table 7-1
Comparison of Per Capita Exposures Over State Standard for Ozone
1991 AQMP Projection Vs Actual Exposures

Calendar Year	Projected Per Capita Exposure based on 1991 AQMP (hrs)	Actual Per Capita Exposure (hrs)
1994	38.6	37.6
1997	32.0	5.9

Table 7-2
Summary of Ozone Data

	Calendar Year						
	1998	1999	2000	2001	2002	2003	2004
Days exceeding state standard	113	120	125	121	118	133	110
Days exceeding federal standard	62	42	40	36	49	68	27
Basin Maximum (pphm)	24	17	18.5	19.1	16.9	21.6	16.3

Table 7-3 compares the actual per capita exposures to the exposure milestones as specified in the California Clean Air Act (CCAA) for Calendar Years 1997 and 2000. The CCAA establishes specific milestones for achieving reductions in overall population exposure to severe non-attainment pollutants in the Basin. These milestones include a 25 percent reduction by December 31, 1994, a 40 percent reduction by December 31, 1997, and a 50 percent reduction by December 31, 2000, relative to a Calendar Years' 1986-88 baseline. The data presented in Table 7-3 for actual per capita exposure in both Calendar Years 1997 and 2000 for the four counties, and the Basin overall, have shown substantial progress toward continuous attainment of the state standard. As indicated in Table 7-3, actual reductions in per capita exposure in Calendar Year 1997 have gone well beyond the 50 percent reduction target scheduled for Calendar Year 2000.

Table 7-3
Per Capita Exposure to Ozone above the State Standard of 0.09 ppm (hours)

Calendar Year	Basin	Los Angeles	Orange	Riverside	San Bernardino
1986-88 baseline[1]	80.5	75.8	27.2	94.1	192.6
1994 actual	37.6	26.5	9	71.1	124.9
1995 actual	27.7	20	5.7	48.8	91.9
1996 actual	20.3	13.2	4	42.8	70
1997 actual	5.9	3	0.6	13.9	24.5
1998 actual	12.1	7.9	3.1	25.2	40.2
2000 actual	3.8	2.6	0.7	8.5	11.4
2001 actual	1.73	0.88	0.15	6	5.68
2002 actual	3.87	2.16	0.13	11.12	12.59
2003 actual	10.92	6.3	0.88	20.98	40.21
2004 actual	3.68	2.26	0.50	6.82	12.34
1997 target[2]	48.3	45.5	16.3	56.5	115.6
2000 target[3]	40.2	37.9	13.6	47	96.3

1. Average over three years, 1986 through 1988
2. 60% of the 1986-88 baseline exposures
3. 50% of the 1986-88 baseline exposures

The three tables (Tables 7-1, 7-2, and 7-3) in combination show that actual per capita exposure during all the years mentioned continues to be well under the projected exposure in the 1991 AQMP. It should also be noted that air quality in the Basin is a complex function of meteorological conditions and an array of different emission sources, including mobile, area, RECLAIM stationary sources, and non-RECLAIM stationary sources. Therefore, the reduction of per capita exposure beyond the projected level is not necessarily attributable to implementation of the RECLAIM program. It is possible that actual per capita exposure might have been as low, if not lower, with continuation of command-and-control regulations.

Toxic Impacts

Based on a comprehensive toxic impact analysis performed during program development, it was concluded that RECLAIM would not result in any significant impacts on air toxic emissions. Nevertheless, to ensure that the implementation of RECLAIM does not result in adverse toxic impacts, each annual program audit is required to assess any increase in the public health exposure to toxics as a result of RECLAIM.

RECLAIM sources are subject to the same air toxic regulations (i.e., AQMD Regulation XIV, State AB 2588, Federal NESHAP, etc.) as other sources in the Basin. These regulations further ensure that RECLAIM does not result in adverse air toxic health impacts. In addition, air toxic health risk is primarily caused by emissions of VOC and certain metals, rather than NOx or SOx emissions. The majority of VOC sources at RECLAIM facilities are subject to

source-specific command-and-control rules, in addition to the applicable toxics requirements described above. Similarly, sources of toxic metals emissions are also subject to the above-identified regulations pertaining to toxic emissions. As a result, implementation of NOx and SOx RECLAIM is not expected to significantly impact air toxic emissions. That is, the substitution of NOx and SOx RECLAIM for the command-and-control rules and the measures RECLAIM subsumes are not relevant to toxic emissions; the same toxics requirements and VOC rules and control measures apply in either case. However, AQMD will continue to monitor and assess toxic risk reduction as part of future annual audits.

APPENDIX A
RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of sources as of the end of the 2003 compliance year is provided below.

Facility ID	Cycle	Facility Name	Market
16395	2	AAA GLASS CORP	NOx
73635	1	ABLESTIK LABORATORIES	NOx
104012	1	AERA ENERGY LLC	NOx
104013	2	AERA ENERGY LLC	NOx
104015	2	AERA ENERGY LLC	NOx
104017	1	AERA ENERGY LLC	NOx
23752	2	AEROCRAFT HEAT TREATING CO INC	NOx
115394	1	AES ALAMITOS, LLC	NOx
115389	2	AES HUNTINGTON BEACH, LLC	NOx/SOx
42676	2	AES PLACERITA INC	NOx
115536	1	AES REDONDO BEACH, LLC	NOx
3417	1	AIR PROD & CHEM INC	NOx
101656	2	AIR PRODUCTS AND CHEMICALS, INC.	NOx
5998	1	ALL AMERICAN ASPHALT	NOx
114264	1	ALL AMERICAN ASPHALT	NOx
3704	2	ALL AMERICAN ASPHALT, UNIT NO.01	NOx
21290	1	ALPHA BETA CO/RALPH GROCERY CO	NOx
800196	2	AMERICAN AIRLINES INC (EIS USE)	NOx
800391	2	AMERICAN AIRLINES, INC	NOx
45527	2	AMERICAN RACING EQUIPMENT INC	NOx
60540	1	AMERICAN RACING EQUIPMENT INC, PLNT #2	NOx
10141	2	ANGELICA TEXTILE SERVICES	NOx
21598	2	ANGELICA TEXTILE SERVICES	NOx
74424	2	ANGELICA TEXTILE SERVICES	NOx
16642	1	ANHEUSER-BUSCH INC., (LA BREWERY)	NOx/SOx
117140	2	AOC, LLC	NOx
124808	2	ARCO POLYPROPYLENE LLC	NOx/SOx
11640	1	ARLON ADHESIVE SYSTEM/DECORATIVE FILMS	NOx
12155	1	ARMSTRONG WORLD INDUSTRIES INC	NOx
100130	2	ARTESIA SAWDUST PRODUCTS, INC.	NOx
16737	2	ATKINSON BRICK CO	NOx
10094	2	ATLAS CARPET MILLS INC	NOx
117290	2	B BRAUN MEDICAL, INC	NOx
800016	2	BAKER COMMODITIES INC	NOx
117785	1	BALL METAL BEVERAGE CONTAINER CORP.	NOx
800205	2	BANK OF AMERICA NT & SA, BREA CENTER	NOx
40034	1	BENTLEY PRINCE STREET INC	NOx
119907	1	BERRY PETROLEUM COMPANY	NOx
132068	1	BIMBO BAKERIES USA INC	NOx
113240	2	BLACK HILLS ONTARIO LLC	NOx
136516	2	BLACKSAND PARTNERS LP	NOx
133405	1	BODYCOTE THERMAL PROCESSING	NOx
115241	1	BOEING SATELLITE SYSTEMS INC	NOx
800067	1	BOEING SATELLITE SYSTEMS INC	NOx
800343	2	BOEING SATELLITE SYSTEMS, INC	NOx
131003	2	BP WEST COAST PROD. LLC, CARSON REFINERY	NOx/SOx
131249	1	BP WEST COAST PRODUCTS LLC,BP WILMINGTON	NOx/SOx

Facility ID	Cycle	Facility Name	Market
10340	1	BREA CANYON OIL CO INC	NOx
98159	2	BREITBURN ENERGY CORP	NOx
25638	2	BURBANK CITY, BURBANK WATER & POWER	NOx
119134	2	CALIF IND'L PRODS, DIV OF ILL TOOL WORKS	NOx
800344	1	CALIFORNIA AIR NATIONAL GUARD, MARCH AFB	NOx
22607	2	CALIFORNIA DAIRIES, INC	NOx
138568	1	CALIFORNIA DROP FORGE, INC	NOx
800181	2	CALIFORNIA PORTLAND CEMENT CO (NSR USE)	NOx/SOx
46268	1	CALIFORNIA STEEL INDUSTRIES INC	NOx
107653	2	CALMAT CO	NOx
107654	2	CALMAT CO	NOx
107655	2	CALMAT CO	NOx
107656	2	CALMAT CO	NOx
119104	1	CALMAT CO	NOx/SOx
8791	2	CAL-PACIFIC DYEING & FINISHING CORP	NOx
9141	1	CANNERS STEAM CO INC	NOx/SOx
94930	1	CARGILL INC	NOx
22911	2	CARLTON FORGE WORKS	NOx
118406	1	CARSON COGENERATION COMPANY	NOx
25016	2	CASTAIC CLAY MFG CO., INC	NOx
800373	1	CENCO REFINING COMPANY	NOx/SOx
800030	2	CHEVRON PRODUCTS CO.	NOx/SOx
95212	1	CHROMA SYSTEMS PARTNERS	NOx
56940	1	CITY OF ANAHEIM/COMB TURBINE GEN STATION	NOx
129810	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
16978	2	CLOUGHERTY PACKING CO, FARMER JOHN MEATS	NOx
62281	2	COASTCAST CORP	NOx
110982	1	COMMONWEALTH ALUMINUM CONCAST	NOx
800210	2	CONEXANT SYSTEMS INC	NOx
800362	1	CONOCOPHILLIPS COMPANY	NOx/SOx
800363	2	CONOCOPHILLIPS COMPANY	NOx/SOx
122822	2	CONSOLIDATED FILM INDUSTRIES, LLC	NOx
38440	2	COOPER & BRAIN - BREA	NOx
2537	2	CORONA CITY, DEPT OF WATER & POWER	NOx
68042	2	CORONA ENERGY PARTNERS, LTD	NOx
117572	1	CRIMSON RESOURCE MANAGEMENT CORP	NOx
117581	1	CRIMSON RESOURCE MANAGEMENT CORP	NOx
65384	1	CRITERION CATALYST CO L.P.	NOx
18648	1	CROWN CITY PLATING CO.	NOx
3950	1	CROWN CORK & SEAL CO INC	NOx
15982	2	CUSTOM ALLOY SALES INC	NOx
50098	1	D&D DISPOSAL INC,WEST COAST RENDERING CO	NOx
63180	1	DARLING INTERNATIONAL INC	NOx
3721	2	DART CONTAINER CORP OF CALIFORNIA	NOx
7411	2	DAVIS WIRE CORP	NOx
47771	1	DELEO CLAY TILE CO INC	NOx
800037	2	DEMENNO/KERDOON	NOx
125579	1	DIRECTV	NOx
800189	1	DISNEYLAND RESORT	NOx
38872	1	DOANE PET CARE COMPANY	NOx
800038	2	DOUGLAS PRODUCTS DIVISION	NOx
129729	2	DRS TECHNOLOGIES INC	NOx
121746	2	DUKESOLUTIONS HUNTINGTON BEACH, LLC	NOx
104571	2	E & J TEXTILE GROUP, INC	NOx
126351	1	EASTMAN CHEMICAL COMPANY	NOx
800264	2	EDGINGTON OIL COMPANY	NOx/SOx
133813	1	EI COLTON, LLC	NOx
115663	1	EL SEGUNDO POWER, LLC	NOx

