



South Coast Air Quality Management District

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BOARD MEETING DATE: March 7, 2008

AGENDA NO. 39

REPORT: Annual RECLAIM Audit Report for 2006 Compliance Year

SYNOPSIS: The annual report on the NO_x and SO_x RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. The report assesses emission reductions, availability of RECLAIM Trading Credits (RTCs) and their average annual prices, job impacts, compliance issues, and other measures of performance for the thirteenth year of this program. This is the first annual RECLAIM audit report to employ the new price reporting and averaging methodology which analyzes discrete-year RTC trade price data separately from infinite-year block RTC trade price data. In addition, recent trends in trading future year RTCs are analyzed and presented in this report. Further, a list of facilities that did not reconcile their emissions for the compliance year is included with the report.

COMMITTEE: Stationary Source, February 15, 2008

RECOMMENDED ACTIONS:

Approve the attached annual report.

A handwritten signature in black ink, appearing to read 'Barry R. Wallerstein', is written over a horizontal line.

Barry R. Wallerstein, D.Env.
Executive Officer

CC:MN:DL

Background

The Board adopted the RECLAIM program on October 15, 1993 to provide a more flexible compliance program for RECLAIM facilities, which represent the largest emitters of NO_x and SO_x pollutants. RECLAIM was designed to meet all state and federal requirements for clean air programs and a variety of performance criteria to ensure protection of public health, air quality improvement, effective enforcement, no increase in implementation costs, and minimal job impacts.

RECLAIM represents a significant departure from traditional command-and-control regulations. Therefore, the RECLAIM regulation's Rule 2015 – Backstop Provisions requires AQMD to conduct annual program audits to assess various aspects of the program to verify that the program objectives are being met. AQMD staff completed the audit of RECLAIM Compliance Year 2006. The audit results show that both aggregate NOx and SOx emissions were achieving programmatic compliance with the program's target emission levels (aggregate allocations). Aggregate NOx emissions were 27 percent less than the aggregate NOx allocations and aggregate SOx emissions were 16 percent less than aggregate SOx allocations during Compliance Year 2006.

At the September 7, 2007 AQMD Governing Board meeting, the Board approved the "Evaluation and Review of the RECLAIM Program and Assessment of RTC Price Reporting" Report and a new methodology for reporting RTC trade prices and for determining average RTC prices. This methodology evaluates price data for trades involving individual discrete years and trades involving blocks of RTCs extending into perpetuity (infinite-year blocks or IYBs) separately. Therefore, trade data based on this methodology are presented in the attached report.

Audit Findings

The audit of RECLAIM's Compliance Year 2006 indicates that:

- Aggregate NOx and SOx emissions from RECLAIM facilities were below aggregate allocations.
- The RECLAIM universe consisted of 304 facilities as of June 30, 2006. There was a net decrease of 9 facilities in the RECLAIM universe during the period July 1, 2006 through June 30, 2007. Thus, there were 295 facilities in the RECLAIM universe on June 30, 2007:
 - Thirteen RECLAIM facilities shut down and one additional facility was excluded due to the operation being assumed by another RECLAIM facility at the same location. The majority of the shut downs were primarily due to economic reasons. Only one of the shutdown facilities indicated that RECLAIM was a factor in the decision to shut down.
 - Three existing facilities opted into the NOx RECLAIM program, and two additional facilities entered the RECLAIM program as a result from partial changes of operator at existing NOx RECLAIM facilities.
- The vast majority of RECLAIM facilities complied with their Allocations during the 2006 compliance year (96 percent of NOx facilities and 97 percent of SOx facilities). At the time of preparation of this report, staff had determined that thirteen facilities exceeded their Allocations during the 2006 compliance year. Staff is conducting audits of the reported emissions for Compliance Year 2006, so additional exceedances

may be found.

- RECLAIM had minimal impact on employment during the 2006 compliance year, which is consistent with previous years. An overall net loss of 2,272 jobs representing 2.02 percent of total employment was reported by all RECLAIM facilities. Only one facility (one of the thirteen which shutdown) reported six jobs lost due to RECLAIM. Four facilities reported a total of seven jobs gained due to RECLAIM. No operating facilities reported any job losses specifically due to RECLAIM.
- The RTC trading market remained active. A total of \$937 million in RTCs have been traded since the adoption of RECLAIM, of which \$74 million occurred in Calendar Year 2007. Average annual prices for discrete year NOx RTCs ranged from \$3,453 per ton for Compliance Year 2006 to \$12,459 per ton for Compliance Year 2010. The average annual prices for discrete year SOx RTCs, ranged from \$444 per ton for Compliance Year 2006 to \$3,500 per ton for Compliance Years 2007 through 2010. The average annual prices of discrete year NOx and SOx RTCs traded in Calendar Year 2007 were below the program review threshold of \$15,000 per ton established in Rule 2015(b)(6), as well as the \$36,430 per ton for NOx and \$26,230 per ton for SOx RTC program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f). For Calendar Year 2007 the average annual price for NOx IYB RTCs was \$194,202 per ton and the average annual price for SOx IYB RTCs was \$23,848 per ton. Average annual prices traded for NOx and SOx IYB during Calendar Year 2007 were below the Governing Board established predetermined program review price thresholds of \$546,500 per ton of NOx IYB RTCs and \$393,444 per ton of SOx IYB RTCs pursuant to California Health and Safety Code Section 39616(f). The average annual prices of RTCs traded during Calendar Years 2006 and 2007 based on the new price reporting methodology are summarized in Table 1 and Table 2 below:

Table 1 – Average Prices for Discrete Years’ RTCs during Calendar Years 2006 and 2007

2006	2007
<ul style="list-style-type: none"> • \$2,115 per ton for 2005 NOx RTCs • \$3,445 per ton for 2006 NOx RTCs • \$13,233 per ton for 2010 NOx RTCs • \$882 per ton for 2005 SOx RTCs • \$966 per ton for 2006 SOx RTCs • No SOx RTC beyond Compliance Year 2006 was transferred with price 	<ul style="list-style-type: none"> • \$3,453 per ton for 2006 NOx RTCs • \$5,472 per ton for 2007 NOx RTCs • \$12,459 per ton for 2010 NOx RTCs • \$444 per ton for 2006 SOx RTCs • \$3,500 per ton for 2007 SOx RTCs • \$3,500 per ton for 2010 SOx RTCs

Table 2 – Average Prices for IYB RTCs during Calendar Years 2006 and 2007

2006	2007
<ul style="list-style-type: none"> • \$150,665 per ton for NOx IYB RTCs • \$14,585 per ton for SOx IYB RTCs 	<ul style="list-style-type: none"> • \$194,202 per ton for NOx IYB RTCs • \$23,848 per ton for SOx IYB RTCs

- The role of investors in the RTC market remains significant. Based on both trading values and number of trades, investor-involved trades constituted the majority of the trades recorded in Calendar Year 2007, particularly with respect to IYB trades. The RTC holdings from investors increased to 4.2 percent of total IYB NOx RTCs and 8.5 percent of total IYB SOx RTCs, up from 3.1 percent and 7.1 percent, respectively at the end of Calendar Year 2006. Concurrently, the average annual price of IYB RTCs increased by 29 % for NOx (from \$150,665 to \$194,202 per ton) 64 % (from \$14,585 to \$23,848 per ton) for SOx from 2006 to 2007.

Attachment

- A. Annual RECLAIM Audit Report for the 2006 Compliance Year

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Annual RECLAIM Audit Report for the 2006 Compliance Year

March 7, 2008

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EXECUTIVE OFFICER

BARRY R. WALLERSTEIN, D.Env.

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List of Abbreviations

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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 report for the 2006 compliance year (January 1 through December 31, 2006 for Cycle 1 and July 1, 2006 through June 30, 2007 for Cycle 2).

Chapter 1: RECLAIM Universe

When RECLAIM was adopted in October 1993, a total of 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2005, a cumulative sum of 107 facilities was included into the program, 69 were excluded from the program, and 128 facilities ceased operation. Thus, the RECLAIM universe consisted of 304 active facilities on July 1, 2006. From July 1, 2006 through June 30, 2007, five facilities were included into the RECLAIM universe, one facility was excluded, while 13 facilities shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of nine facilities in the universe, bringing the total number of facilities to 295 by June 30, 2007. With the exception of two shutdown facilities 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 Compliance Year 2006 NOx RTC supply experienced a net increase of 2.69 tons during the compliance year while the SOx RTC supply experienced a net decrease of 16.85 tons. The change to the SOx RTC supply and a portion of the change to the NOx RTC supply were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), which did not affect the RTC supplies for future years. Additionally, there was an increase of 1.67 tons in the NOx RTC supply due to universe changes, which impacted Compliance Year 2006 and all future years.

The Governing Board approved a new RTC price reporting and averaging methodology at its September 7, 2007 meeting. This methodology, which was developed in conjunction with RECLAIM stakeholders through a public process, keeps data pertaining to trades of discrete, specified years' RTC separate from trade data for trades involving blocks of RTCs with a specified start year and continuing into perpetuity (also known as infinite-year blocks or IYBs). The trade data generated through this new methodology is much more representative of actual market behavior and is therefore also much more useful. Much of the trade data provided in this chapter is presented as generated by both the new and old methodologies as a means of facilitating the transition and to help provide continuity of data.

The trading market continued to be active during Calendar Year 2007, with 622 registered RTC transactions, a total volume of 17,359 tons, and a total value of just over \$74 million. Since the inception of the RECLAIM program in 1994, a total of \$937 million have been traded in the RTC trading market.

In 2007, a total of 13,839 tons of NO_x RTCs were traded, of which 6,343 tons of NO_x RTCs were traded with price for a total value of \$70.5 million. This volume was 25% lower than the total volume of NO_x RTCs traded with price in Calendar Year 2006 and the total value traded was 11% lower than in 2006. The SO_x market saw a significant decrease in trading activity during Calendar Year 2007; 3,520 tons of SO_x RTCs were traded, of which 887 tons were traded with price for a total value of \$3.7 million. The volume of SO_x trades with price decreased 48% relative to Calendar Year 2006, yet the total value decreased by only about three percent, reflecting a significant increase in the price of SO_x RTCs.

The average annual price of discrete-year NO_x RTCs traded during 2007 ranged from \$3,453 per ton for Compliance Year 2006 RTCs to \$12,459 per ton for Compliance Year 2010 RTCs. The average annual price for discrete-year SO_x RTCs traded during the same period ranged from \$444 per ton for Compliance Year 2006 RTCs to \$3,500 per ton for RTCs for Compliance Years 2007 through 2010. In Calendar Year 2007, the average annual price for discrete NO_x and SO_x RTCs for all compliance years remained below the \$15,000 per ton program review threshold set forth by AQMD Rule 215 as well as the \$36,430 per ton on NO_x and \$26,230 per ton of SO_x pre-determined program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f).

The average annual price for NO_x IYB RTCs traded in 2007 was \$194,202 per ton and the average annual price for SO_x IYB RTCs traded in 2007 was \$23,848 per ton. In Calendar Year 2007, average annual IYB RTC prices did not exceed the \$546,500 per ton of NO_x RTCs or the \$393,444 per ton of SO_x RTCs pre-determined program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f).

The role of investors in the RTC market remains significant. Based on both trading values and the number of trades, investors were involved in the majority of the trades recorded in Calendar Year 2007. Investors' RTC holdings increased to approximately 4.2% of the total NO_x IYB RTC supply and 8.5% of the SO_x IYB supply at the end of 2007, up from 3.1% and 7.1%, respectively, at the end of Calendar Year 2006. Concurrently, the average annual price of IYB

RTCs increased by 29% for NO_x (from \$150,665 to \$194,202 per ton) and 64% (from \$14,585 to \$23,848 per ton) for SO_x from 2006 to 2007.

Chapter 3: Emission Reductions

Aggregate NO_x and SO_x emissions from RECLAIM facilities continued to be below allocations for Compliance Year 2006. Total aggregate NO_x emissions were below total allocations by 27% and total aggregate SO_x emissions were below total allocations by 16%. Therefore, aside from the effects of the California energy crisis on Compliance Years 2000 and 2001 emissions, it can be concluded that RECLAIM has achieved its targeted emission reductions since aggregate emissions have been below aggregate allocations during all other compliance years. Finally, no emissions associated with breakdowns were excluded from being accounted against facility allocations in Compliance Year 2006. As such, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports.