Facility ID	Cycle	Facility Name	Market
800372	2	EQUILON ENTER. LLC, SHELL OIL PROD. US	NOx/SOx
800370	1	EQUILON ENTER., LLC, SHELL OIL PROD. U S	NOx/SOx
117247	1	EQUILON ENTERPRISES, LLC	NOx/SOx
124838	1	EXIDE TECHNOLOGIES	NOx/SOx
17344	1	EXXONMOBIL OIL CORP	NOx
25058	2	EXXONMOBIL OIL CORP	NOx
800089	1	EXXONMOBIL OIL CORPORATION	NOx/SOx
122295	2	FALCON FOAM, A DIV OF ATLAS ROOFING CORP	NOx
137977	1	FIVEPLANTS ASSOCIATES, A CAL LTD PTNR	NOx
11716	1	FONTANA PAPER MILLS INC	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
5814	1	GAINEY CERAMICS INC	NOx
11016	2	GEORGIA-PACIFIC CORP	NOx
10055	2	G-P GYPSUM CORP	NOx
137471	2	GRIFOLS BIOLOGICALS INC	NOx
40196	2	GUARDIAN INDUSTRIES CORP.	NOx/SOx
861	1	H J HEINZ, L P.	NOx
106325	2	HARBOR COGENERATION CO	NOx
45953	1	HAYES LEMMERZ INTERNATIONAL CAL INC	NOx
123774	1	HERAEUS METAL PROCESSING, INC.	NOx
15164	1	HIGGINS BRICK CO	NOx
113160	2	HILTON COSTA MESA	NOx
800066	1	HITCO CARBON COMPOSITES INC	NOx
2912	2	HOLLIDAY ROCK CO INC	NOx
800003	2	HONEYWELL INTERNATIONAL INC	NOx
124619	1	IMPRESS USA INC	NOx
123087	2	INDALEX WEST INC	NOx
800240	2	INLAND PAPERBOARD AND PACKAGING INC	NOx
5830	1	INTERMETRO INDUSTRIES CORP	NOx
23589	2	INTERNATIONAL EXTRUSION CORP	NOx
106810	2	INTERSTATE BRANDS CORP	NOx
22364	1	ITT INDUSTRIES, CANNON	NOx
22373	1	JEFFERSON SMURFIT CORPORATION (U.S.)	NOx
16338	1	KAISER ALUMINUM & CHEM CORP	NOx
21887	2	KIMBERLY-CLARK WORLDWIDE INC.-FLTN MILL	NOx/SOx
1744	2	KIRKHILL RUBBER CO	NOx
132626	2	KRAFT FOODS NORTH AMERICA/NABISCO DIV	NOx
800335	2	LA CITY, DEPT OF AIRPORT	NOx
800170	1	LA CITY, DWP HARBOR GENERATING STATION	NOx
800074	1	LA CITY, DWP HAYNES GENERATING STATION	NOx
800075	1	LA CITY, DWP SCATTERGOOD GENERATING STN	NOx
800193	2	LA CITY, DWP VALLEY GENERATING STATION	NOx
61962	1	LA CITY, HARBOR DEPT	NOx
550	1	LA CO., INTERNAL SERVICE DEPT	NOx
7931	1	LA PAPER BOX & BOARD MILLS	NOx
115277	1	LAFAYETTE TEXTILE IND LLC	NOx
12912	2	LIBBEY GLASS INC	NOx/SOx
57892	2	LIFE-LIKE PRODUCTS INC.	NOx
83102	2	LIGHT METALS INC	NOx
31046	2	LISTON BRICK COMPANY OF CORONA	NOx
115314	2	LONG BEACH GENERATION LLC	NOx
14229	2	LORBER INDUSTRIES OF CALIFORNIA	NOx
17623	2	LOS ANGELES ATHLETIC CLUB	NOx
58622	2	LOS ANGELES COLD STORAGE CO	NOx
125015	2	LOS ANGELES TIMES COMMUNICATIONS LLC	NOx
13976	1	LUCKY STORES INC, #952	NOx
800080	2	LUNDAY-THAGARD OIL CO	NOx
128243	1	MAGNOLIA POWER PROJECT,SCPPA	NOx

Facility ID	Cycle	Facility Name	Market
14049	2	MARUCHAN INC	NOx
18865	2	MASTERFOODS USA	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
2825	1	MCP FOODS INC	NOx
100844	2	MEDALLION CALIFORNIA PROPERTIES CO	NOx
115563	1	METAL COATERS OF CALIFORNIA	NOx
94872	2	METAL CONTAINER CORP	NOx
14855	1	MILLER BREWING CO	NOx
800088	2	MINNESOTA MINING & MFG CO	NOx
12372	1	MISSION CLAY PRODUCTS	NOx
800094	1	MOBIL OIL CORP, NEWHALL STA (EIS USE)	NOx
121737	1	MOUNTAINVIEW POWER COMPANY LLC	NOx
11887	2	NASA JET PROPULSION LAB	NOx
40483	2	NELCO PROD. INC	NOx
16531	2	NEVILLE CHEM CO	NOx
12428	2	NEW NGC, INC.	NOx
131732	2	NEWPORT FAB, LLC	NOx
800167	2	NORTHROP GRUMMAN CORP	NOx
18294	1	NORTHROP GRUMMAN CORP, AIRCRAFT DIV	NOx
800408	1	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	NOx
800409	2	NORTHROP GRUMMAN SPACE & MISSION SYSTEMS	NOx
112853	2	NP COGEN INC	NOx
135976	2	NUEVO ENERGY COMPANY	NOx
135978	2	NUEVO ENERGY COMPANY	NOx
45471	2	OGLEBAY NORTON INDUSTRIAL SANDS INC	NOx
89248	2	OLD COUNTRY MILLWORK INC	NOx
47781	1	OLS ENERGY-CHINO	NOx
35302	2	OWENS CORNING	NOx/SOx
7427	1	OWENS-BROCKWAY GLASS CONTAINER INC	NOx/SOx
45746	2	PABCO BLDG PRODUCTS LLC,PABCO PAPER, DBA	NOx/SOx
17953	1	PACIFIC CLAY PRODUCTS INC	NOx
59618	1	PACIFIC CONTINENTAL TEXTILES, INC.	NOx
60531	2	PACIFIC FABRIC FINISHING	NOx
2946	1	PACIFIC FORGE INC	NOx
800208	2	PAPER PAK PROD. INC	NOx
130211	2	PAPER-PAK INDUSTRIES	NOx
89429	2	PARADISE TEXTILE CO	NOx
800183	1	PARAMOUNT PETR CORP (EIS USE)	NOx/SOx
800168	1	PASADENA CITY, DWP (EIS USE)	NOx
119920	1	PECHINEY CAST PLATE INC	NOx
133987	1	PLAINS EXPLORATION & PRODUCTION CO, LP	NOx
115449	1	PLAYA PHASE I COMMERCIAL LAND, LLC	NOx
117485	2	PORT OF LONG BEACH	NOx
7416	1	PRAXAIR INC	NOx
42630	1	PRAXAIR INC	NOx
133046	1	PRECISION SPECIALTY METALS INC	NOx
136	2	PRESS FORGE CO	NOx
132191	1	PURENERGY OPERATING SERVICES, LLC	NOx
132192	1	PURENERGY OPERATING SERVICES, LLC	NOx
8547	1	QUEMETCO INC	NOx/SOx
19167	2	R J NOBLE COMPANY	NOx
3585	2	R. R. DONNELLEY & SONS CO, LA MFG DIV	NOx
20604	2	RALPHS GROCERY CO	NOx
115041	1	RAYTHEON COMPANY	NOx
114997	1	RAYTHEON COMPANY	NOx
115172	2	RAYTHEON COMPANY	NOx
800371	2	RAYTHEON SYSTEMS COMPANY - FULLERTON OPS	NOx
346	1	RECOT, INC.	NOx

Facility ID	Cycle	Facility Name	Market
20543	1	REDCO II	NOx
15544	2	REICHHOLD INC	NOx
115315	1	RELIANT ENERGY ETIWANDA, INC.	NOx
52517	1	REXAM PLC, REXAM BEVERAGE CAN COMPANY	NOx
114801	1	RHODIA INC.	NOx/SOx
61722	2	RICOH ELECTRONICS INC	NOx
114138	2	RIPON COGENERATION, INC.	NOx
800182	1	RIVERSIDE CEMENT CO (EIS USE)	NOx/SOx
98812	2	RMS FOUNDATION INC	NOx
800113	2	ROHR,INC	NOx
18455	2	ROYALTY CARPET MILLS INC	NOx
93073	1	SABA PETROLEUM INC	NOx
106797	1	SAINT-GOBAIN CONTAINERS LLC	NOx/SOx
108701	1	SAINT-GOBAIN CONTAINERS LLC	NOx/SOx
4242	2	SAN DIEGO GAS & ELECTRIC	NOx
117227	2	SCHI SM BCH HOTEL LLC, LOWES SM BCH HOTE	NOx
15504	2	SCHLOSSER FORGE CO	NOx
20203	2	SCOPE PRODUCTS INC, DEXT CO	NOx
14926	1	SEMPRA ENERGY (THE GAS CO)	NOx
9217	1	SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS	NOx
11034	2	SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS	NOx
16575	1	SEMPRA ENERGY SOLUTIONS/CENTRAL PLANTS	NOx
37603	1	SGL TECHNIC INC, POLYCARBON DIVISION	NOx
131850	2	SHAW DIVERSIFIED SERVICES	NOx
16639	1	SHULTZ STEEL CO	NOx
54402	2	SIERRA ALUMINUM COMPANY	NOx
85943	2	SIERRA ALUMINUM COMPANY	NOx
101977	1	SIGNAL HILL PETROLEUM INC	NOx
82727	2	SMURFIT NEWSPRINT CORPORATION	NOx
43201	2	SNOW SUMMIT INC	NOx
4477	1	SO CAL EDISON CO	NOx
18763	1	SO CAL EDISON CO	NOx
800123	2	SO CAL EDISON CO	NOx
800124	2	SO CAL EDISON CO	NOx
800125	1	SO CAL EDISON CO	NOx
800126	2	SO CAL EDISON CO	NOx
800224	1	SO CAL EDISON CO (EIS USE)	NOx
5973	1	SO CAL GAS CO	NOx
800127	1	SO CAL GAS CO (EIS USE)	NOx
800128	1	SO CAL GAS CO (EIS USE)	NOx
8582	1	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	NOx
9114	1	SOMITEX PRINTS OF CAL INC	NOx
14871	2	SONOCO PRODUCTS CO	NOx
103618	1	SPECIALTY BRANDS INC	NOx
800338	2	SPECIALTY PAPER MILLS INC	NOx
1634	2	STEELCASE INC, WESTERN DIV	NOx
131824	2	STEELCASE, INC.	NOx
126498	2	STEELSCAPE, INC	NOx
112164	2	STOCKER RESOURCES, INC	NOx
34055	2	SULLY MILLER CONTRACTING CO	NOx
105277	2	SULLY MILLER CONTRACTING CO	NOx
19390	1	SULLY-MILLER CONTRACTING CO.	NOx
23196	2	SUNKIST GROWERS, INC	NOx
2083	1	SUPERIOR INDUSTRIES INTERNATIONAL INC	NOx
3968	1	TABC, INC	NOx
18931	2	TAMCO	NOx
56427	1	TANDEM INDUSTRIES	NOx
14944	1	TECHALLOY CO., INC.	NOx/SOx

Facility ID	Cycle	Facility Name	Market
96587	1	TEXOLLINI INC	NOx
4451	1	TEXTRON FASTENING SYSTEMS SANTA ANA OPER	NOx
14736	2	THE BOEING COMPANY	NOx
800110	2	THE BOEING COMPANY	NOx
800259	1	THE BOEING COMPANY	NOx
11119	1	THE GAS CO./ SEMPRA ENERGY	NOx
11435	2	THE PQ CORP	NOx/SOx
97081	1	THE TERMO COMPANY	NOx
800330	1	THUMS LONG BEACH	NOx
129497	1	THUMS LONG BEACH CO	NOx
800325	2	TIDELANDS OIL PRODUCTION CO	NOx
68118	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
68122	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
55758	1	TISSURAMA INDUSTRIES INC	NOx
137508	2	TONOGA INC, TACONIC DBA	NOx
108616	1	TORCH OPERATING CO	NOx
53729	1	TREND OFFSET PRINTING SERVICES, INC	NOx
11674	1	TRI-ALLOY INC	NOx
43436	1	TST, INC	NOx
83738	1	U.S. DYEING & FINISHING INC.	NOx
800026	1	ULTRAMAR INC (NSR USE ONLY)	NOx/SOx
118618	2	UNI-PRESIDENT (U.S.A.) INC	NOx
9755	2	UNITED AIRLINES INC	NOx
60342	2	UNITED STATES CAN CO	NOx
800258	1	UNOCAL CORP., HARTLEY CENTER	NOx
73022	2	US AIRWAYS INC	NOx
800149	2	US BORAX INC	NOx
800150	1	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	NOx
12185	2	US GYPSUM CO	NOx/SOx
18695	1	US GYPSUM CO	NOx
1073	1	US TILE CO	NOx
800393	1	VALERO WILMINGTON ASPHALT PLANT	NOx
111415	2	VAN CAN COMPANY	NOx
14502	2	VERNON CITY, LIGHT & POWER DEPT	NOx
115130	1	VERTIS, INC	NOx
101369	2	VINTAGE PETROLEUM INC	NOx
122012	2	VINTAGE PETROLEUM, INC DEL VALLE OIL FLD	NOx
14495	2	VISTA METALS CORPORATION	NOx
126501	2	VOUGHT AIRCRAFT INDUSTRIES	NOx
42775	1	WEST NEWPORT OIL CO	NOx/SOx
17956	1	WESTERN METAL DECORATING CO	NOx
1962	2	WEYERHAEUSER COMPANY	NOx
51620	1	WHEELABRATOR NORWALK ENERGY CO INC	NOx
127299	2	WILDFLOWER ENERGY LP/INDIGO ENERGY FAC	NOx
129238	1	XYRON INC	NOx

APPENDIX B
FACILITY INCLUSIONS

As discussed in Chapter 1, five facilities were added to the NOx market of the RECLAIM universe for the 2003 compliance year. Of these five, two existing facilities and three new facilities opted to join RECLAIM.