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 federal and state NSR requirements, while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2006, three facilities joined the RECLAIM NO_x market, while no facility joined the SO_x market. In Compliance Year 2006, twenty-three NO_x RECLAIM facilities had NSR NO_x emission increases due to expansion or modification. There were no SO_x RECLAIM facilities that had NSR increases due to expansion or modification. These data indicate that the RECLAIM program does not inhibit entry into the RECLAIM program or expansion at existing RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements at a 1.2-to-1 offset ratio for NO_x emission increases and at least at a 1-to-1 offset ratio for SO_x emission increases on a programmatic basis. In Compliance Year 2006, RECLAIM provided an offset ratio of 66-to-1 for NO_x on an aggregate basis, demonstrating federal equivalency. Similar to Compliance Year 2005, there was no SO_x offset ratio calculated due to the fact that there were no SO_x NSR emission increases for Compliance Year 2006. 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 Technology (BACT) for all new or modified sources with emission increases.

Chapter 5: Compliance

There were 304 NO_x facilities and 33 SO_x facilities in operation in the RECLAIM program at the start of the 2006 compliance year. During the 2006 compliance year, three new facilities elected to join the NO_x RECLAIM Program and two additional inclusions to the NO_x RECLAIM Program were due to partial change of operator. Of these 309 NO_x RECLAIM facilities, 297 facilities (96%) complied with their NO_x allocations and all but one of the 33 SO_x facilities (97%) complied with their SO_x allocations during Compliance Year 2006. Verification of facility-

reported emissions and audits of facility records for the compliance year are still on-going. Initial results for Compliance Year 2006 revealed that the overall RECLAIM NO_x and SO_x emission goals were met for this compliance year (i.e. aggregate emissions were below allocations for Compliance Year 2006). Thirteen facilities were found to have exceeded their individual allocations. The amounts of emissions in excess of individual allocations ranged from 20 pounds to 7.1 tons. The combined excess NO_x emissions totaled 14.7 tons and the excess SO_x emissions totaled 2.7 tons. These amounts are relatively small when compared to the overall allocations for the compliance year (0.1% of NO_x and 0.06% of SO_x allocations).

Chapter 6: Job Impacts

According to the Compliance Year 2006 employment survey, the RECLAIM program had no impact on jobs at most facilities. RECLAIM facilities reported a net loss of 2,272 jobs, representing 2.02% of total employment. Most of these losses were attributed to factors other than RECLAIM. Fourteen RECLAIM facilities were listed as either shut down or excluded during Compliance Year 2006. One of these facilities indicated that RECLAIM was a contributing factor in their decision to close while also attributing a loss of six jobs to RECLAIM. Four operating facilities reported a total of seven jobs gained due to RECLAIM.

Chapter 7: Air Quality and Public Health Impacts

Rule 2015 specifies that each annual program audit include, among other elements, assessments of emissions trends and seasonal fluctuations in emissions, geographic distribution of emissions, per capita exposure to air pollution, and toxic risk reductions. This chapter addresses each of these issues.

Emissions reported by RECLAIM facilities have been in an overall downward trend since the program's inception. When compared to the previous compliance year, NO_x and SO_x emissions in Compliance Year 2006 continued their downward trends. Quarterly Calendar Year 2006 NO_x emissions ranged from approximately five percent below to five percent above the year's mean NO_x emissions for the year. Similarly, quarterly Calendar Year 2006 SO_x emissions ranged from approximately four percent below to three percent above the year's mean SO_x emissions. Thus, there is no significant seasonal fluctuation in emissions. Furthermore, this year's analysis of the geographical distribution of emissions on a quarterly basis, as in each previous year's analysis, does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act (CCAA) requires a 50% 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 compliance with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved compliance in 1996. In Calendar Year 2006, the per capita exposure to ozone continues to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (VOCs) and metals, rather than NO_x or SO_x 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 rules 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.

This report presents the annual audit and progress report of RECLAIM's thirteenth compliance year (January 1 through December 31, 2006 for Cycle 1 and July 1, 2006 through June 30, 2007 for Cycle 2), also known as the 2006 compliance year. As required by Rule 2015– Backstop Provisions, subdivision (b), paragraph (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 RECLAIM Trading Credit (RTC);
- Availability of RTCs;
- Toxic risk reductions;
- New Source Review permitting activity;
- Compliance issues;
- Emission trends/seasonal fluctuations;
- Emission control requirement impacts on stationary sources in the program compared to other stationary sources identified in the Air Quality Management Plan (AQMP); and
- Emissions associated with equipment breakdowns.

The annual audit is organized into the following chapters:

1. RECLAIM Universe
This chapter discusses changes in the universe of RECLAIM sources that occurred from July 1 2006 through June 30, 2007.

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. **Emission 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 latest amendments made to the RECLAIM program and emissions associated with equipment breakdowns are also discussed.
4. **New Source Review Activity**
This chapter summarizes New Source Review activity at RECLAIM facilities.
5. **Compliance**
This chapter discusses compliance activities and the compliance status of RECLAIM facilities and evaluates the effectiveness of the South Coast Air Quality Management District's (AQMD's) compliance program and the oxides of nitrogen (NO_x) and oxides of sulfur (SO_x) 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, a total of 394 facilities were identified as the initial “universe” of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2005, a cumulative sum of 107 facilities was included into the program, 69 were excluded from the program, and 128 facilities ceased operation. Thus, the RECLAIM universe consisted of 304 active facilities on July 1, 2006. From July 1, 2006 through June 30, 2007, five facilities were included into the RECLAIM universe, one facility was excluded, while 13 facilities shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of nine facilities in the universe, bringing the total number of facilities to 295 by June 30, 2007. With the exception of two shutdown facilities 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. However, 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 portions of the Mojave Desert Air Basin and the Salton Sea Air Basin. Furthermore, there are other categories of facilities that are not automatically subject to RECLAIM, but these facilities have the option to enter the program at their discretion. These categories include ski resorts, prisons, hospitals, publicly-owned municipal waste-to-energy facilities, and agricultural 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 initial RECLAIM universe, as well as existing facilities which were included into the program (either voluntarily or based on emissions above

four tons per year), 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 (October 15, 1993) through June 30, 2005 were: the inclusion of 107 facilities (82 facilities were included and 25 facilities were created by partial change of operator of existing RECLAIM facilities), the exclusion of 69 facilities, and the shutdown of 128 facilities. Thus, the net change in the RECLAIM universe during the first 12 compliance years was a decrease from 394 to 304 facilities. From July 1, 2006 through June 30, 2007, five facilities were included, one facility was excluded (the equipment from the excluded facility was merged into another existing RECLAIM facility on the same property), and 13 facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 295 facilities by June 30, 2007. With the exception of two shut down facilities that participated in both the NOx and SOx markets, all of these changes occurred within the NOx universe. The list of facilities in the RECLAIM universe as of June 30, 2007 is provided in Appendix A.

Facility Inclusions and Exclusions

Between July 1, 2006 and June 30, 2007, five facilities entered the RECLAIM program. Three voluntarily entered to participate in the NOx market and two were partial changes of operator of existing RECLAIM facilities. The facilities which were included are listed in Appendix B.

While a facility may apply for entry into the RECLAIM program, it is not officially included in the program until it is issued a Facility Permit. From July 1, 2006 through June 30, 2007, six additional facilities filed applications to enter the RECLAIM program, but the Facility Permits for these six facilities were not issued by June 30, 2007.

One facility was excluded because its operation was assumed by another RECLAIM facility operating at the same location during the same time period.

Facilities Permanently Ceasing Operations

Thirteen RECLAIM facilities permanently ceased operations between July 1, 2006 and June 30, 2007. Shutdown facilities have the option to retain or sell their RTCs. Of these 13 facilities, two cited air pollution regulations as a contributing factor in their decision to cease operation. Eleven facilities which shut down were NOx only facilities, and two were both NOx and SOx facilities.

Appendix C lists the shutdown facilities and brief descriptions of the known reasons for closing down operations.

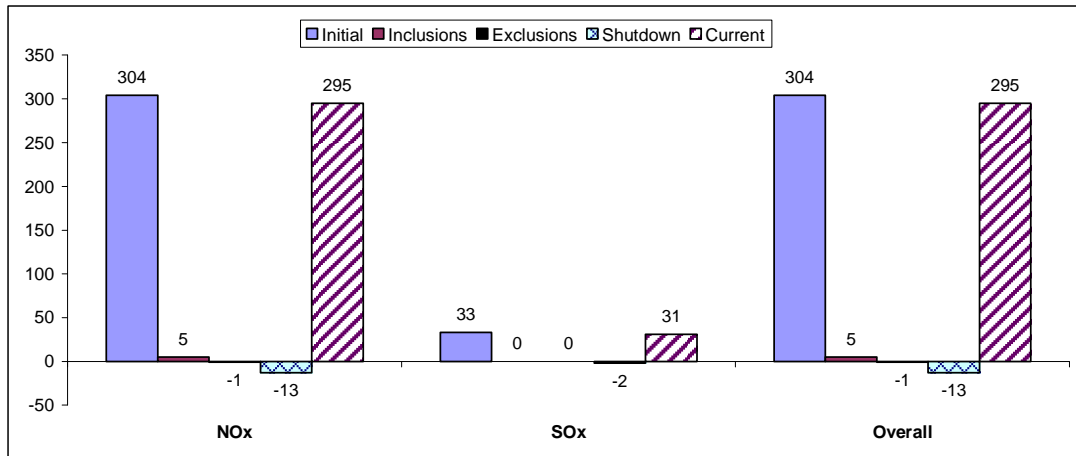
These changes along with the facility inclusions and exclusions resulted in a net decrease of nine facilities in the RECLAIM Universe. Table 1-1 summarizes the changes in the RECLAIM universe between the start of the program and June 30, 2007. Additionally, overall changes to the RECLAIM universe that occurred from July 1, 2006 through June 30, 2007 are illustrated in Figure 1-1.

**Table 1-1
RECLAIM Universe Changes**

	NOx Facilities	SOx Facilities	Total Facilities
Start of Program	392	41	394
Inclusions—October 15, 1993 through June 30, 2006	107	8	107
Exclusions—October 15, 1993 through June 30, 2006	68	4	69
Shutdowns—October 15, 1993 through June 30, 2006	127	12	128
Total (October 15, 1993 through June 30, 2006)	304	33	304
Inclusions—July 1, 2006 through June 30, 2007	5	0	5
Exclusions—July 1, 2006 through June 30, 2007	1*	0	1*
Shutdowns—July 1, 2006 through June 30, 2007	13	2	13
Total (July 1, 2006 through June 30, 2007)	295	31	295

* One facility was excluded because the facility's operation was assumed by another RECLAIM facility.

**Figure 1-1
Universe Changes from July 1, 2006 through June 30, 2007**



CHAPTER 2

RTC ALLOCATIONS AND TRADING

Summary

The Compliance Year 2006 NOx RTC supply experienced a net increase of 2.69 tons during the compliance year while the SOx RTC supply experienced a net decrease of 16.85 tons. The change to the SOx RTC supply and a portion of the change to the NOx RTC supply were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), which did not affect the RTC supplies for future years. Additionally, there was an increase of 1.67 tons in the NOx RTC supply due to universe changes, which impacted Compliance Year 2006 and all future years.

The Governing Board approved a new RTC price reporting and averaging methodology at its September 7, 2007 meeting. This methodology, which was developed in conjunction with RECLAIM stakeholders through a public process, keeps data pertaining to trades of discrete, specified years' RTC separate from trade data for trades involving blocks of RTCs with a specified start year and continuing into perpetuity (also known as infinite-year blocks or IYBs). The trade data generated through this new methodology is much more representative of actual market behavior and is therefore also much more useful. Much of the trade data provided in this chapter is presented as generated by both the new and old methodologies as a means of facilitating the transition and to help provide continuity of data.

The trading market continued to be active during Calendar Year 2007, with 622 registered RTC transactions, a total volume of 17,359 tons, and a total value of just over \$74 million. Since the inception of the RECLAIM program in 1994, a total of \$937 million have been traded in the RTC trading market.

In 2007, a total of 13,839 tons of NOx RTCs were traded, of which 6,343 tons of NOx RTCs were traded with price for a total value of \$70.5 million. This volume was 25% lower than the total volume of NOx RTCs traded with price in Calendar Year 2006 and the total value traded was 11% lower than in 2006. The SOx market saw a significant decrease in trading activity during Calendar Year 2007; 3,520 tons of SOx RTCs were traded, of which 887 tons were traded with price for a total value of \$3.7 million. The volume of SOx trades with price decreased 48% relative to Calendar Year 2006, yet the total value decreased by only about three percent, reflecting a significant increase in the price of SOx RTCs.