Facility ID	Cycle	Facility Name	Market	Date	Reason
2537	2	CORONA CITY, DEPT OF WATER & POWER	NOx	11/12/2003	Opt-in at facility request.
60508	2	COASTCAST CORPORATION	NOx	1/1/2004	Opt-in at facility request.
127299	2	WILDFLOWER ENERGY LP/INDIGO ENERGY FAC	NOx	10/31/2003	Opt-in at facility request.
128243	1	MAGNOLIA POWER PROJECT,SCPPA	NOx	5/27/2003	Opt-in at facility request.
133813	1	EI COLTON, LLC	NOx	1/10/2003	Opt-in at facility request.

APPENDIX C
RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

AQMD staff is aware of the following RECLAIM facilities that permanently ceased all operations and went out of business during the 2003 compliance year. The reasons for shutdown cited below are based on AQMD staff's best available information.

Facility ID	10873
Facility Name	Elsinore Ready-Mix Co. Inc.
City and County	Lake Elsinore, Riverside County
SIC	3273
Pollutants	NOx
1994 Allocation	82,080
Reason for Shutdown	Closed November 2003 due to termination of lease

Facility ID	11142
Facility Name	Keysor-Century Corp.
City and County	Saugus, Los Angeles County
SIC	2821
Pollutants	NOx
1994 Allocation	8,628
Reason for Shutdown	All equipment has been removed. No APEP was submitted for Compliance Year 2003. Contact person could not be reached for comment. The permit was cancelled in 2004.

Facility ID	19989
Facility Name	Parker Hannefin Aerospace Corp.
City and County	Irvine, Orange County
SIC	3720
Pollutants	NOx
1994 Allocation	8,645
Reason for Shutdown	The facility closed in 2000 due to consolidation of operations, but a soil remediation system continued to operate until 2003.

Facility ID	22808
Facility Name	Price Pfister
City and County	Pacoima, Los Angeles County
SIC	3432
Pollutants	NOx
1994 Allocation	11,331
Reason for Shutdown	Operations were moved to Mexico in October 2002. Company representatives could not be reached for comment at the time when this report was prepared. Prior records showed that the move was motivated by lower cost.

Facility ID	40764
Facility Name	Century Laminators Inc.
City and County	Anaheim, Orange County
SIC	3672
Pollutants	NOx
1994 Allocation	8,866
Reason for Shutdown	The facility has been vacated. No emissions reports were submitted for Compliance Year 2003. AQMD staff has been unable to contact the company.

Facility ID	57329
Facility Name	Kwikset Corp.
City and County	Anaheim, Orange County
SIC	3499
Pollutants	NOx
1994 Allocation	18,518
Reason for Shutdown	The facility closed in 2001, but a soil remediation system continued to operate until December 2003. The facility did not cite RECLAIM as a factor for closing down. Company representatives could not be reached for comment at the time when this report was prepared. Prior records showed that the closure was motivated by lower cost.

Facility ID	60508
Facility Name	Coastcast Corp.
City and County	Gardena, Los Angeles County
SIC	9999
Pollutants	NOx
1994 Allocation	4,316
Reason for Shutdown	The Increased competition from low cost imports.

Facility ID	67945
Facility Name	Great Western Malting Co., Inc.
City and County	Los Angeles, Los Angeles County
SIC	2083
Pollutants	NOx/SOx
1994 Allocation	13,338 NOx; 192,080 SOx
Reason for Shutdown	The facility closed in January 2003 due to low demand for product and rising cost of raw material.

Facility ID	84223
Facility Name	Newell Rubbermaid Inc.
City and County	City of Industry, Los Angeles County
SIC	3089
Pollutants	NOx
1994 Allocation	8,852
Reason for Shutdown	The site is occupied by another company and all RECLAIM equipment has been removed. No emissions reports were submitted for Compliance Year 2003. AQMD staff has been unable to contact the company.

Facility ID	108113
Facility Name	Ridgewood /California Power Partners, L.P.
City and County	Los Angeles, Los Angeles County
SIC	5499
Pollutants	NOx
1994 Allocation	15,100
Reason for Shutdown	The facility shut down February 2000 because a dispute with DWP was not resolved and it was not profitable to operate. They did not cancel their permit until November 2003.

Facility ID	115211
Facility Name	Mission Dye House LLC
City and County	Los Angeles, Los Angeles County
SIC	2299
Pollutants	NOx
1994 Allocation	6,706
Reason for Shutdown	The plant closed in June 2002 due to the high costs of manufacturing and raw materials.

Facility ID	115666
Facility Name	Riverside Canal Power Company
City and County	Grand Terrace, San Bernardino County
SIC	4911
Pollutants	NOx
1994 Allocation	3,936
Reason for Shutdown	The power plant was purchased from SCE in 1998, but it was never operated by Riverside Canal. The RECLAIM permit was inactivated in 2002. The company plans to construct a new power plant at the site.

Facility ID	117151
Facility Name	Pomona Paper Company
City and County	Pomona, Los Angeles County
SIC	2621
Pollutants	NOx
1994 Allocation	590,920
Reason for Shutdown	The company ceased operations in September 2002, but kept the equipment on site and the CEMS in operation while attempting to sell the facility. The closure was attributed primarily to competition from lower cost imports and high gas prices. The company used Mobile Source Emission Reduction Credits (MSERCs) that were not SIP-approved. Two environmental groups filed suit against them, forcing them to purchase and retire RTCs. They cited this cost as a factor in their decision to shut down.

APPENDIX D
FACILITIES THAT WERE UNABLE TO RECONCILE EMISSIONS FOR COMPLIANCE YEAR 2003

The following is a list of facilities that were determined to have not reconciled their allocations with their NOx and/or SOx emissions in Compliance Year 2003 based on emissions reported under Quarterly Certification reports, the APEP report filed by the facility or completed audits conducted by AQMD staff. This list is being maintained and updated as audits are completed. The updated list is available by contacting the RECLAIM Administration Team at 21865 Copley Drive, Diamond Bar, CA 91765, (909) 396-3119.

Facilities That Failed to Reconcile NOx Emissions With Their Allocations

Berry Petroleum Company (ID# 119907)
Calmat Co. (ID# 119104)
Darling International Inc. (ID# 63180)
DirecTV (ID# 125579)
Fansteel/California Drop Forge (ID# 22047)
LA Paper Box & Board Mills (ID# 7931)
Pacific Terminals, LLC (ID# 137520)
Playa Phase I Commercial Land, LLC (ID# 115449)
Praxair Inc. (ID# 42630)
Xyron Inc. (ID# 129238)

APPENDIX E
JOB IMPACTS ATTRIBUTED TO RECLAIM

Each RECLAIM facility operator is requested to include in their Annual Permit Emissions Program (APEP) report an assessment of job increases and decreases that occurred during the compliance year and the extent to which any increase or decrease in the number of jobs is attributable to the RECLAIM program. The job impact resulting from the RECLAIM program during the 2003 compliance year was assessed by examining data in APEP reports submitted by RECLAIM facilities.
The detailed information for facilities that reported job gains and losses in their APEP forms for Compliance Year 2003 is summarized below:

Facilities with actual job gains or losses attributed to RECLAIM:

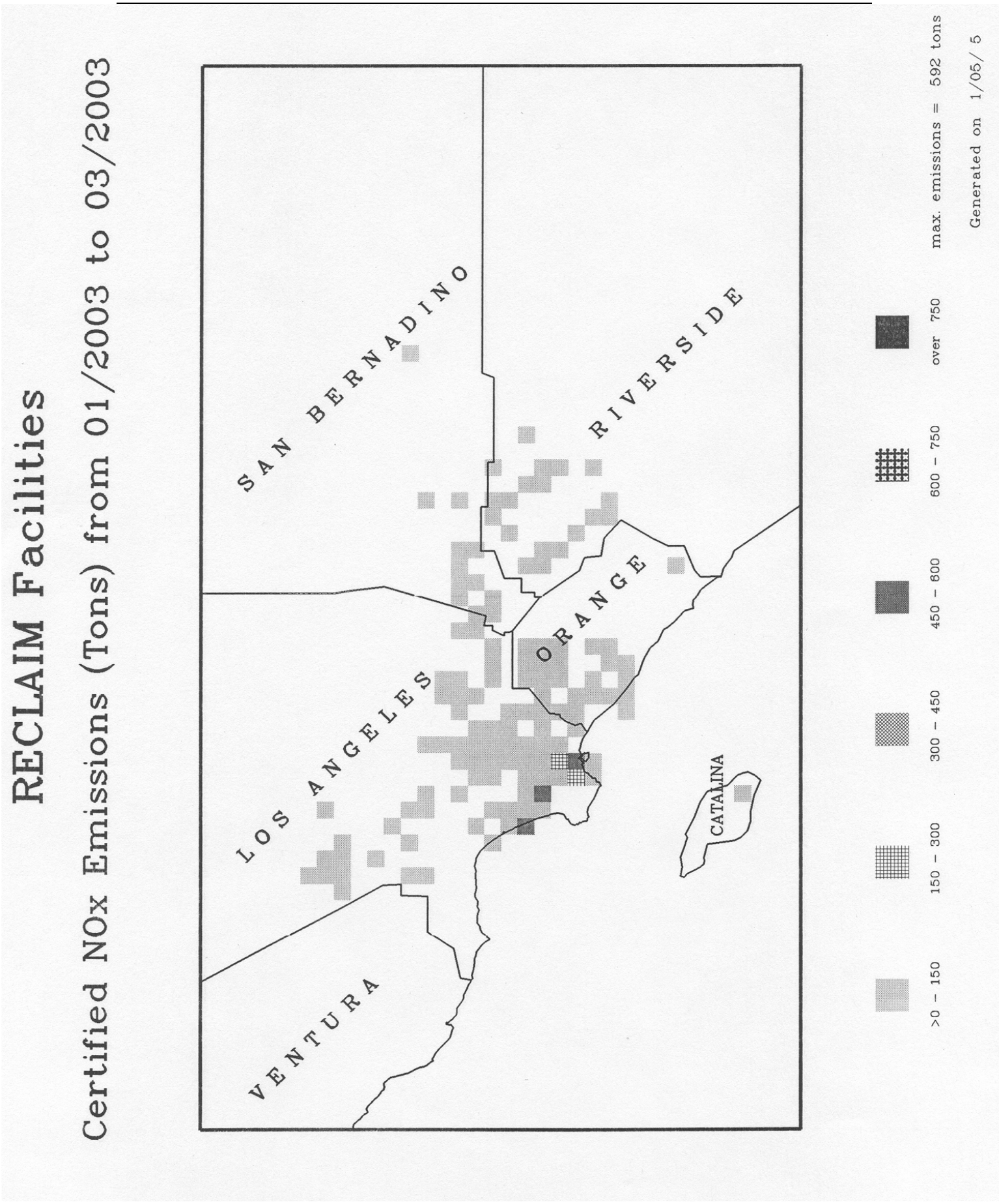
Facility ID	5814
Facility Name	Gainey Ceramics Inc.
City and County	La Verne, Los Angeles County
SIC	3260
Pollutant(s)	NOx
Cycle	1
Job Gain	11 (3 attributed to RECLAIM)
Job Loss	3 (0 attributed to RECLAIM)
Comments	Additional employees are needed to handle recordkeeping and reporting requirements.