The average annual price of discrete-year NOx RTCs traded during 2007 ranged from \$3,453 per ton for Compliance Year 2006 RTCs to \$12,459 per ton for Compliance Year 2010 RTCs. The average annual price for discrete-year SOx RTCs traded during the same period ranged from \$444 per ton for Compliance Year 2006 RTCs to \$3,500 per ton for RTCs for Compliance Years 2007 through 2010. In Calendar Year 2007, the average annual price for discrete NOx and SOx RTCs for all compliance years remained below the \$15,000 per ton program review threshold set forth by AQMD Rule 2015 as well as the \$36,430 per ton on NOx and \$26,230 per ton of SOx pre-determined program review thresholds

established by the Governing Board pursuant to California Health and Safety Code §39616(f).

The average annual price for NOx IYB RTCs traded in 2007 was \$194,202 per ton and the average annual price for SOx IYB RTCs traded in 2007 was \$23,848 per ton. In Calendar Year 2007, average annual IYB RTC prices did not exceed the \$546,500 per ton of NOx RTCs or the \$393,444 per ton of SOx RTCs pre-determined program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f).

The role of investors in the RTC market remains significant. Based on both trading values and the number of trades, investors were involved in the majority of the trades recorded in Calendar Year 2007. Investors' RTC holdings increased to approximately 4.2% of the total NOx IYB RTC supply and 8.5% of the SOx IYB supply at the end of 2007, up from 3.1% and 7.1%, respectively, at the end of Calendar Year 2006. Concurrently, the average annual price of IYB RTCs increased by 29% for NOx (from \$150,665 to \$194,202 per ton) and 64% (from \$14,585 to \$23,848 per ton) for SOx from 2006 to 2007.

Background

Each facility is issued emissions allocations for each compliance year based on the facility's operational history according to the methodology specified in Rule 2002 when it enters the RECLAIM program. These 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 that RTC. The RECLAIM program has two staggered compliance cycles—Cycle 1 with a compliance period of January 1 through December 31 of each year, and Cycle 2 with a 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 the RTCs it is issued (if any) have corresponding periods of validity.

The issuance of allocations for future years provides RECLAIM facilities guidance regarding 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. RECLAIM facilities have 30 days at the end of each of the first three quarters to reconcile their quarterly emissions, and 60 days after the end of each compliance year to reconcile their total annual emissions by securing adequate RTCs.

In an effort to achieve additional NOx reductions pursuant to 2003 AQMP Control Measure #2003 CMB-10 ("Additional NOx Reductions for RECLAIM (NOx)") and requirements for demonstrating Best Available Retrofit Control Technology (BARCT) equivalency under state law, AQMD embarked on the rule amendment process in early 2004. The process included a detailed analysis of control technologies that qualified as BARCT and lengthy discussions with stakeholders including regulated industry, environmental groups, California Air Resources

Board (CARB), and the United States Environmental Protection Agency (USEPA). On January 7, 2005, the Governing Board adopted several changes to the RECLAIM program. Among other amendments, the changes resulted in cumulative reductions of 7.7 tons NO_x per day, a more than 20% reduction, from all RECLAIM facilities when fully implemented in Compliance Year 2011 (the reductions are being phased in from 2007 through 2011: 4.0 tons per day in 2007 and an additional 0.925 tons per day in each of the following four years). By adopting these rule amendments, AQMD showed that, relative to the subsumed control measures, RECLAIM is achieving “equivalent or greater emission reductions at equivalent or less cost” as required by California Health and Safety Code §39616(e).

Although other chapters in this report present and discuss Compliance Year 2006 data, RTC trading and price data discussed in this chapter are for Calendar Year 2007 (other portions of this chapter address Compliance Year 2006 data).

RTC Allocations and Supply

The methodology for determining RTC allocations is presented in Rule 2002. According to this rule, allocations may change when there is a change in the universe of RECLAIM facilities, to compensate for additional emissions associated with the production of re-formulated gasoline, or when reported historical activity levels are updated. In addition, RTCs can be generated by conversion of emissions reductions from mobile and area sources. Changes in the RTC supply during Compliance Year 2006 are discussed below. The aggregate of all RECLAIM facilities’ allocations, conversions of Emission Reduction Credits (ERCs) owned by RECLAIM and non-RECLAIM facilities (the window of opportunity to convert ERCs to RTCs other than during the process of a non-RECLAIM facility entering the program closed June 30, 1994), and conversion of ERCs from mobile sources and area sources makes 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 operations and the emission reduction requirements under the command-and-control rules subsumed by RECLAIM, the AQMP control measures subsumed by RECLAIM, and, for NO_x, an adjustment for BARCT equivalency. As stated in Chapter 1 (RECLAIM Universe), three existing facilities opted into the NO_x RECLAIM Program and one facility was excluded during Compliance Year 2006. As noted previously, this exclusion consisted of one existing facility’s operations being taken over by another existing RECLAIM facility operating at the same location. Therefore, no changes to the NO_x or SO_x RTC supplies occurred as a result of the exclusion in Compliance Year 2006. Of the three facilities that opted to join RECLAIM, one facility had no operating history prior to 1993 and thus it was not issued an initial allocation. Initial allocations were issued to the two other facilities that opted in. The initial allocation for one of these facilities was based on its prior operating history, while the other’s was based on the offsets provided during its initial permitting process. Overall, there was a net increase of 1.67 tons to the NO_x RTC supply due to the inclusion and exclusion of facilities, while there was no

change in the SOx RTC supply resulting from changes in the RECLAIM universe during Compliance Year 2006.

Allocations Adjustments Due to Clean Fuel Production

Rule 2002(c)(12) – Clean Fuel Adjustment to Starting Allocation, provides refineries with RTCs to compensate for their actual emissions increases directly related to the production of CARB 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 for a subject year are different than the projected amount, the RTCs issued are adjusted accordingly (*i.e.*, excess RTCs issued will be deducted if emissions were less than projected; conversely, additional RTCs will be issued if emissions are higher than projected). For Compliance Year 2006, actual NOx emissions were slightly higher than those projected at the time the applications were approved. On the other hand, SOx emissions were much lower than those projected. As a result, 1.02 tons of NOx RTCs were added to and 16.85 tons of SOx RTCs were deducted from refineries' Compliance Year 2006 holdings.

Changes in RTC Allocations Due to Activity Corrections

RECLAIM facilities' allocations were determined based on their reported historical activity levels (*e.g.*, fuel usage, material usage, or production). If a facility makes corrections to its reported activity levels, the allocation is adjusted accordingly. There were no changes in RTC allocations due to activity corrections in Compliance Year 2006.

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. There were no new RTCs issued as a result of conversion of MSERCs in Compliance Year 2006.

Net Changes in RTC Allocations

The changes to RTC supplies described in the above sections resulted in a net increase in the RTC supply of 2.69 tons of NOx RTCs and a decrease of 16.85 tons of SOx RTCs for Compliance Year 2006. Table 2-1 summarizes the changes in NOx and SOx RTC supplies that occurred in Compliance Year 2006 pursuant to Rule 2002.

Table 2-1
Changes in NOx and SOx RTCs supplies during Compliance Year 2006 (tons/year)

Source	NOx	SOx
Universe changes	1.67	0
Clean Fuel/Reformulated Gasoline	1.02	-16.85
Activity corrections	0	0
Mobile Source Emission Reduction Credits	0	0
Net change	2.69	-16.85

Figures 2-1 and 2-2, respectively, illustrate the total NOx and SOx RTC supplies at the end of Compliance Year 2006.

Figure 2-1
NOx RTC Supply

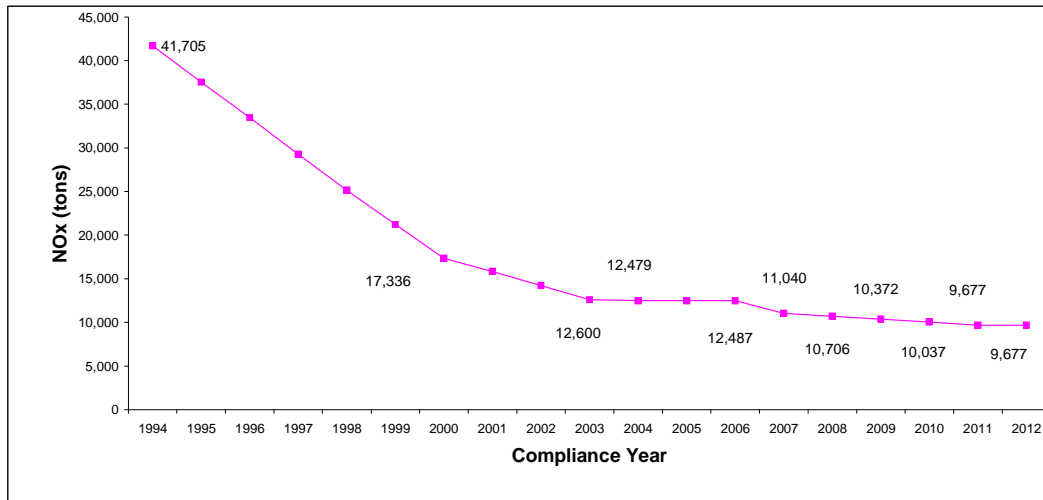
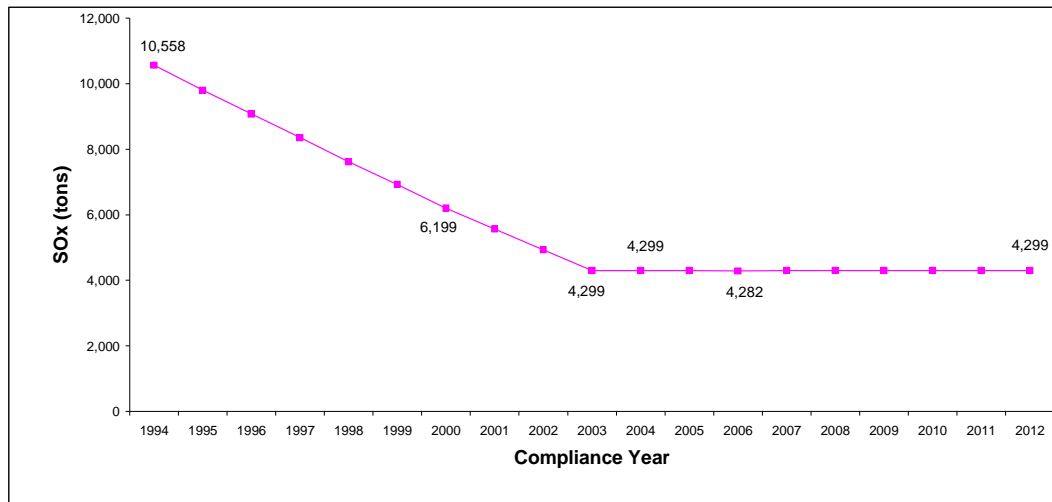


Figure 2-2
SOx RTC Supply



RTC Price Reporting Methodology

The average annual price of the Compliance Year 2010 NOx RTCs traded in Calendar Year 2006 (\$15,698 per ton) exceeded the \$15,000 per ton threshold established by AQMD Rule 2015(b)(6). Consequently, the AQMD Governing Board directed staff to conduct a review of the compliance and enforcement aspects of the RECLAIM program in accordance with AQMD Rule 2015(b)(6). Additionally, the Governing Board directed staff to also perform a program review pursuant to California Health and Safety Code (H&SC) §39616(f) to ensure the most conservative evaluation and as a means to determine program review thresholds appropriate for trades involving blocks of RTCs with a specified start year and continuing into perpetuity (also known as infinite-year blocks or IYBs).

As a result, a RECLAIM Working Group was convened to review and develop a new reporting methodology for RTC trades that is more reflective of the market and minimizes the potential for price manipulation. Under this new reporting methodology trades of specific, discrete year RTCs are reported to AQMD separately from those involving IYB RTCs. Discrete-year trades continue to have their prices reported in terms of dollars per pound and averaged in dollars per ton of RTCs for each discrete compliance year while IYB trade prices are reported as total dollar value for total IYB pounds and averaged as a total dollar value per ton of IYB RTC.