Facility ID	14495
Facility Name	Vista Metals Corporation
City and County	Fontana, Los Angeles County
SIC	3341
Pollutant(s)	NOx
Cycle	2
Job Gain	0 (See comment below.)
Job Loss	6 (0 attributed to RECLAIM)
Comments	The company listed 0 job gains in manufacturing, sales of products, or non-manufacturing, but they indicated 2 jobs gained due to RECLAIM. They indicated "Additional employees are needed to comply with all new requirements."

Facility ID	38440
Facility Name	Cooper & Brain - Brea
City and County	Brea, Orange County
SIC	1311
Pollutant(s)	NOx
Cycle	2
Job Gain	0 (see comment below)
Job Loss	0
Comments	The company listed 0 job gains in each of the three categories listed on the survey form, but they indicated 1 job gained due to RECLAIM. They commented: "We are forced to use consulting services on a regular basis to deal with issues related to AQMD."

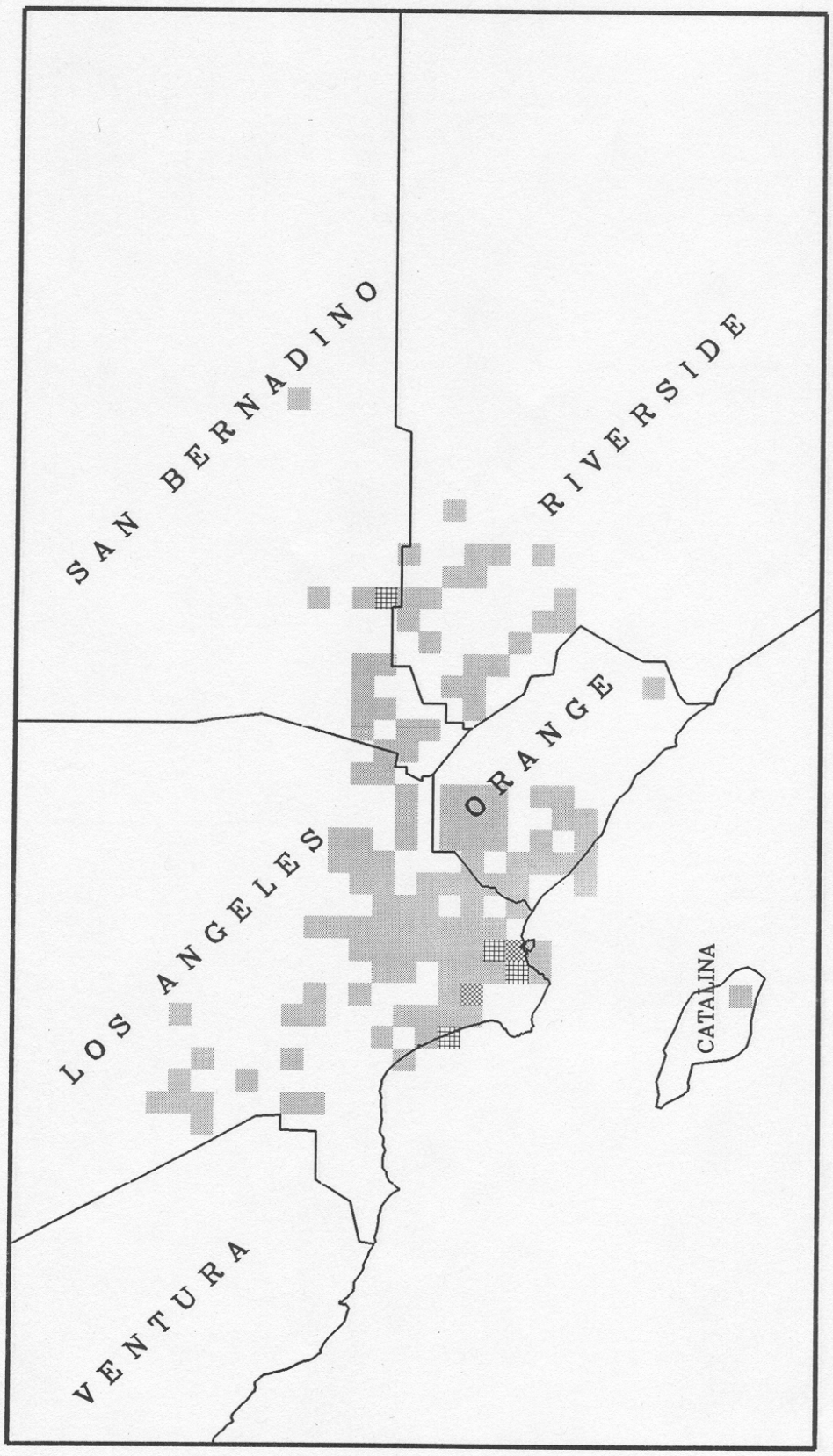
Facility ID	115211
Facility Name	Mission Dye House LLC
City and County	Los Angeles, Los Angeles County
SIC	2260
Pollutant(s)	NOx
Cycle	2
Job Gain	0
Job Loss	0 (see comment below)
Comments	This facility was shut down in 2002. They listed 0 job losses in each of the three categories listed on the survey form, but they indicated 10 jobs lost due to RECLAIM. They commented: "Too costly"

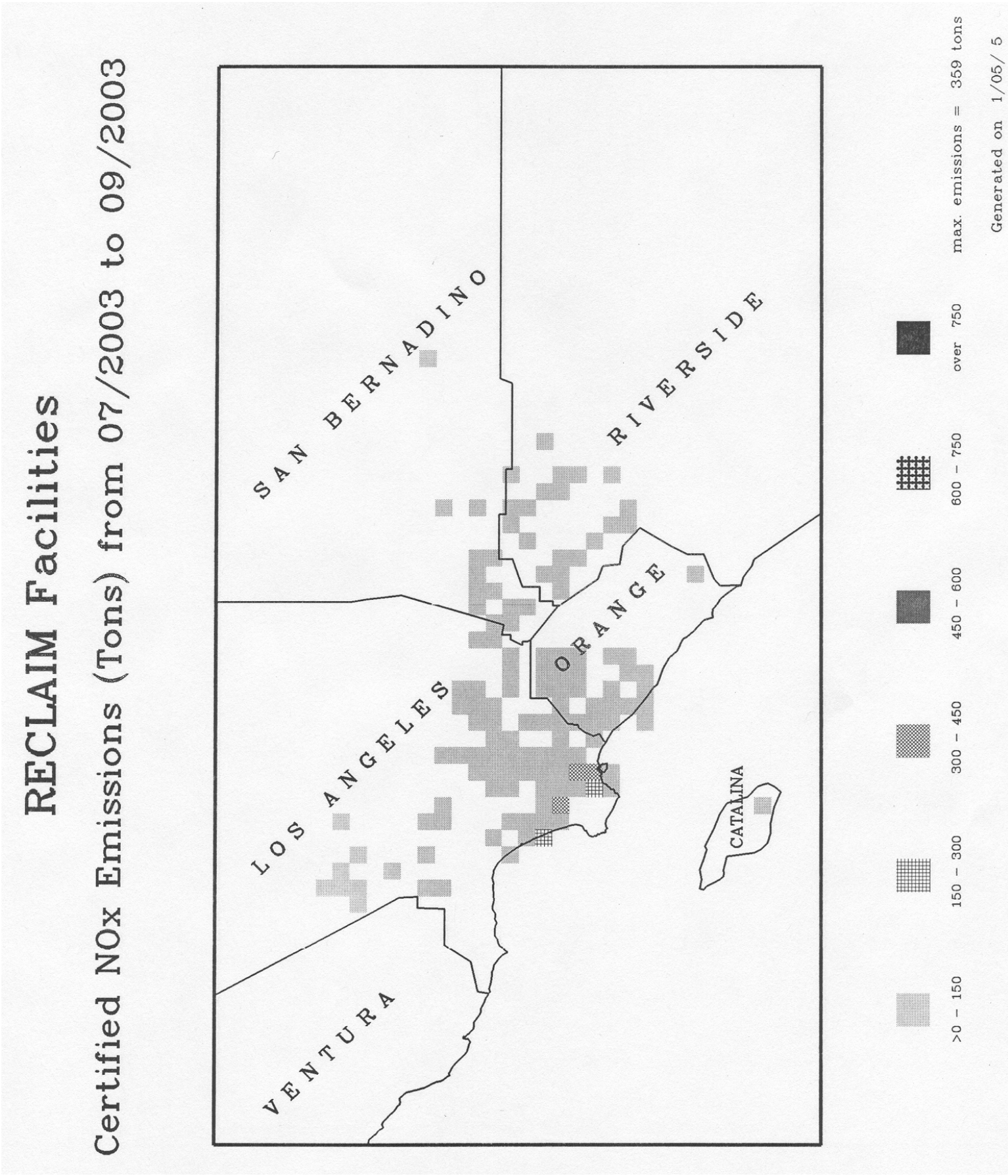
APPENDIX F
QUARTERLY NOX EMISSION MAPS

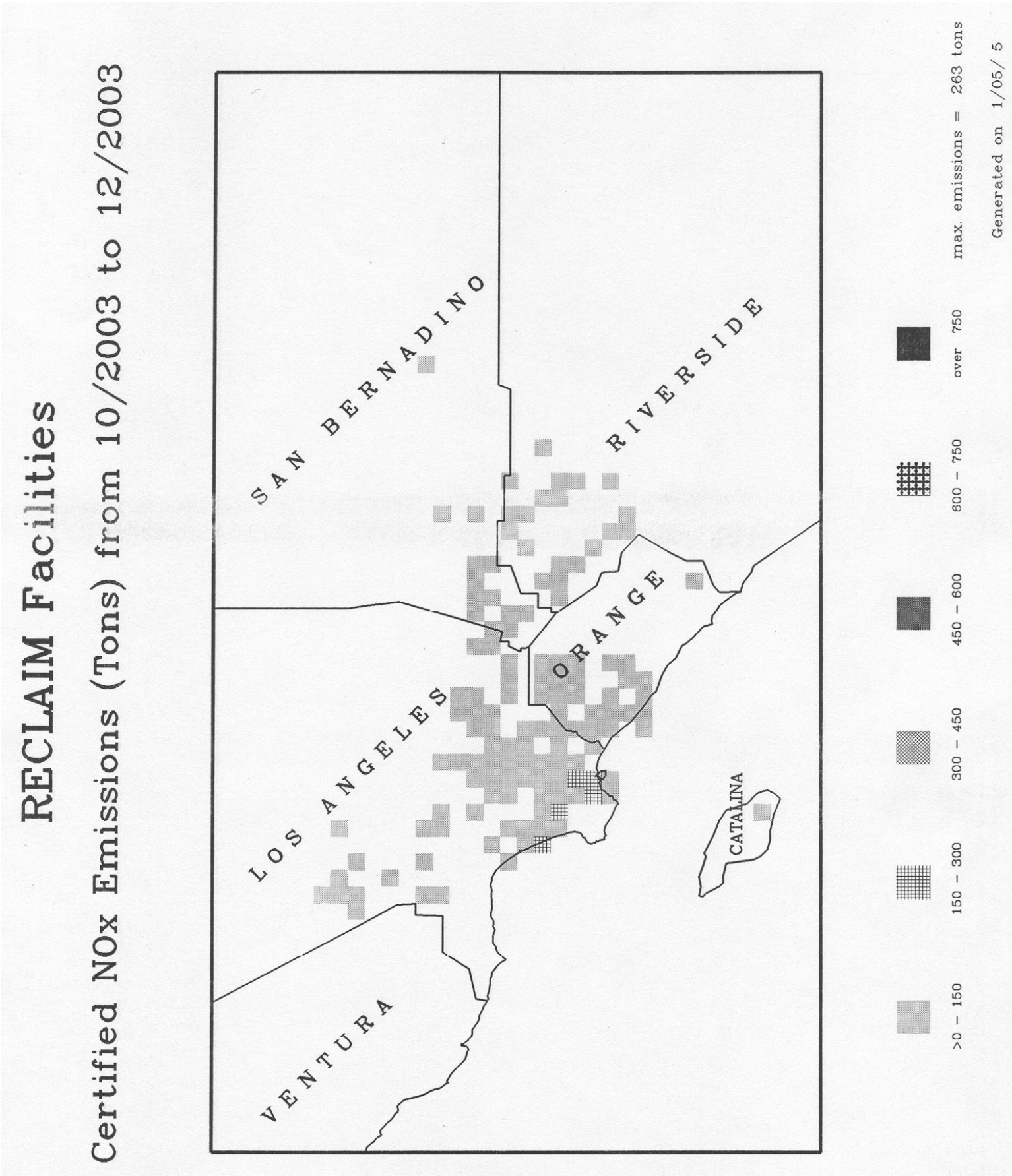

RECLAIM Facilities
Certified NOx Emissions (Tons) from 01/2003 to 03/2003
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 592 tons
Generated on 1/05/ 5

RECLAIM Facilities

Certified NOx Emissions (Tons) from 04/2003 to 06/2003

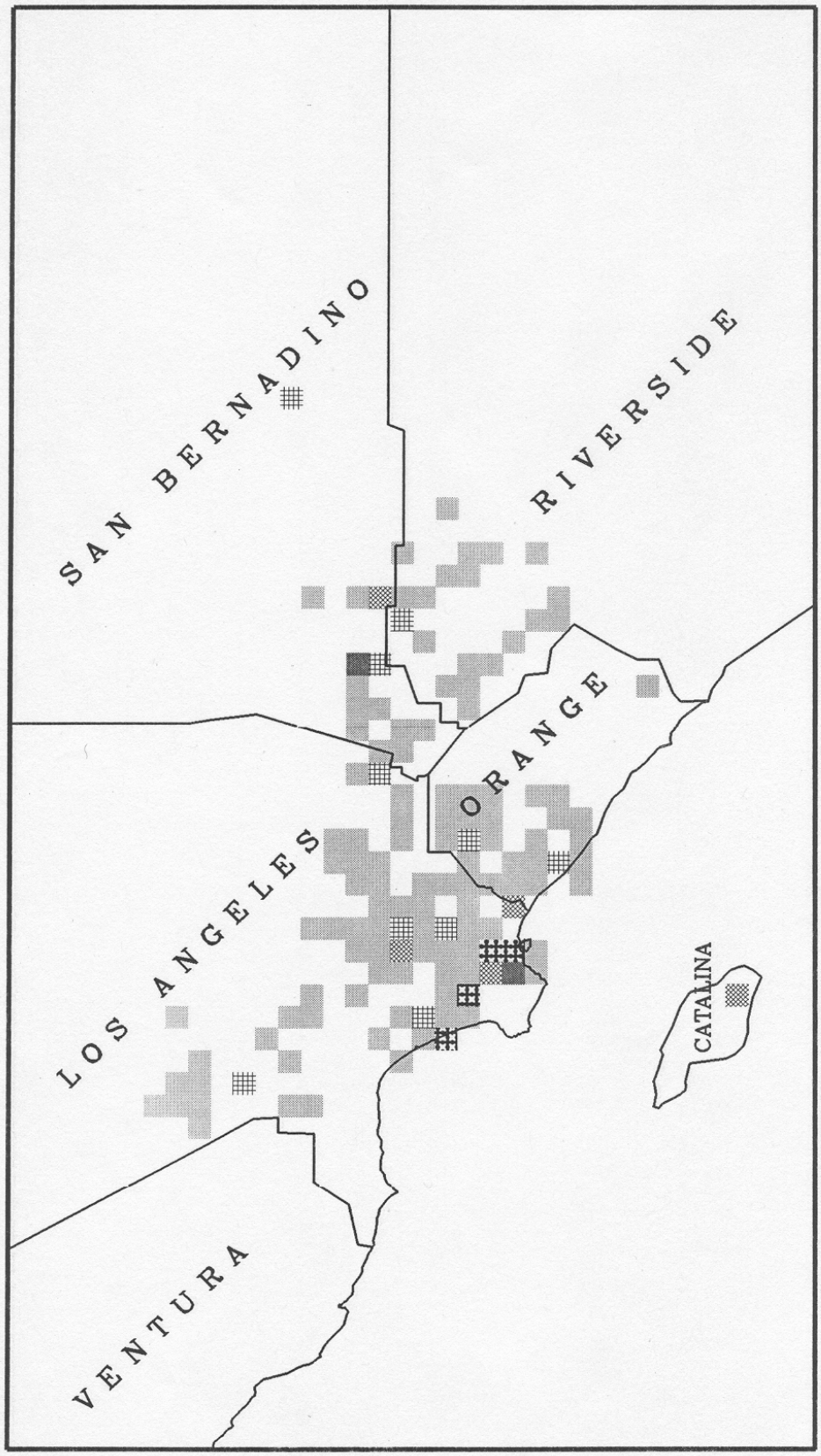



RECLAIM Facilities
Certified NOx Emissions (Tons) from 07/2003 to 09/2003
SAN BERNADINO
RIVERSIDE
LOS ANGELES
ORANGE
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 359 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified NOx Emissions (Tons) from 10/2003 to 12/2003
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 263 tons
Generated on 1/05/ 5

RECLAIM Facilities

Certified NOx Emissions (Tons) Year to date (12/31/2003)



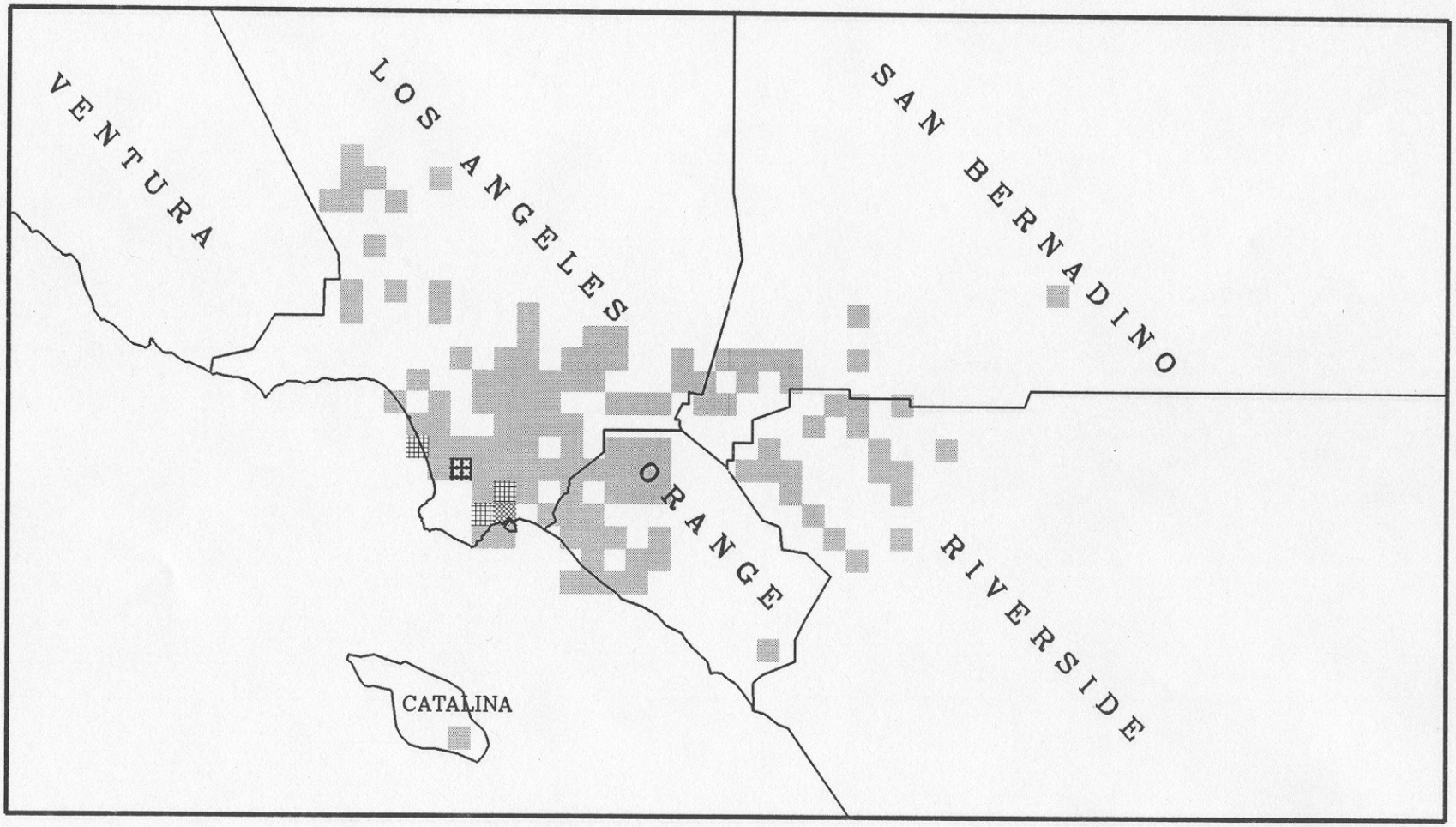
>0 – 100 | 100 – 200 | 200 – 400 | 400 – 800 | 800 –1600 | over 1600