In addition to IYB trades, the reporting of swap trades was also identified as having the potential to adversely impact the calculated average annual prices of RTCs because reporting of swap trades was similar to reporting of IYB trades in that they both involved arbitrary price reporting. Specifically, prices reported for swap trades are based on the agreed upon value of the trade assigned by the participants (not the market price) and do not reflect any actual exchange of funds. Since reported prices for swapped trades are not meaningful and do not contribute to reporting accuracy, the new methodology excludes them from the calculation of average annual RTC price. Further detail regarding the RECLAIM

Working Group's recommendations and the new reporting methodology for RTC trades can be found in the report entitled "Evaluation and Review of the RECLAIM Program and Assessment of RTC Price Reporting," which was approved by the Governing Board on September 7, 2007.

Furthermore, as part of Board Resolution No. 93-28 at the time RECLAIM was originally adopted, the Governing Board established predetermined program review price thresholds for trades of NO_x and SO_x RTCs pursuant to H&SC §39616(f) of \$25,000 per ton and \$18,000 per ton, respectively, in 1993 dollars and annually adjusted for changes in the consumer price index (CPI). Along with approving the new reporting method for RTC trades on September 7, 2007, the Governing Board established new §39616(f) program review thresholds for IYB trades (15 times the 1993 thresholds including CPI adjustments) through Board Resolution No. 07-20. Accordingly, the new program review price thresholds for IYB RTCs are \$546,500 per ton of NO_x RTCs and \$393,444 per ton of SO_x RTCs in 2007 dollars.

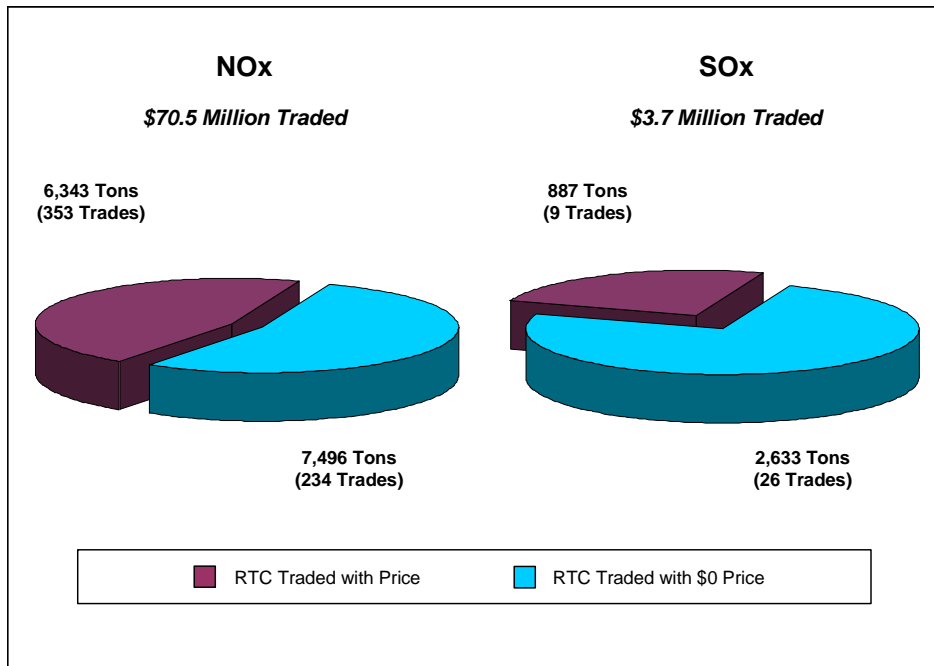
As part of the transition from the old RTC trade reporting methodology to the new methodology, the discussion of RTC trading activity and prices presented in this chapter addresses Calendar Year 2007 data as generated by both methodologies. Furthermore, in order to provide a basis of comparison for trades registered in Calendar Year 2007 with prior trade data, staff translated all data for trades registered in Calendar Year 2006 to the current form and calculated average annual prices by the current methodology. Unfortunately, due to the short timeline between the Governing Board's approval of the new reporting methodology and the time this report is being prepared, only trade data during Calendar Years 2006 and 2007 were compiled using the new methodology. The process involved reviewing individual trades submitted and contacting the trade participants to confirm the nature of the trade (*i.e.*, whether or not it is part of an IYB RTC trade). Staff is currently exploring potential approaches to compiling trade data presented in previous reports so as to allow continuity of data back to the beginning of the program.

RTC Trading Activity

Trading Activity and Price Based on Old Reporting Methodology

The RTC market continued to be active in Calendar Year 2007; there were 622 approved trades totaling 17,359 tons of NO_x and SO_x RTCs. These trades included both RTCs traded with price, transfers with zero price, and swap trades. Since the inception of the RECLAIM program in 1994, a total of 405,182 tons of NO_x RTCs and 138,623 tons of SO_x RTCs were traded. Of these RTCs, those traded with price include 120,318 tons of NO_x RTCs and 32,195 tons of SO_x RTCs with a total value of \$937.2 million (\$847.5 million for NO_x and \$85.8 million for SO_x). Figure 2-3 summarizes trading activity in Calendar Year 2007 by pollutant. Note that the trade data presented in this figure incorporates the same methodology as used in previous years' annual reports by combining data for discrete and IYB trades. In this manner, a direct comparison of RTC trading activity in Calendar Year 2007 can be made with the corresponding figures in previous years' reports.

Figure 2-3
Calendar Year 2007 Trading Activity



In Calendar Year 2007, 362 trades (353 of NOx and 9 of SOx) totaling 6,343 tons of NOx and 887 tons of SOx occurred with price. These trades included current and future year RTCs. The total value of NOx RTCs traded with price in Calendar Year 2007 was over \$70 million. The total value of SOx RTCs traded with price in Calendar Year 2007 was \$3.7 million. Most of these trades were conducted through brokers.

Trades with zero price generally occur when a seller transfers or escrows RTCs to a broker, when there is a transfer between facilities under common operator, or between facilities that have gone through change of operator.

As a result of the new price reporting methodology, discrete and IYB price data are now reported and analyzed separately. Therefore, figures presenting combined data (such as Figure 2-3) will not appear in future annual audit reports; rather, figures such as 2-8 through 2-11 will be used.

Comparison of Calendar Year 2007 Trading Activity to Previous Years

Overall, trading activity was lower in Calendar Year 2007 than in Calendar Year 2006, particularly for SOx RTCs. A total of 622 trades were approved by AQMD in Calendar Year 2007 compared to 730 in Calendar Year 2006. In terms of total quantity traded, 17,359 tons of NOx and SOx RTCs were traded in Calendar Year 2007 versus 20,058 tons in Calendar Year 2006. The total value of RTCs traded was \$74.2 million compared to \$82.8 million transacted in Calendar Year 2006.

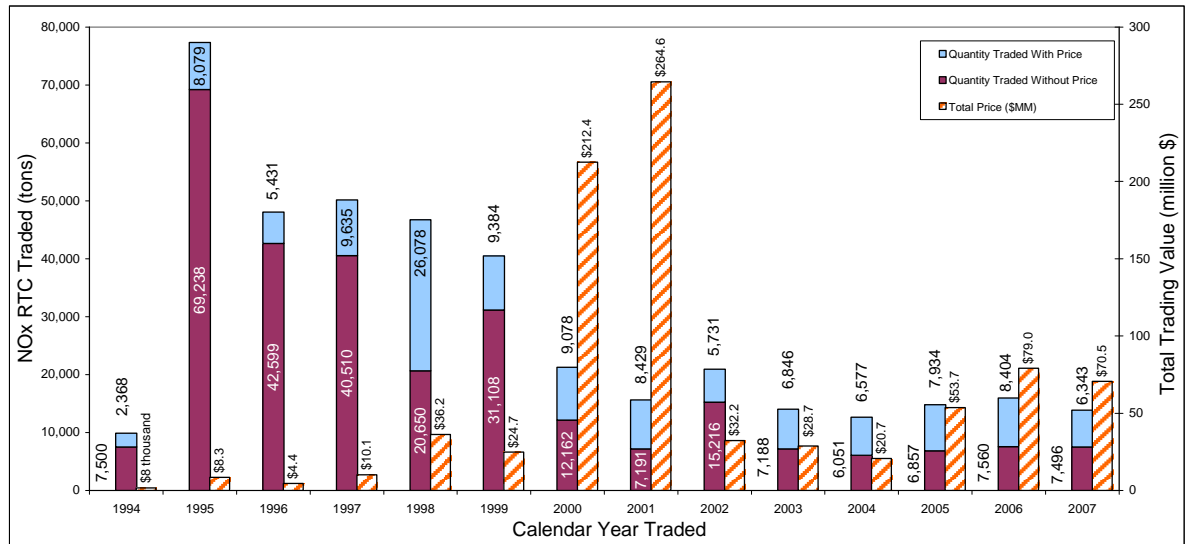
Including RTCs swapped with price, there were a total of 6,343 tons of NOx RTCs traded with price for a total value of \$70.5 million in value in 2007. This

volume was about 25% lower than the total volume of NOx RTCs traded with price in 2006 (6,343 tons vs. 8,404 tons). Similarly, the total value of NOx RTCs traded was 11% lower than that traded in 2006 (\$70.5 million vs. \$79 million). The average price of discrete NOx RTCs traded in 2007 were slightly lower than for discrete NOx RTCs traded in 2006 but IYB NOx RTCs traded in 2007 were more expensive than those traded in 2006.

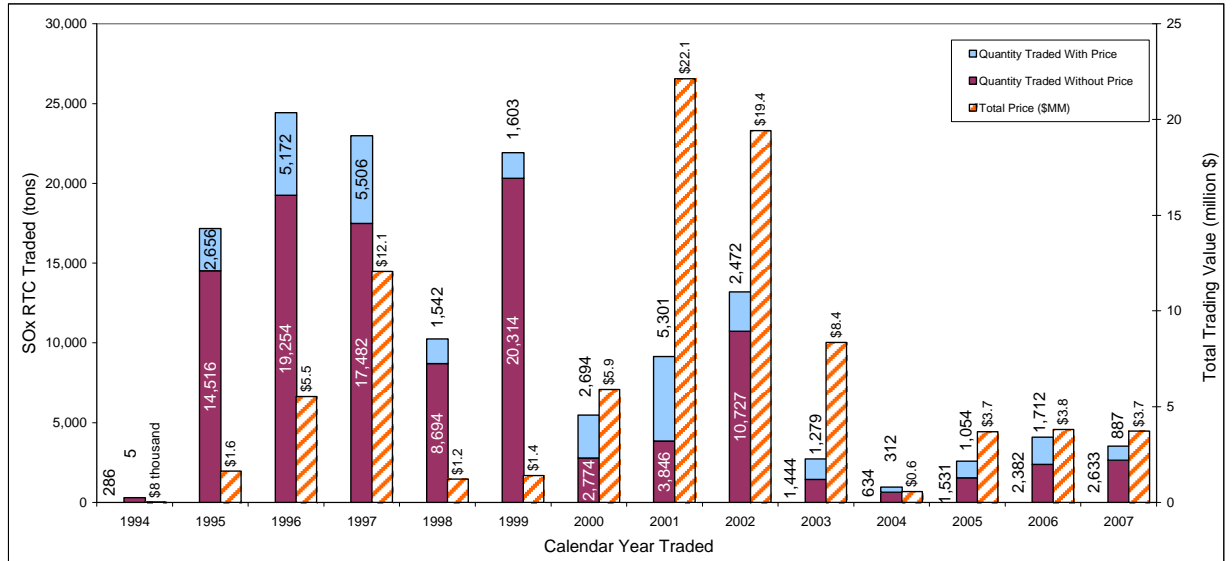
Trading activity in the SOx market also saw a significant decrease in Calendar Year 2007. In Calendar Year 2007, 3,520 tons of SOx RTCs were traded, of which 887 tons were traded with price for a total value of \$3.7 million. The volume of trades with price decreased 48% compared to Calendar Year 2006 (887 tons vs. 1,712 tons) with the total value decreasing only about three percent (\$3.7 million vs. \$3.8 million), reflecting the increases in price for SOx RTCs.

Figures 2-4 and 2-5 present trade volumes in tons (with and without price) and total values of NOx and SOx RTCs traded, respectively, since the inception of RECLAIM. The trade volumes and values are presented in this manner with discrete and IYB trade data as well as swap trades combined, for purposes of consistency with prior annual audit reports.