max. emissions = 1588 tons

Generated on 1/05/ 5

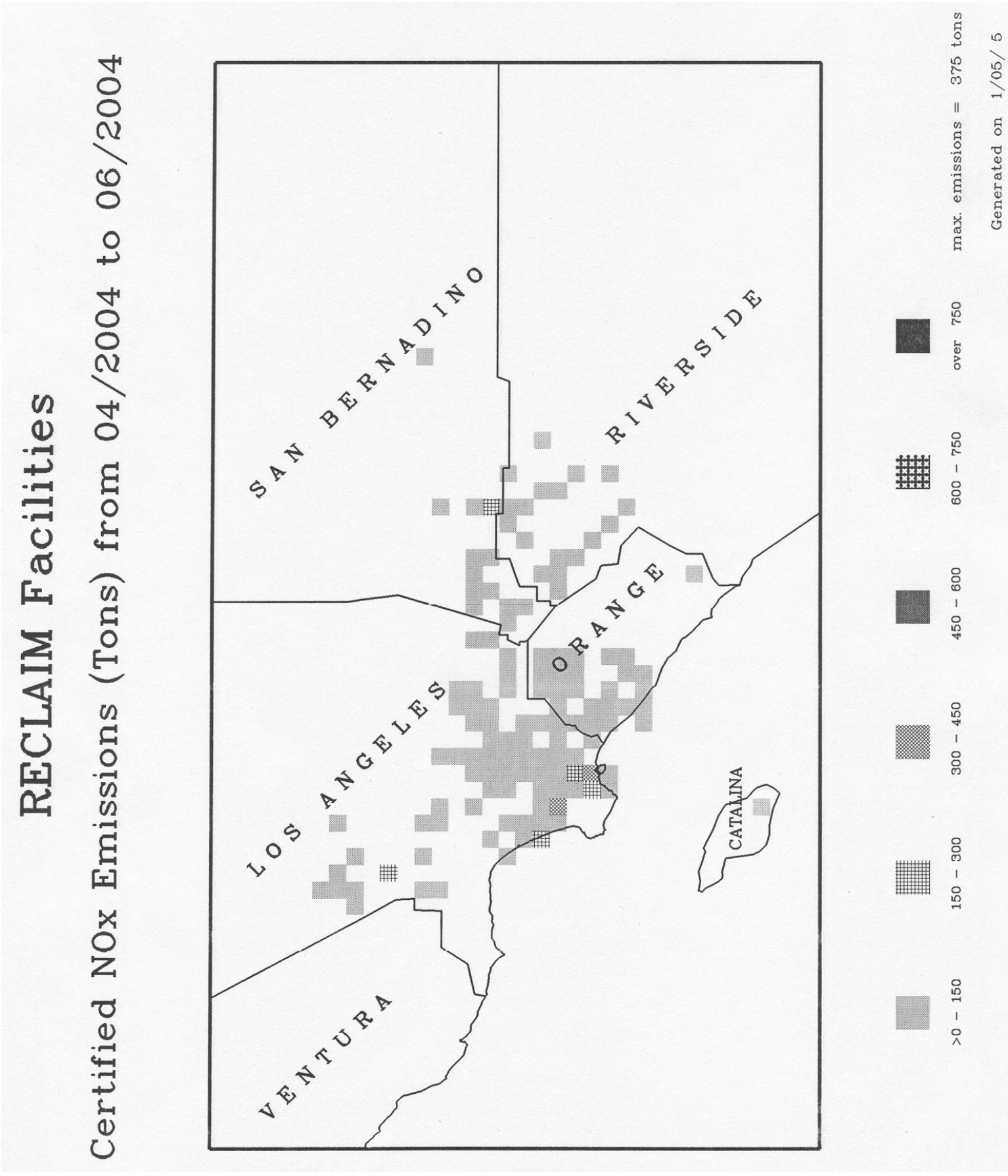
RECLAIM Facilities

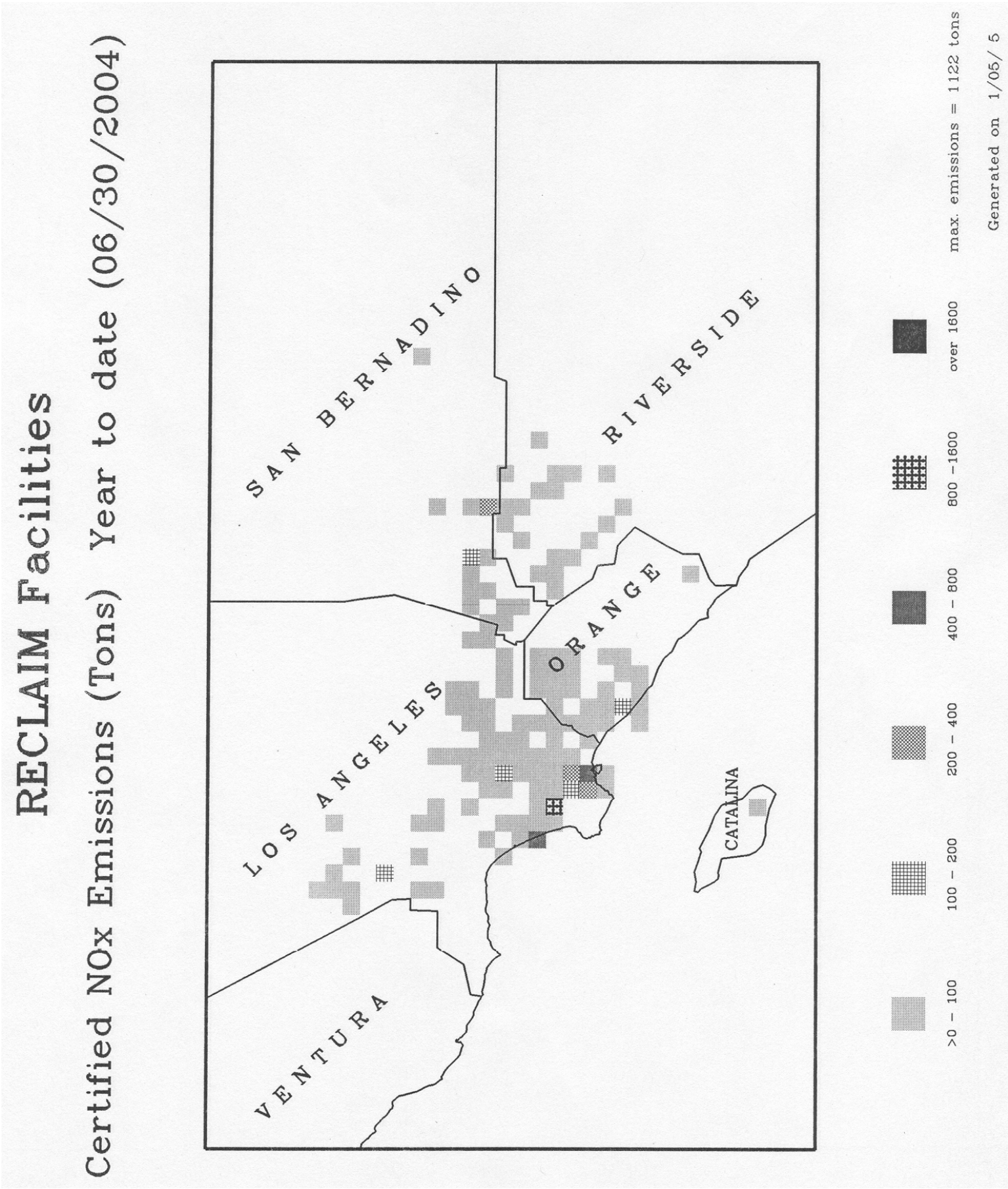
Certified NOx Emissions (Tons) from 01/2004 to 03/2004



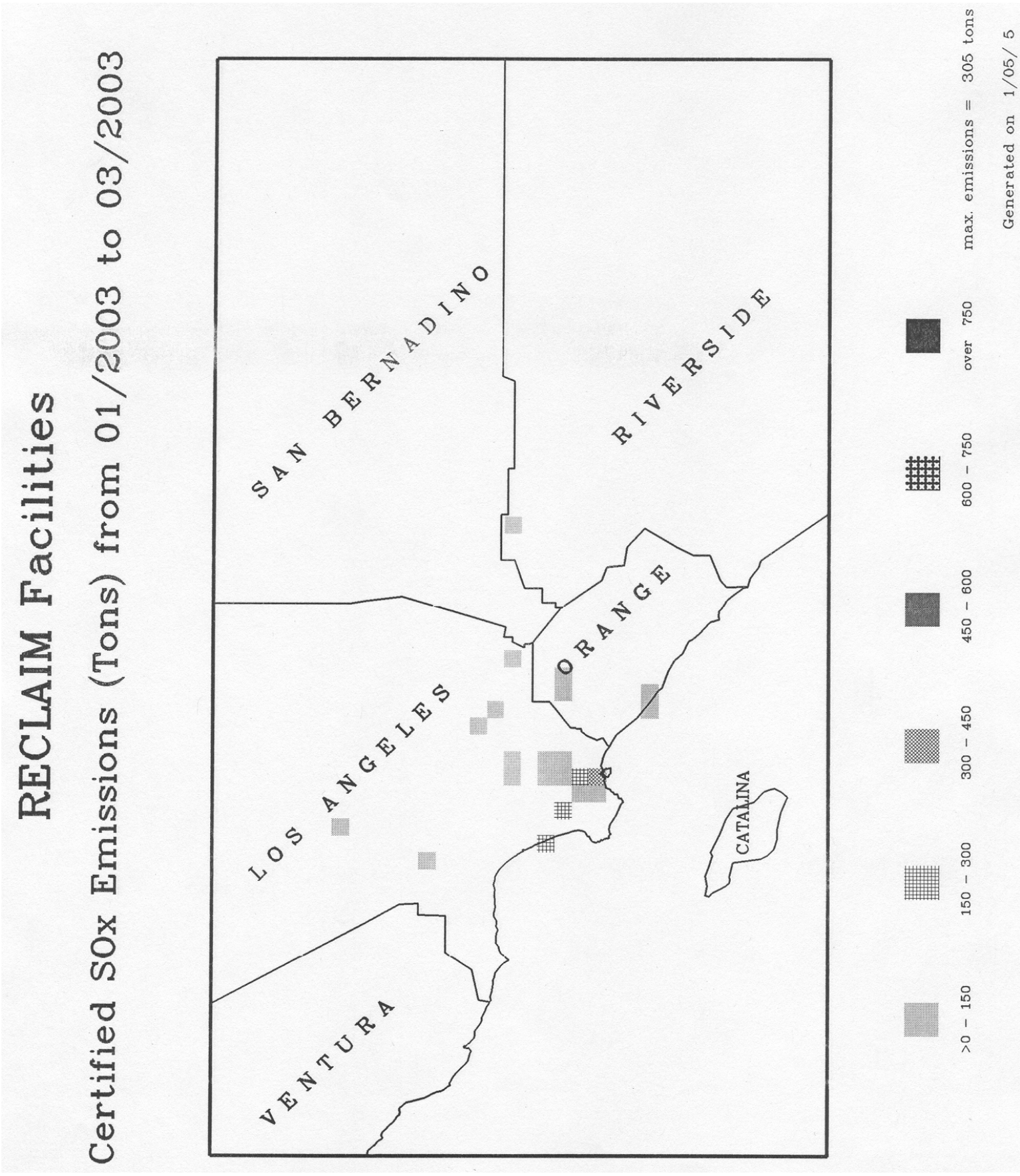
>0 – 150 | 150 – 300 | 300 – 450 | 450 – 600 | 600 – 750 | over 750