Figure 2-4
Total Quantity of NOx RTCs Traded



**Figure 2-5
Total Quantity of SOx RTCs Traded**



For purposes of historical comparison, the price trends from 1994 to 2007 are also presented using the old reporting methodology for NOx and SOx RTC in Figures 2-6 and 2-7, respectively. Note that the data in Figures 2-16 and 2-17 cannot be compared with the data in Figures 2-6 and 2-7 because they result from different methodologies and, therefore, are on different bases. As mentioned previously, staff is currently exploring options to convert all of the data to a consistent basis so that direct comparisons can be made and trends monitored. Staff expects to include such data in the March 2009 annual report for Compliance Year 2007.

Figure 2-6
Average Annual Price for NOx RTCs during Calendar Years 1994 through 2007

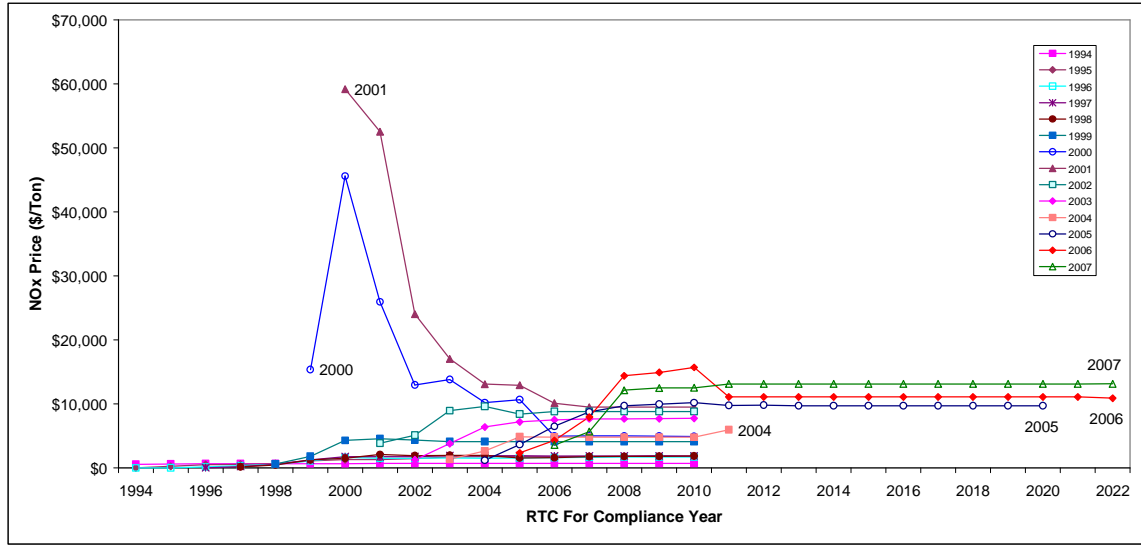
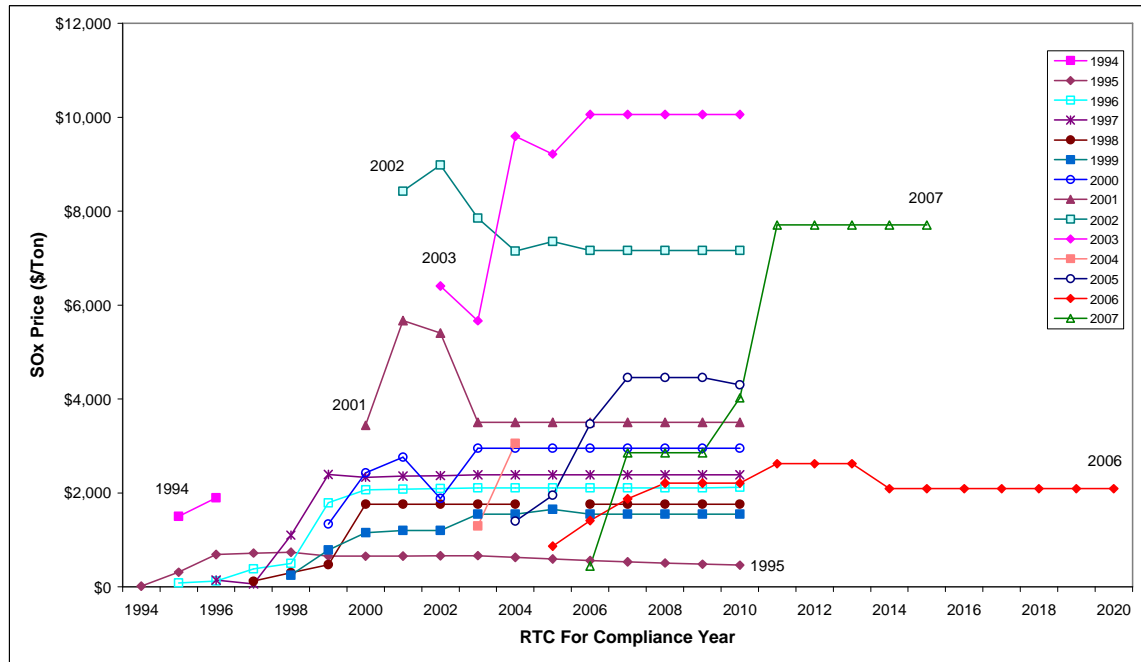


Figure 2-7
Average Annual Price for SOx RTCs during Calendar Years 1994 through 2007



The preceding discussion of RTC trading activity is based on trade data as generated by the old reporting methodology; it was included for purposes of continuity with prior annual audit reports and to provide data consistent with that published previously so that comparisons with prior reports can be made. The

data and discussion in the remainder of this chapter is based on trade data generated by the new reporting methodology. Trade data presented in future annual audit reports will be consistent with those presented below. It is important to understand that, while the total number and value of trades using the old reporting methodology (trades with price plus trades without price) are equal to the total number and value of trades using the new reporting methodology (discrete trades plus IYB trades plus swap trades), the total volume of trades using the old methodology is greater than the total volume of trades using the new methodology. This apparent discrepancy in total volumes is the result of the old reporting methodology's deficiencies with respect to accounting for IYB trades. The new methodology corrects these deficiencies, so the trade volume data presented in the following discussion is more reliable than that above.

Trading Activity and Price Based on New Reporting Methodology

Figure 2-8 shows that in Calendar Year 2007 there were a total of 483 trades and 21 trades of discrete NOx and SOx RTCs, respectively (excluding swap trades, which are addressed separately later in this chapter). 288 Of the 483 NOx trades were traded with price totaling 3,403 tons in volume and \$21.1 million in value. Four out of the 21 SOx trades were traded with price totaling 36.5 tons in volume and \$18,700 in value. Figure 2-9 presents corresponding data for 2006, when there were a total of 519 discrete NOx trades and 34 discrete SOx trades. The total values traded were approximately \$13.2 million and a quarter of a million dollars, respectively. Trades of discrete NOx RTCs showed an increase in both total value (from \$13.2 million to \$21.1 million) and quantity traded (2,896 tons with price and 6,193 tons total increasing to 3,403 tons with price and a total of 6,320 tons) from 2006 to 2007, whereas discrete SOx RTCs showed a decrease in value and volume (\$0.27 million for 300 tons with price and a total of 1,262 tons in 2006 decreasing to \$18 thousand for 36.5 tons with price and 1,028 total tons in 2007).

Figure 2-8
Calendar Year 2007 Trading Activity for Discrete RTCs Excluding Swaps

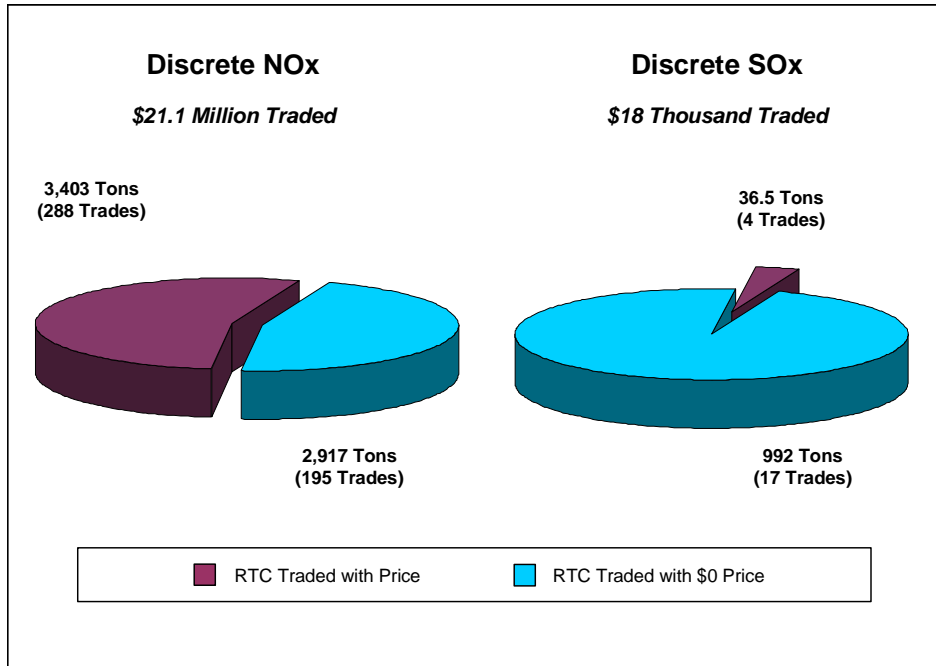
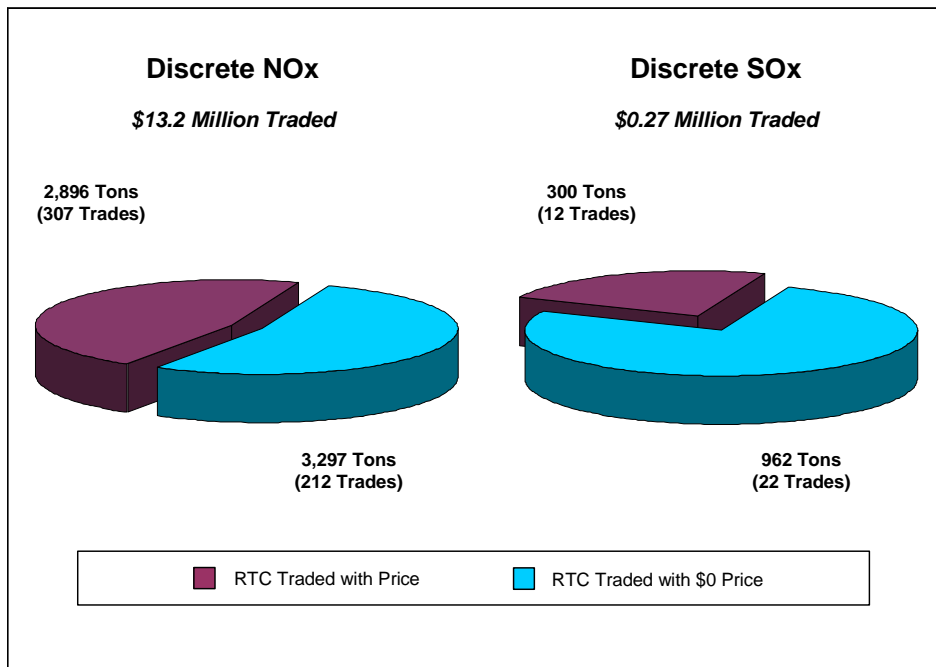


Figure 2-9
Calendar Year 2006 Trading Activity for Discrete RTCs Excluding Swaps



There were a total of 59 IYB NOx trades and 14 of IYB SOx during 2007 and 106 of IYB NOx trades and 23 of IYB SOx trades during 2006, as illustrated by

Figures 2-10 (2007) and 2-11 (2006). There were no swap trades involving IYB RTCs. The same figures show that the total value of NOx IYB RTCs traded in Calendar Year 2007 was approximately \$45.2 million and approximately \$65 million in 2006. The total value of SOx IYB RTC trades was \$3.7 million in Calendar Year 2007 and \$3.5 million in 2006. IYB NOx trades increased in total volume but decreased in total value and volume with price from \$65.2 million for 433 tons with price and 873 total tons in 2006 to \$45.2 million for 233 tons with price and 1,050 total tons in 2007 while IYB SOx trades increased in value and total volume but declined in volume with price from \$3.5 million for 242 tons with price and 522 total tons in 2006 to \$3.7 million for 155 tons with price and 791 total tons in 2007.