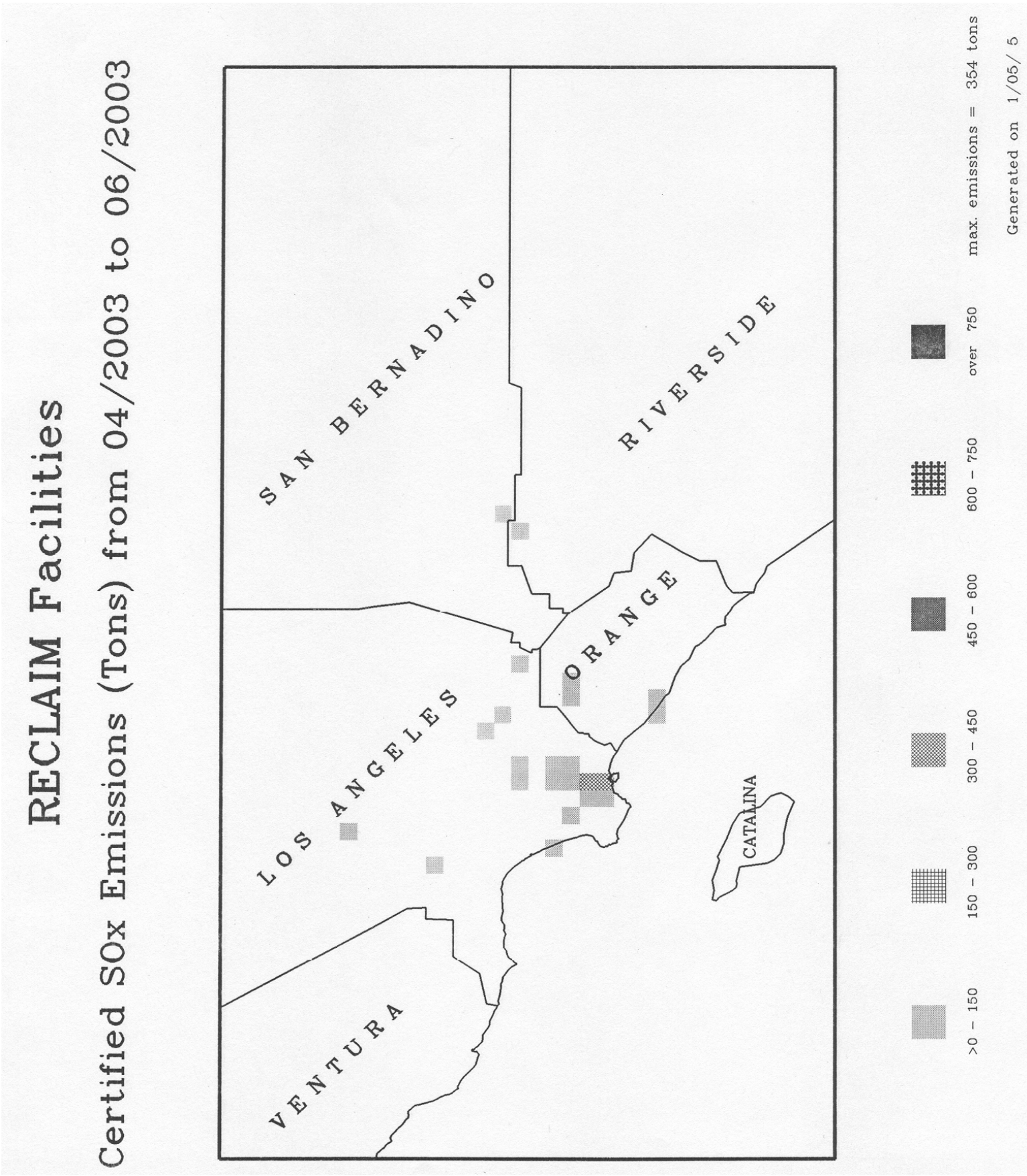
max. emissions = 747 tons

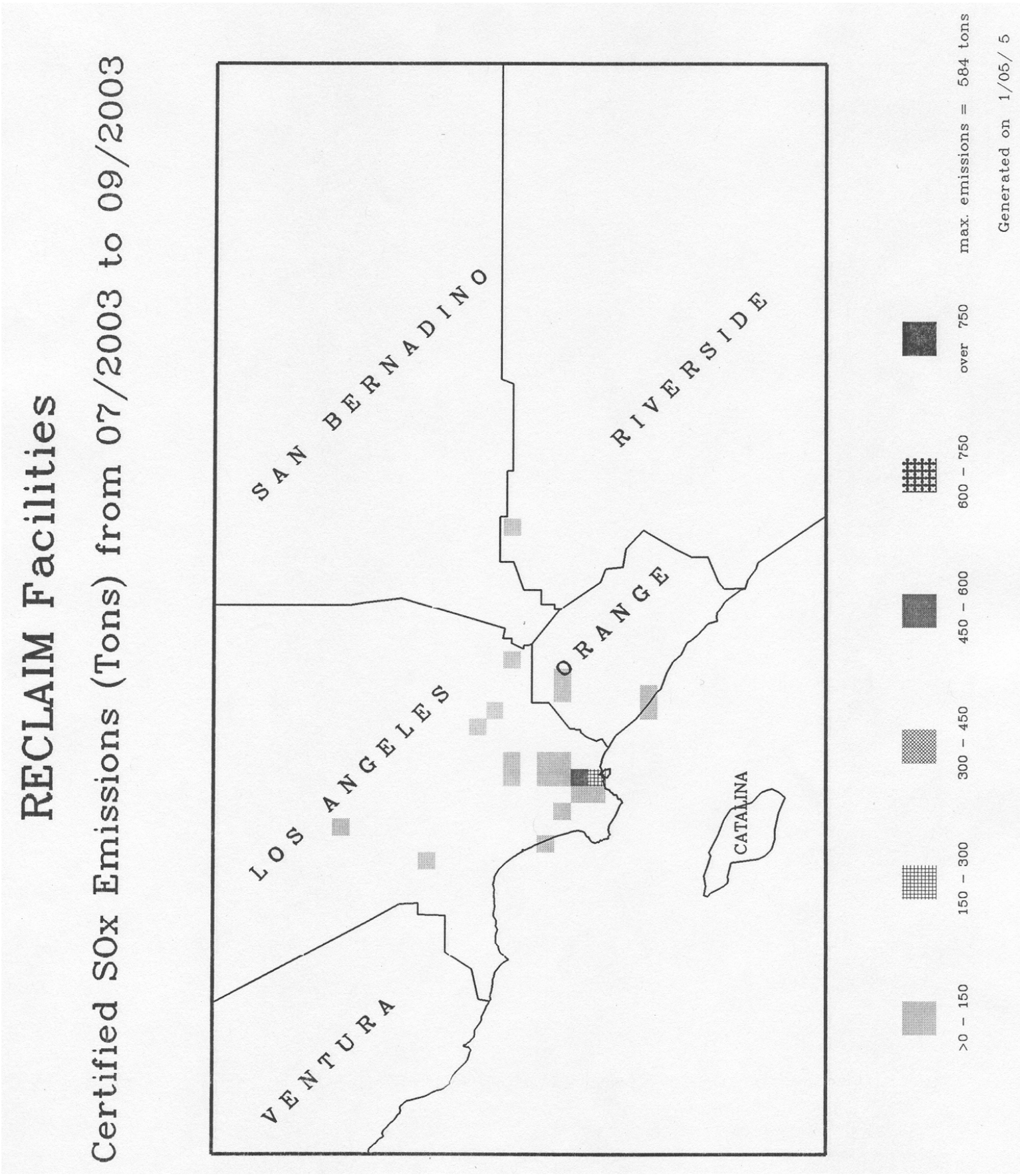

RECLAIM Facilities
Certified NOx Emissions (Tons) from 04/2004 to 06/2004
SAN BERNADINO
RIVERSIDE
LOS ANGELES
ORANGE
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 375 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified NOx Emissions (Tons) Year to date (06/30/2004)
SAN BERNADINO
RIVERSIDE
LOS ANGELES
ORANGE
VENTURA
CATALINA
>0 - 100
100 - 200
200 - 400
400 - 800
800 -1600
over 1600
max. emissions = 1122 tons
Generated on 1/05/ 5

APPENDIX G
QUARTERLY SOX EMISSION MAPS

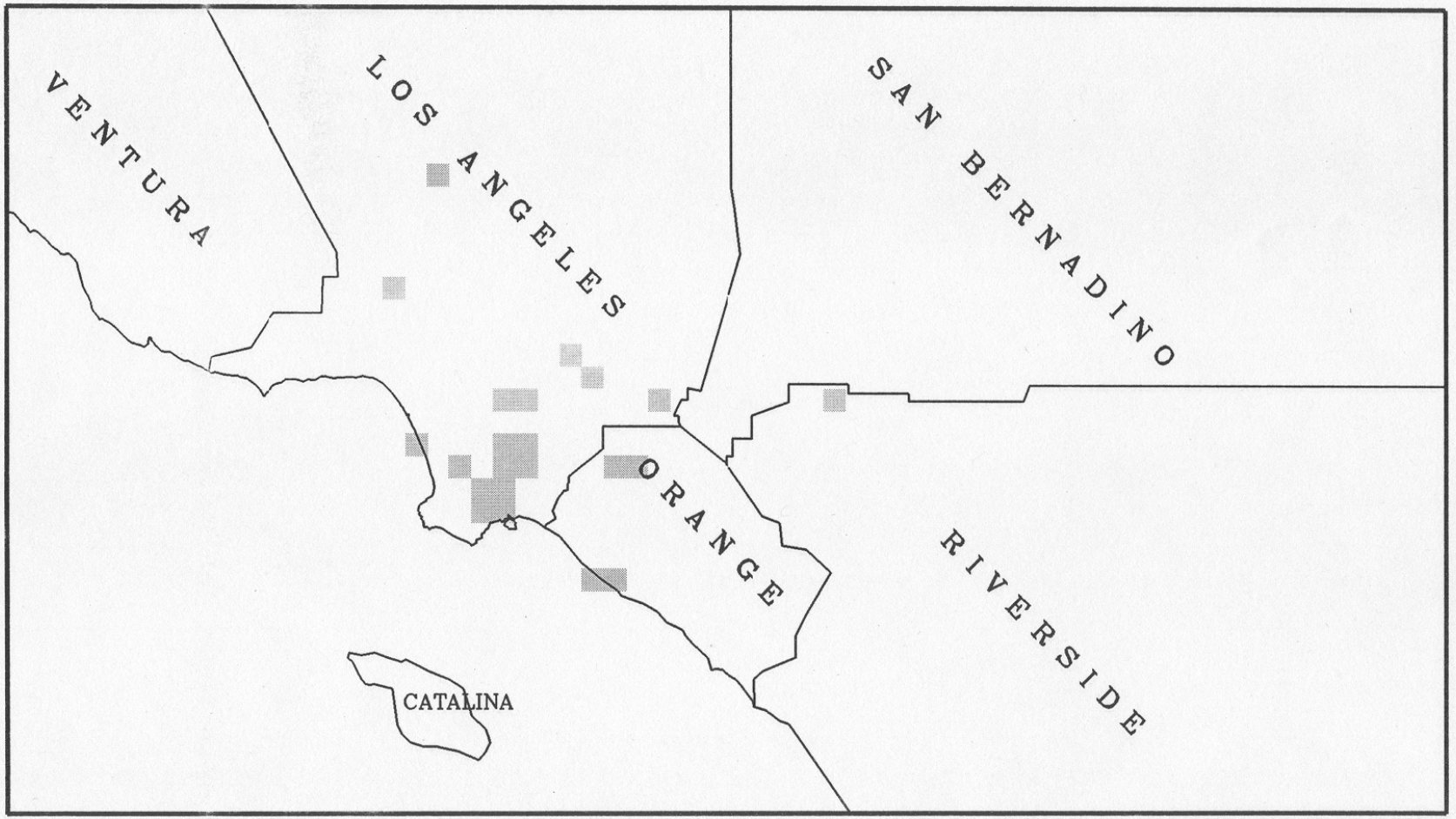

RECLAIM Facilities
Certified SOx Emissions (Tons) from 01/2003 to 03/2003
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
CATALINA
VENTURA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 305 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) from 04/2003 to 06/2003
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 354 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) from 07/2003 to 09/2003
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
CATALINA
VENTURA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 584 tons
Generated on 1/05/ 5

RECLAIM Facilities

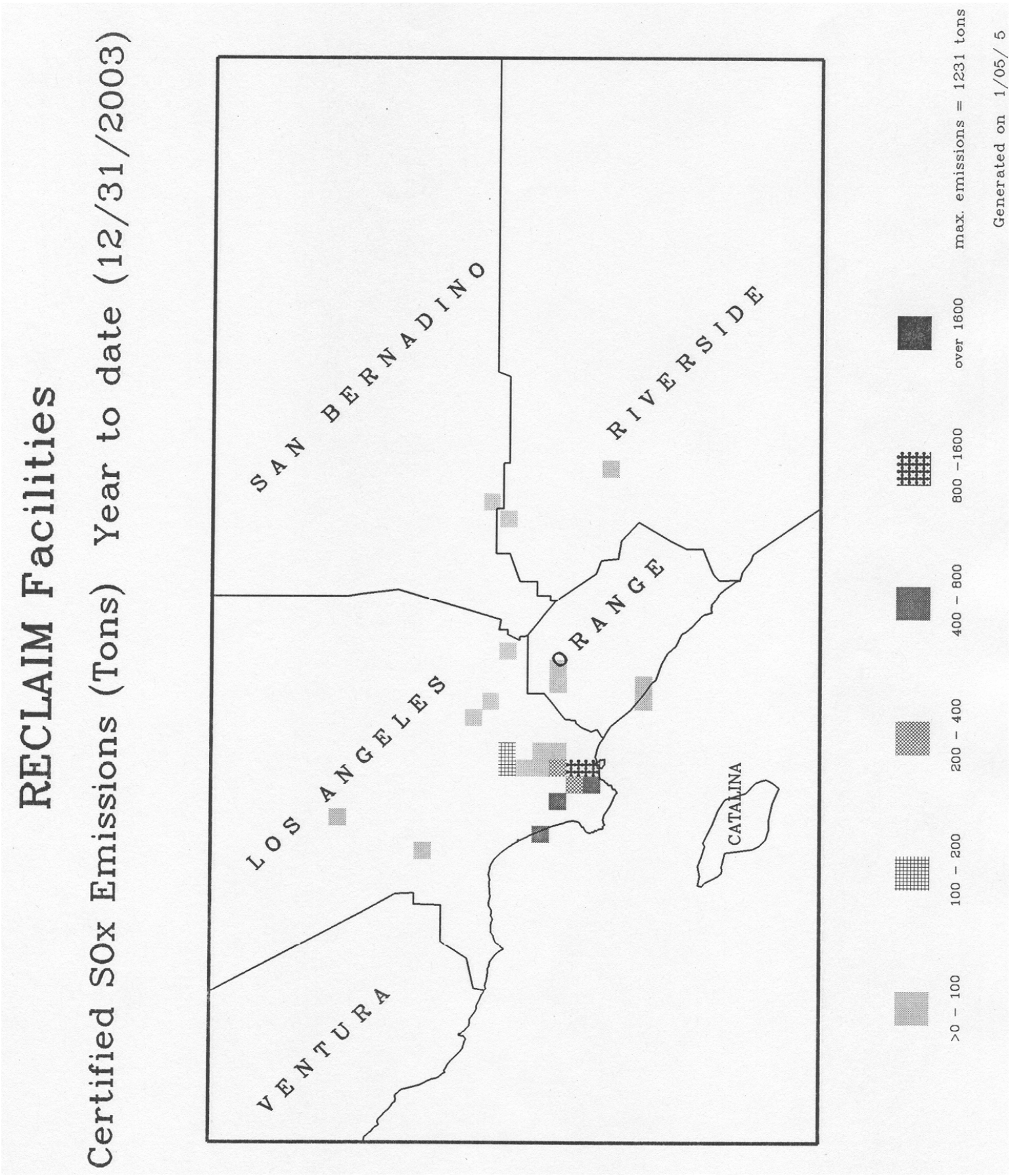
Certified SOx Emissions (Tons) from 10/2003 to 12/2003