Figure 2-10
Calendar Year 2007 Trading Activity for IYB RTCs

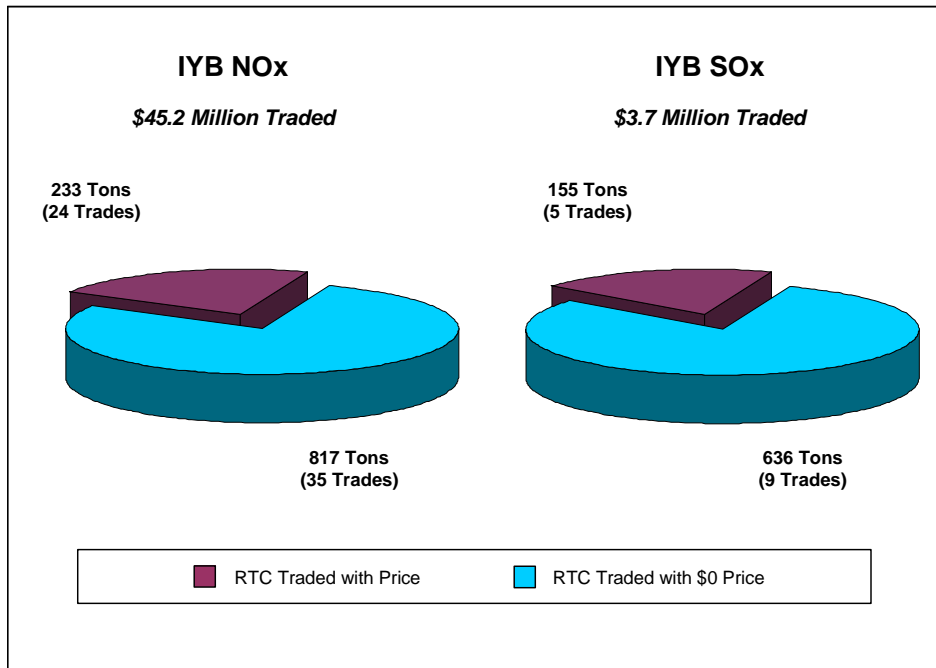
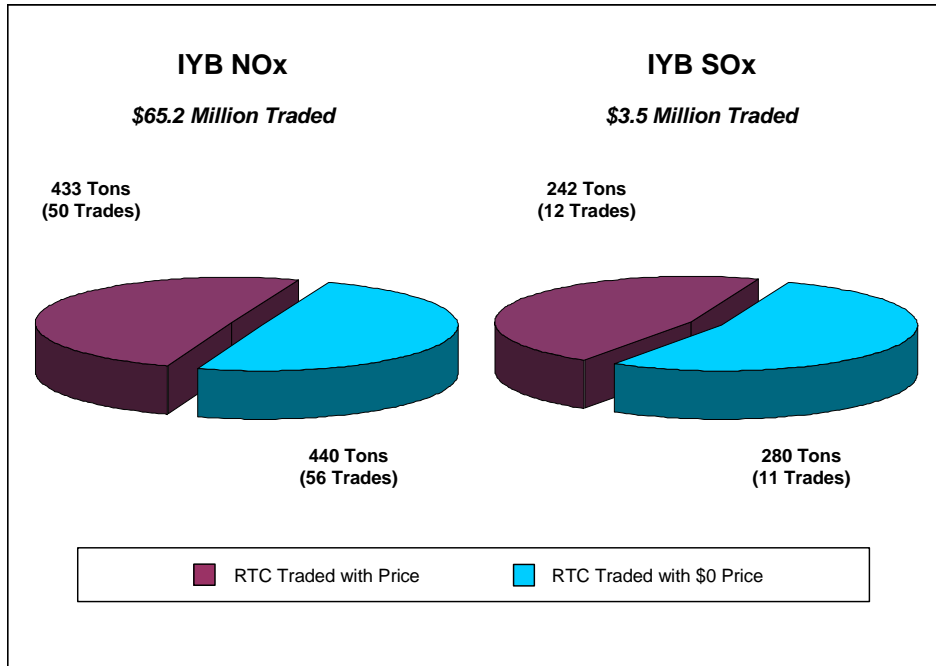


Figure 2-11
Calendar Year 2006 Trading Activity for IYB RTCs



A comparison of Calendar Year 2006 and 2007 data as determined pursuant to the new trade reporting methodology is also presented in Figures 2-12 through 2-15 (discrete NOx trades, discrete SOx trades, IYB NOx trades, and IYB SOx trades, respectively) in a more meaningful format which will be implemented on a going-forward basis

Figure 2-12
Discrete NOx RTCs Traded in Calendar Year's 2006 and 2007 Excluding Swaps

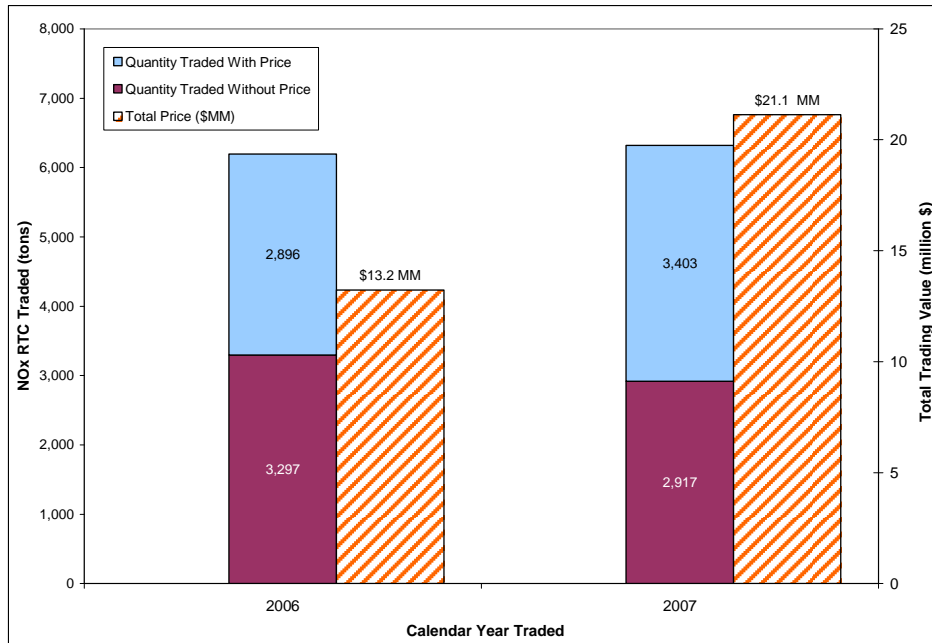


Figure 2-13
Discrete SOx RTCs Traded in Calendar Year's 2006 and 2007 Excluding Swaps

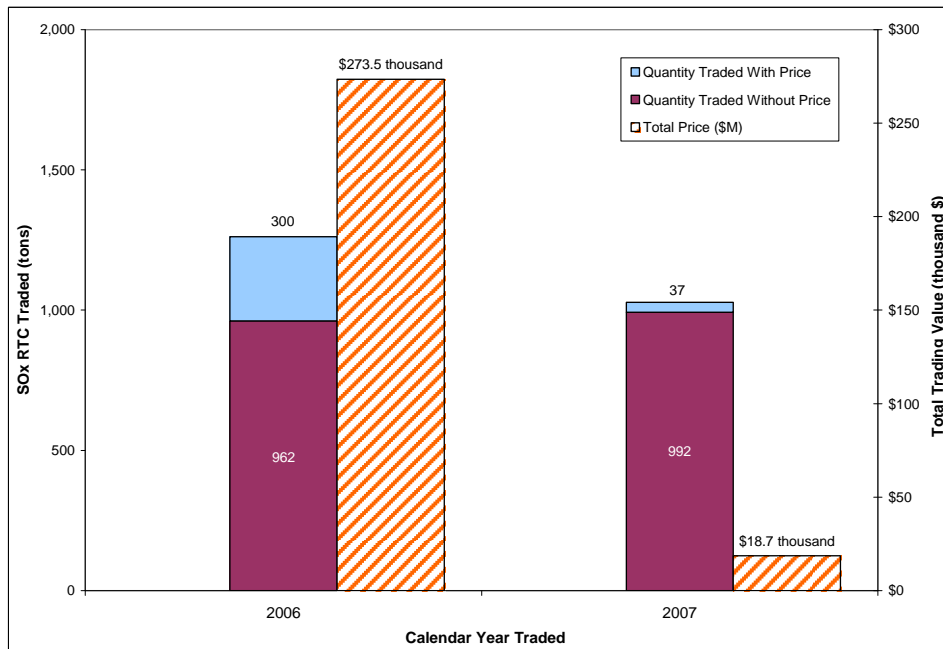


Figure 2-14
IYB NOx RTCs Traded in Calendar Year's 2006 and 2007

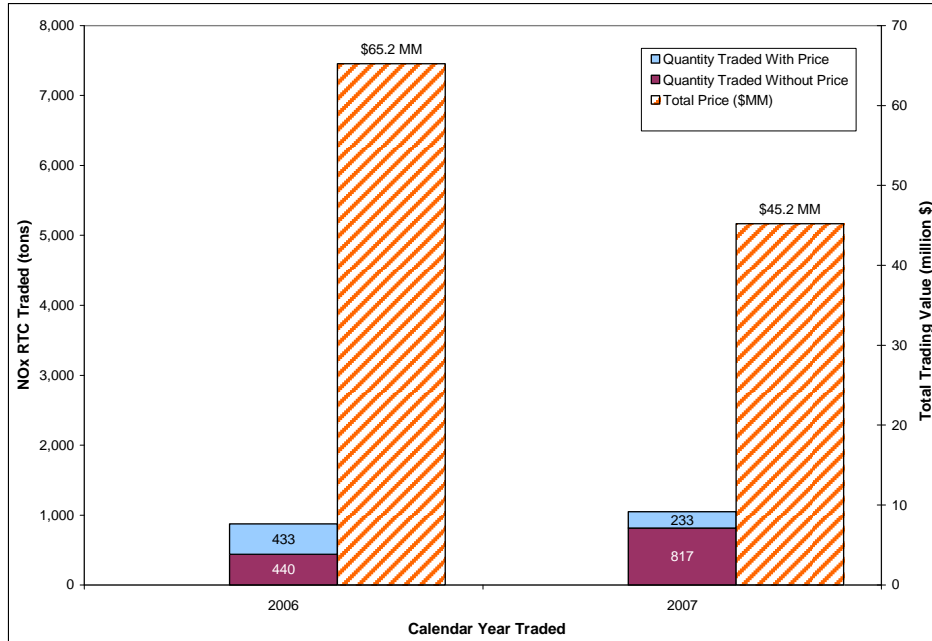
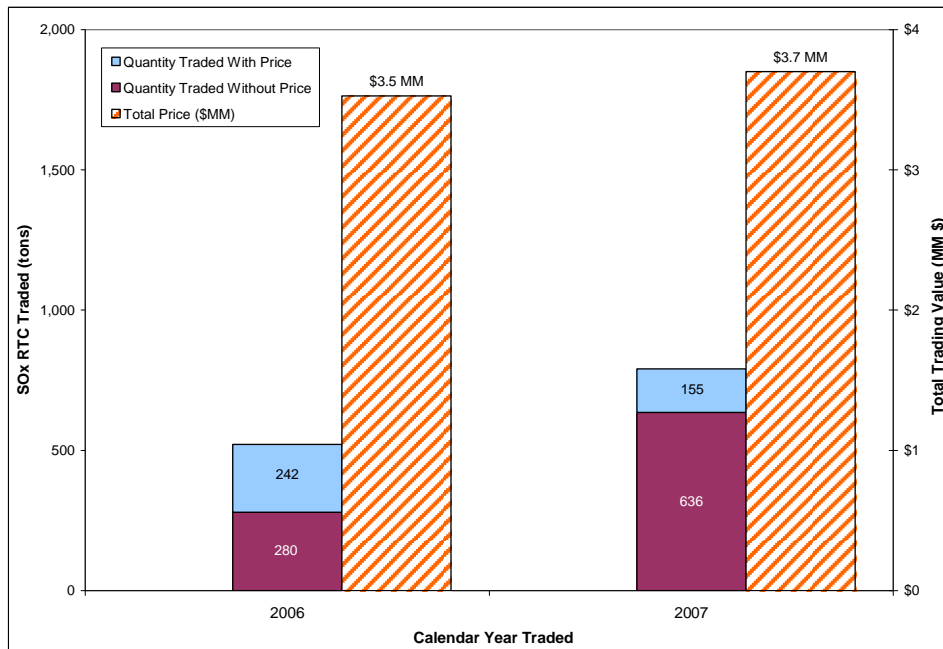


Figure 2-15
IYB SOx RTCs Traded in Calendar Year's 2006 and 2007



Swap Trades

In addition to traditional trades of RTCs for price, different variations of RTC swaps occurred between facilities and other traders during 2007. There were swaps of current year RTCs for next year RTCs and swaps of RTCs from different cycles for the same pollutant. RTCs were also swapped for ERCs of other pollutants. In some cases, swaps involved a combination of RTCs and cash payment as a premium. Trading parties swapping RTCs were required to report the equivalent price of RTCs under individual trades. Over \$4 million in total value was reported from RTCs that were swapped. However, the new reporting and averaging methodology excludes swap trades from analysis of trade prices. Tables 2-2 and 2-3 present data for NO_x and SO_x RTC swaps, respectively.

Table 2-2
NO_x Registrations Involving Swaps

Source	2006	2007
Total Reported Value for NO _x RTCs Swapped (\$MM)	\$7.3	\$4.1
NO _x Quantity Swapped with Price (tons)	1,201.6	811.5
NO _x Quantity Swapped (tons)	N/A*	872.6
Number of NO _x Swap Registrations with Price	N/A*	41
Number of NO _x Swap Registrations	N/A*	45

*N/A ≡ Data not available.

Table 2-3
SO_x Registrations Involving Swaps

Source	2006	2007
Total Reported Value for SO _x RTCs Swapped (\$MM)	\$0.02	\$0
SO _x Quantity Swapped with Price (tons)	24.4	0
SO _x Quantity Swapped (tons)	N/A*	0
Number of SO _x Swap Registrations with Price	N/A*	0
Number of SO _x Swap Registrations	N/A*	0

*N/A ≡ Data not available.

Discrete RTC Prices

Figure 2-16 presents NO_x RTCs for discrete years as determined using the new reporting methodology and shows a slightly lower average NO_x RTC price for Calendar Year 2007 than Calendar Year 2006. The average annual price for discrete year NO_x RTCs ranged from \$3,453 per ton for Compliance Year 2006 to \$12,459 per ton for Compliance Year 2010. Figure 2-17 shows the average price for discrete year SO_x RTCs using the new reporting methodology. The average annual price for discrete year SO_x RTCs ranged from \$444 per ton for Compliance Year 2006 to \$3,500 per ton for Compliance Years 2007 through

2010. No meaningful price comparison can be made of SOx RTC trades because RTCs for different compliance years were traded in Calendar Years 2006 and 2007.

Figure 2-16
Average Annual Price for NOx RTCs during Calendar Years 2006 and 2007 for Discrete Year Trades

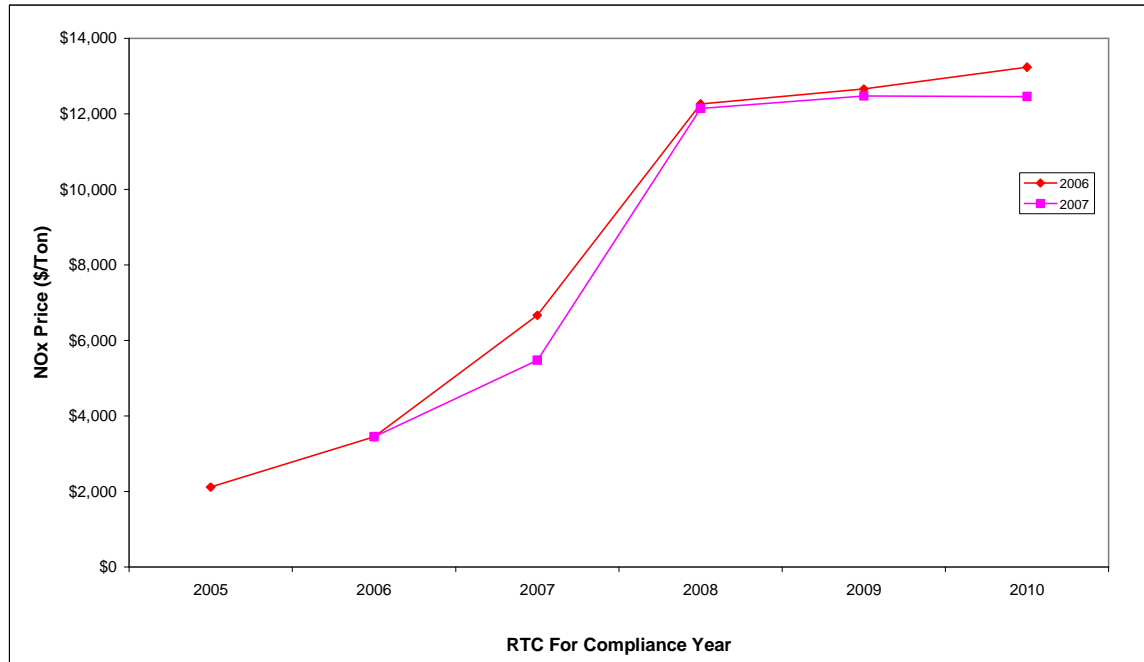
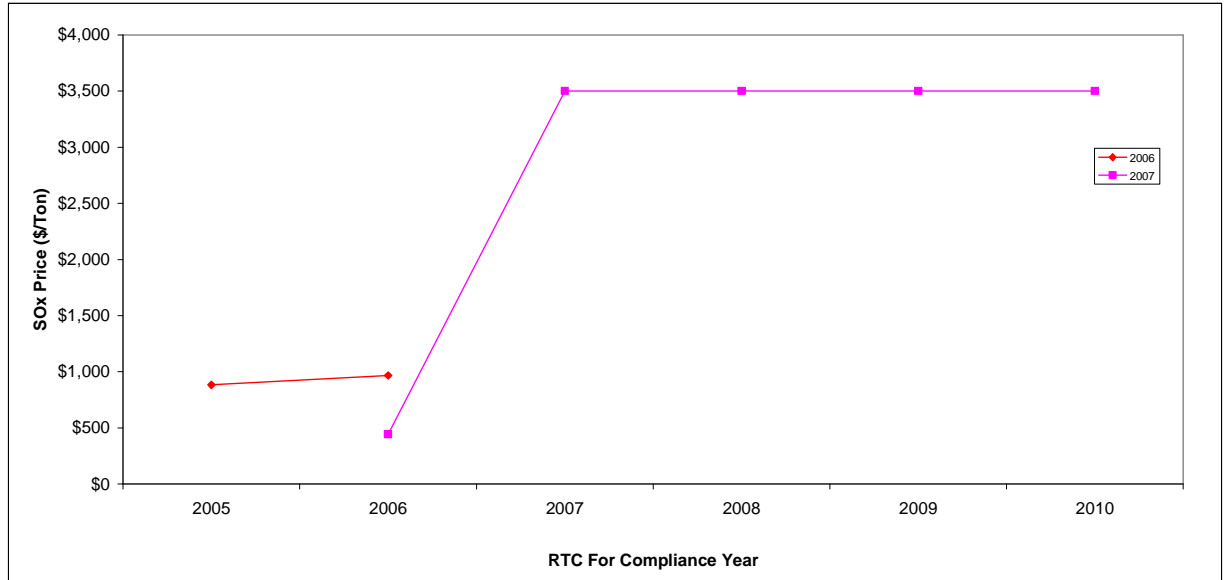


Figure 2-17
Average Annual Price for SOx RTCs during Calendar Years 2006 and 2007 for Discrete Year Trades

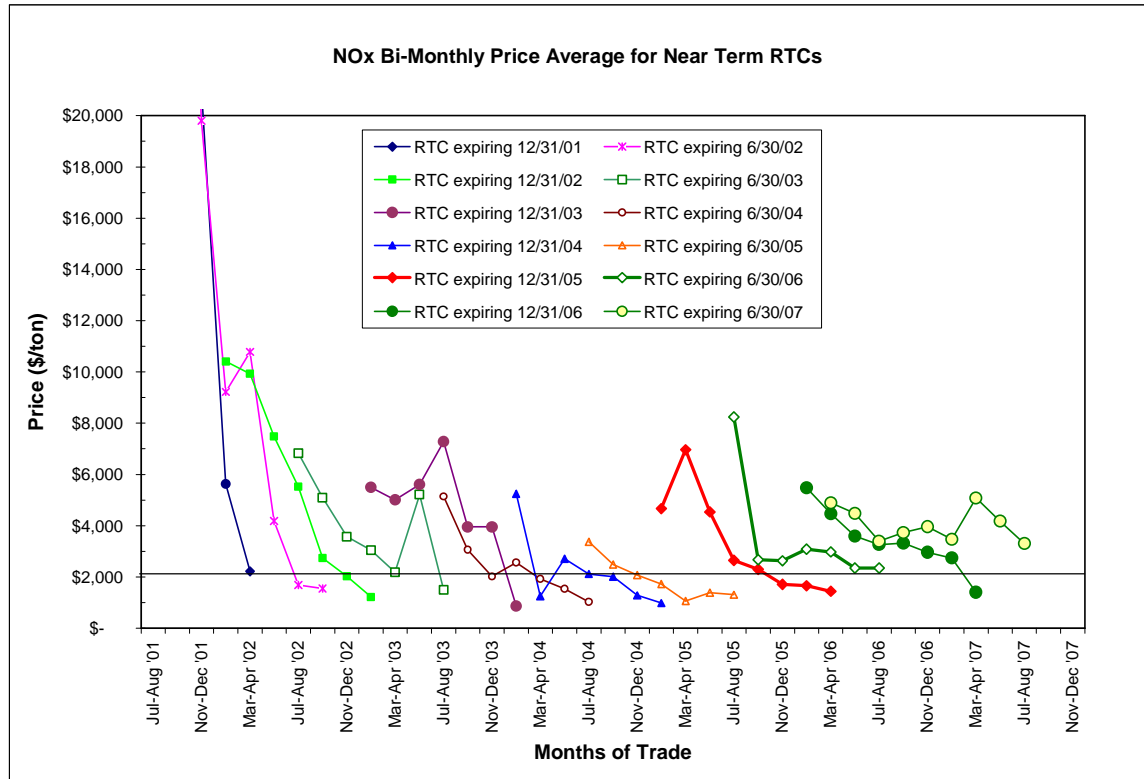


Average Price for NOx RTCs Nearing Expiration

Generally, RTC prices decrease as their expiration dates approach. RTC prices are usually lowest during the 60 day-period following their expiration date during which facilities are allowed to trade to reconcile their emissions. This pattern has been repeated every year since 1994 except for Compliance Years 2000 and 2001 (the time of the California energy crisis), when NOx RTC prices increased as the expiration dates approached because there was a shortage of NOx RTCs. In Calendar Year 2007, prices for NOx RTCs expiring within the same calendar year followed the general trend where RTC prices declined over the course of their Compliance Year.

The bi-monthly average price for these NOx RTCs is shown in Figure 2-18. This graph shows that the average prices for NOx RTCs near expiration have generally followed a declining trend which is reflective of the adequate supply to meet the RTC demand during the final reconciliation period following the end of the compliance years. It should be noted that bi-monthly average prices for years prior to 2006 differ from bi-monthly prices for years 2006 and 2007 in that bi-monthly price for years 2006 and 2007 do not include the values reported for swap trades. However, since RTC swap trades represent a relatively small portion of overall trading activity, the impact of this discrepancy in basis between the two time frames is small. The average prices for later expiring RTCs have nevertheless increased. A similar analysis is not performed for the price of SOx RTCs nearing expiration because there are not enough SOx trades over the course of the year to generate meaningful data.

Figure 2-18
Bi-Monthly Average Price for NOx RTCs near Expiration



IYB RTC Prices

The trading volume of both NOx and SOx IYB RTCs fell in Calendar Year 2007 compared to 2006. However, the price of NOx and SOx IYB RTCs were higher. Data regarding IYB price for NOx and SOx RTCs are summarized in Tables 2-4 and 2-5, respectively. The average annual price for NOx IYB RTCs traded in 2007 was \$194,202 per ton and the average annual price for SOx IYB RTCs in 2007 was \$23,848 per ton. In Calendar Year 2007, the average annual IYB RTC prices did not exceed the \$546,500 per ton of NOx RTCs or the \$393,444 per ton of SOx RTCs program review thresholds established by the Governing Board pursuant to California Health and Safety Code §39616(f).