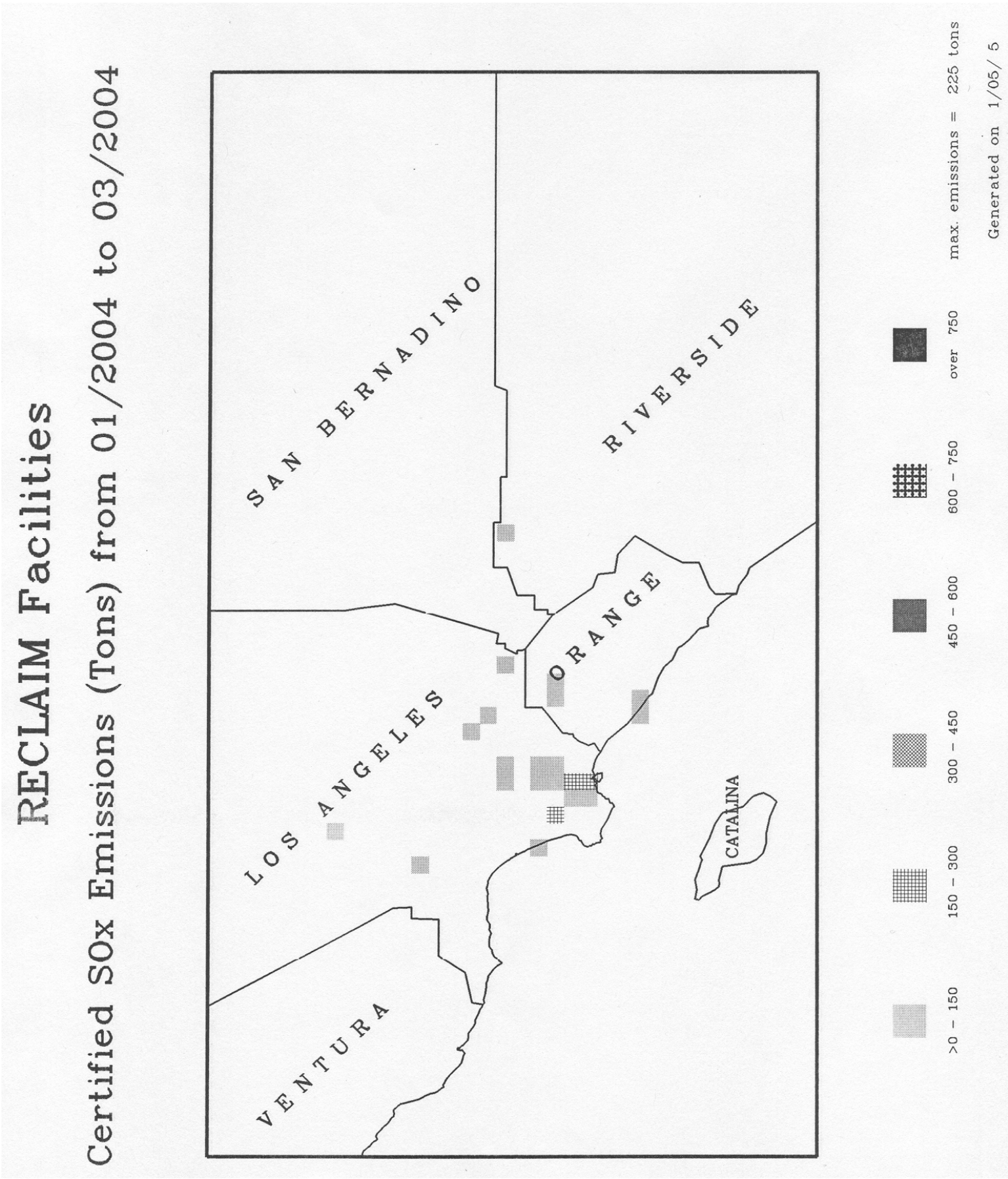


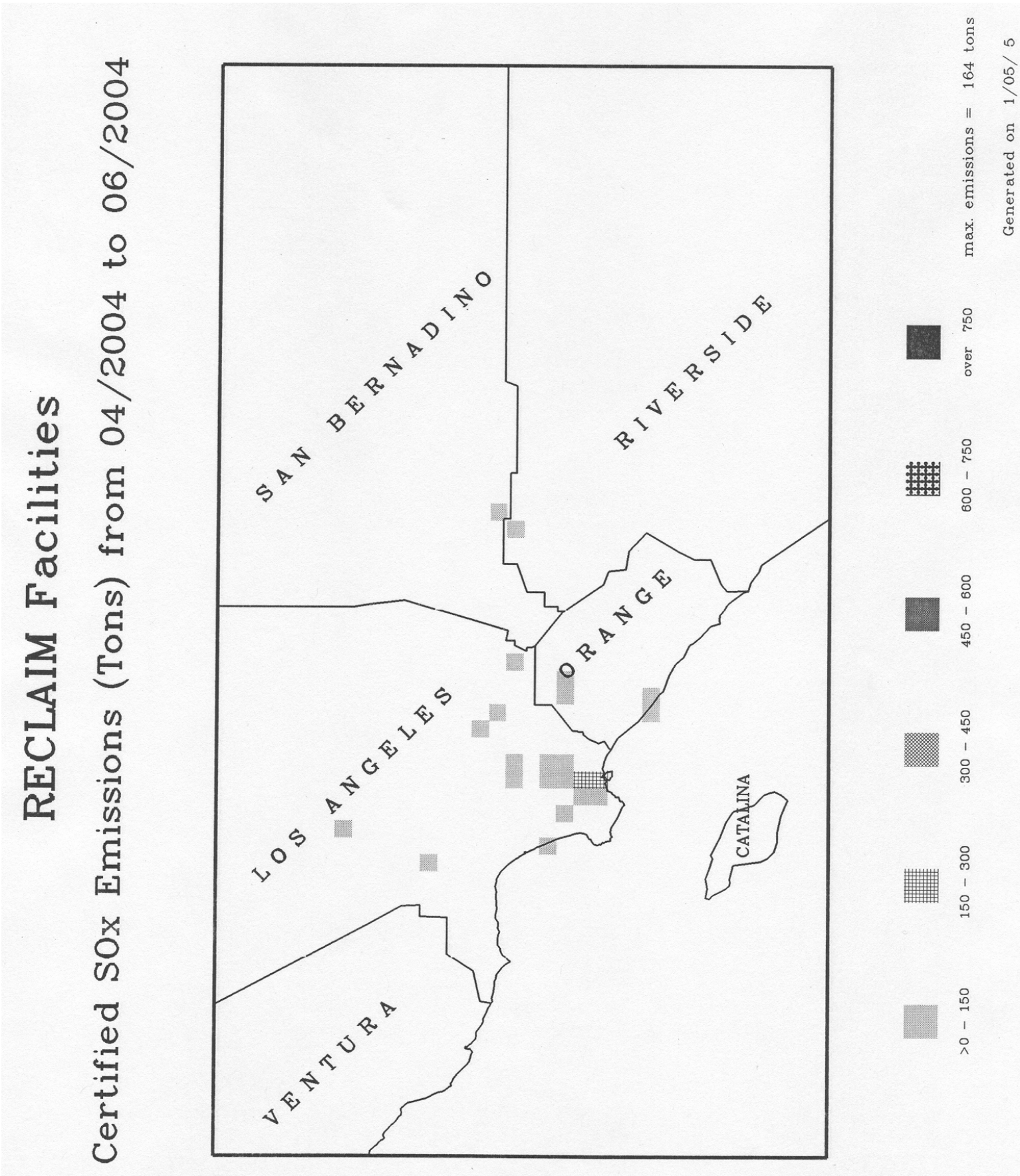
>0 – 150 | 150 – 300 | 300 – 450 | 450 – 600 | 600 – 750 | over 750

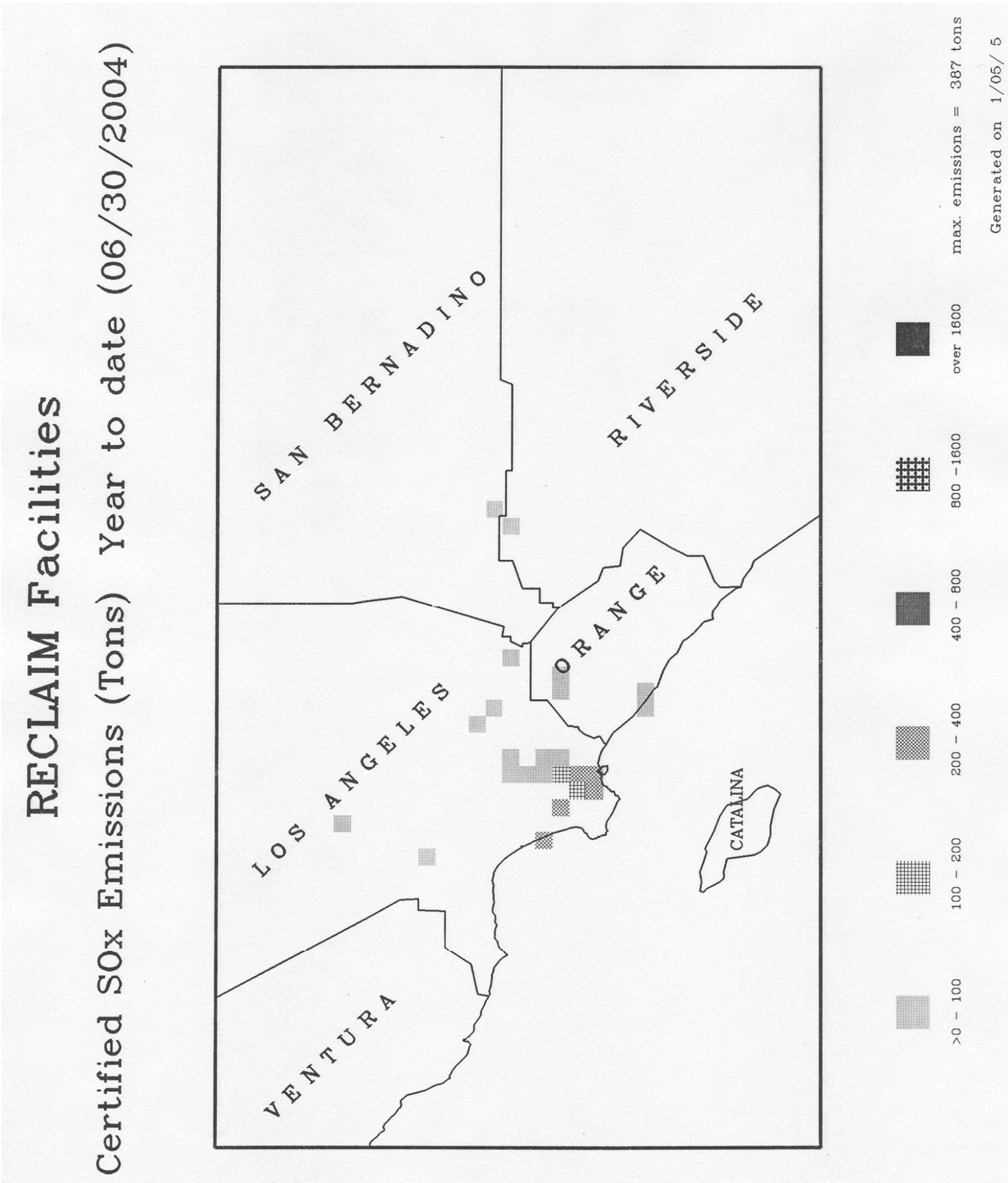
max. emissions = 138 tons

Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) Year to date (12/31/2003)
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 100
100 - 200
200 - 400
400 - 800
800 -1600
over 1600
max. emissions = 1231 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) from 01/2004 to 03/2004
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 225 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) from 04/2004 to 06/2004
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 164 tons
Generated on 1/05/ 5


RECLAIM Facilities
Certified SOx Emissions (Tons) Year to date (06/30/2004)
SAN BERNADINO
RIVERSIDE
ORANGE
LOS ANGELES
VENTURA
CATALINA
>0 - 100
100 - 200
200 - 400
400 - 800
800 -1600
over 1600
max. emissions = 387 tons
Generated on 1/05/ 5

LIST OF ABBREVIATIONS

ACEMS	Alternative Continuous Emissions Monitoring System
APEP	Annual Permit Emissions Program
AQIP	Air Quality Investment Program
AQMD	South Coast Air Quality Management District
AQMP	Air Quality Management Plan
ASC	Area Source Credit
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEMS	Continuous Emissions Monitoring System
CGA	Cylinder Gas Audit
CNG	Compressed Natural Gas
CPMS	Continuous Process Monitoring System
DAHS	Data Acquisition and Handling System
EDR	Electronic Data Reporting
ERC	Emissions Reduction Credit
H&S	Health and Safety Code
LAP	Laboratory Approval Program
MDP	Missing Data Procedures
MRR	Monitoring, Recordkeeping and Reporting
MSERC	Mobile Source Emission Reduction Credits
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NOx	Oxides of nitrogen
NSR	New Source Review
PM10	Particulate matter less than 10 microns
QCER	Quarterly Certification of Emissions Report
RACT	Reasonably Achievable Control Technology
RATA	Relative Accuracy Test Audit
RECLAIM	REgional CLean Air Incentives Market
RTC	RECLAIM Trading Credit
RTU	Remote Terminal Unit
SIP	State Implementation Plan
SOx	Sulfur oxides
SWG	Standing Working Group
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WATERS	Web Access To Electronic Reporting System