As detailed in the “Evaluation and Review of the RECLAIM Program and Assessment of RTC Price Reporting” report approved by the Governing Board on September 7, 2007, investors were involved in more than 90% of all IYB trades in Calendar Year 2006. Investors were again involved in almost 90% of all IYB trades in Calendar Year 2007. The majority of available IYB NOx RTCs during these two years were purchased by investors as a group, leading to an upward trend for IYB NOx prices. A more detailed discussion of investor participation is presented later in this chapter.

**Table 2-4
NOx IYB Pricing Excluding Swap Registrations**

Source	2006	2007
Total Reported Value for NOx IYB Traded (\$MM)	\$67.2	\$45.2
NOx IYB Quantity Traded (tons)	432.9	232.8
Number of NOx IYB Trades With Price	50	24
Average Price (\$/ton)	\$150,665	\$194,202

**Table 2-5
SOx IYB Pricing Excluding Swap Registrations**

Source	2006	2007
Total Reported Value for SOx IYB Traded (\$MM)	\$3.5	\$3.7
SOx IYB Quantity Traded (tons)	241.7	155.2
Number of SOx IYB Trades With Price	12	5
Average Price (\$/ton)	\$14,585	\$23,850

Trends in RTC Trades

RECLAIM market participants have traditionally included RECLAIM facilities, brokers, commodity traders, and private investors. RECLAIM facilities are the sources and users of RTCs. They usually sell their RTC surpluses by the end of the compliance year or when they have a long-term decrease in emissions. Brokers serve as facilitators and match buyers and sellers. Most brokers usually do not purchase or own the RTCs. On the other hand, commodity traders and private investors are parties that actually invest in and own RTCs and seek profit by trading them. Unlike RECLAIM facilities, investors do not have the burden of allocation compliance.

Theoretically, the role of investors in this market is to provide capital for installing air pollution control equipment that costs less than the market value of credits. In addition, investors can also improve price competitiveness. The uniqueness of the RECLAIM program may alter this market theory in that RECLAIM facility operators have no substitute for RTCs because they have the obligation to reconcile their emissions with RTCs and pollution controls cannot be implemented within a short time period. That is, there is no alternative source of credits available to RECLAIM facilities when RTC prices increase (they do not have the option to switch to apples when oranges become expensive). Therefore, they may be at the mercy of owners of surplus RTCs in the short term, particularly during times of rapid price increases, as evidenced in 2000 and 2001 during the California energy crisis. On the other hand, investors bear no compliance responsibility and, therefore, can hold out for higher prices. IYB RTCs represent an even more critical aspect of the program in that these streams of RTCs are sought after to support growth at new or existing facilities. As such, active facilities are less likely to sell their future year RTCs as IYB. The supply of IYB RTCs available for sale has been mainly from facilities that have permanently shut down and from conversion of traditional emission reduction

credits at the start of RECLAIM. When investors purchase RTCs that become available as the result of facility shutdowns the money they pay for the RTCs does not help fund additional emission reductions; they are actually competing for RTCs. Therefore, the investors are actually driving up RTC prices in such cases.

Figure 2-19 and 2-20 illustrate investor's involvement in discrete NOx and SOx trades registered with price¹ in Calendar Year 2007. In compiling data for these two figures, staff removed brokers' involvement². Figure 2-19 is based on total value of discrete NOx and SOx RTCs traded and shows that investors were involved in 65% and 99.6%, respectively of the NOx and SOx trades reported by value. On the other hand, Figure 2-20 is based on discrete volume traded with price and shows that investors were involved in 87% and 97% of the NOx and SOx trades, respectively. Figures 2-21 and 2-22 provide similar data for NOx and SOx IYB trades and show that investors were involved in 65% of NOx IYB trades and 100% of SOx IYB trades on a reported value basis and 66% of NOx IYB and 100% of SOx IYB trades on the basis of the number of pounds traded with price. As of the end of 2007, investors held 4.2% of NOx IYB RTCs and 8.5% of SOx IYB RTCs, up from the 3.1% and 7.1%, respectively, at the end of the Calendar Year 2006.

¹ Trades reported without price are excluded from this analysis because they typically represent movement between facilities under common ownership and trades associated with changes of facility ownership and are therefore not reflective of market behavior.

² The established convention for registering brokered RTC trades is to do so in two sequential steps: first from the seller to the broker, then from the broker to the buyer. However, to avoid double counting of brokered trades in these figures, they are prepared as if each brokered trade had been registered from the seller to the buyer in a single step.

Figure 2-19
Investor-Involved Discrete NOx and SOx Trades Based on Value Traded

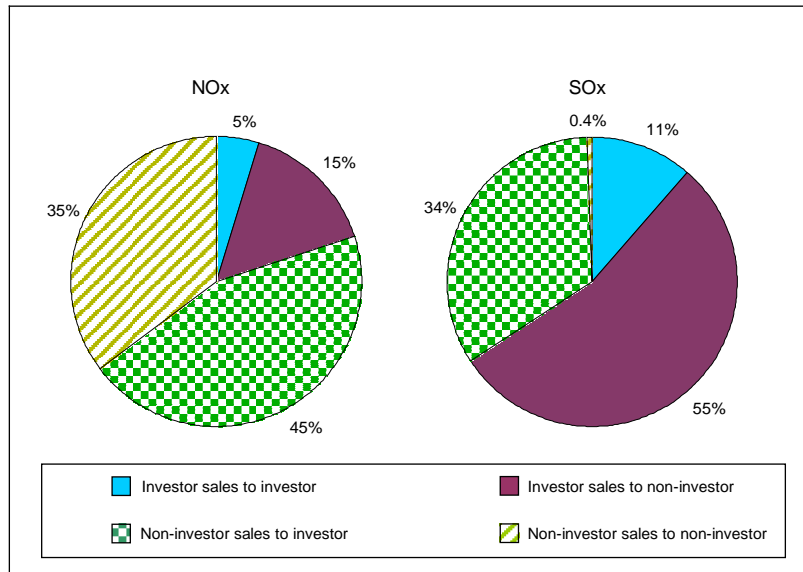


Figure 2-20
Investor-Involved Discrete NOx and SOx Trades Based on Volume Traded with Price

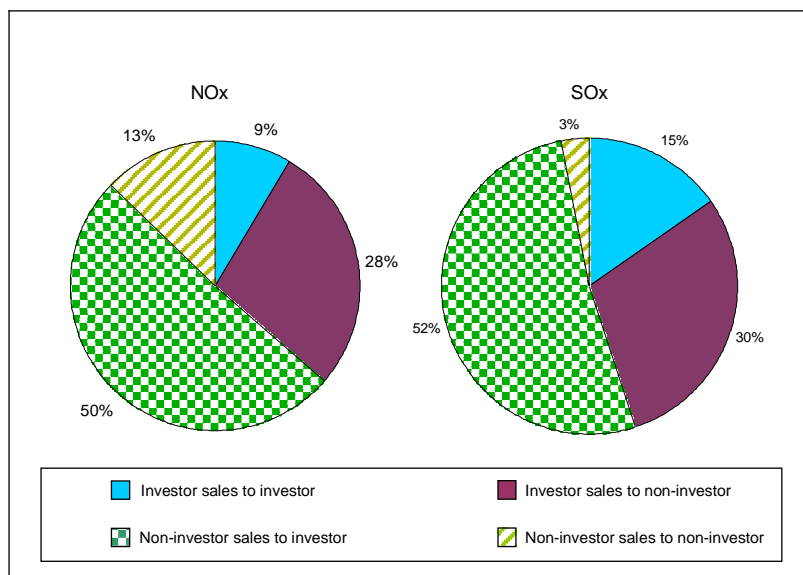


Figure 2-21
Investor-Involved NOx and SOx IYB Trades Based on Value Traded

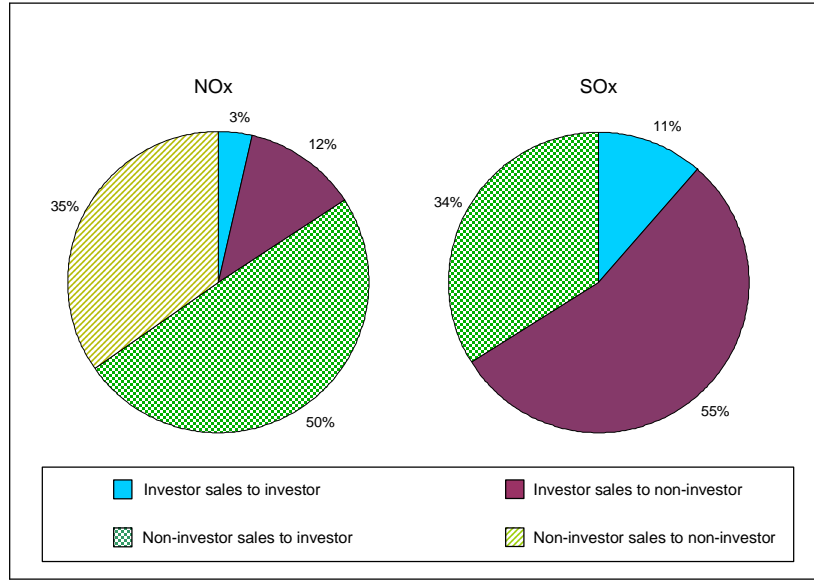
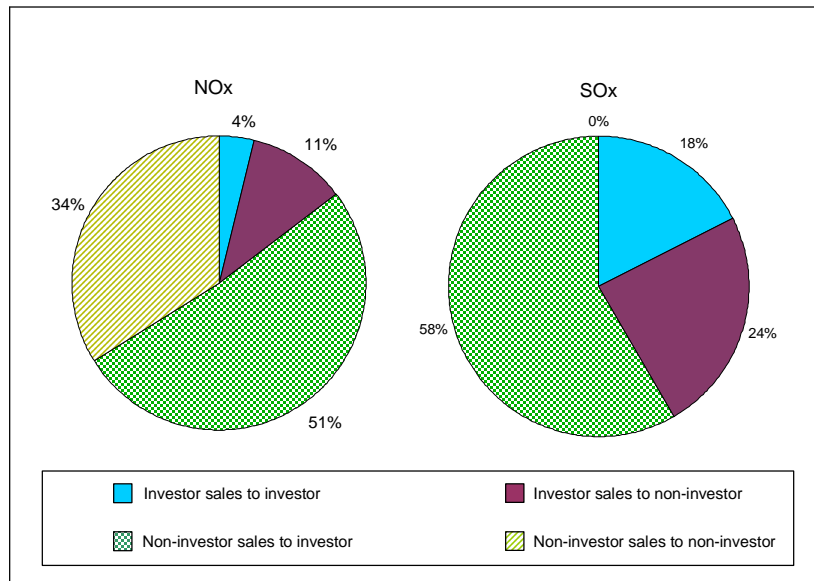


Figure 2-22
Investor-Involved NOx and SOx IYB Trades Based on Volume Traded with Price



Investors have been particularly active in IYB RTCs from RECLAIM facilities which shutdown. For example, the thirteen RECLAIM facilities which shutdown during Compliance Year 2006 (refer to Chapter 1) held a total of 165 tons of IYB NOx RTCs, of which 162 tons (98%) were sold. Investors were the primary purchasers, accounting for 137 tons (84% of the portion sold).

Starting in Calendar Year 2004, mutual funds joined the traditional traders in participating in RTC trades. Market participation further expanded in 2006, when investors from foreign countries started participating in RTC trades. To ensure that RECLAIM trading requirements can be properly enforced, prior to their participation in the RECLAIM market foreign and out-of-state entities are required to consent to the jurisdiction of California courts should any litigation arise associated with their trading activity. At the end of 2007, there were three mutual funds actively participating in the RTC market. Similarly, there were two foreign entities registered with AQMD for the purpose of trading RTCs. The three mutual funds are controlled by a common fund manager. These three mutual funds held 2.3% (225 tons) of the total NOx IYB RTCs and 4.6% (198 tons) of the total SOx IYB RTCs as of the end of 2007.

Other Types of RTC Transactions and Uses

Another type of RTC trade, besides the traditional trading and swapping activities, is a trade involving the contingent right (option) to buy or sell RTCs. In those transactions, one party pays a premium for the right to purchase or sell the RTCs owned by the other party at a pre-determined price within a certain period of time. Until RTCs are transferred from seller to buyer, prices for options are not reported since the seller is not paid for the actual RTCs, but just for the right to purchase or sell the RTCs at a future date. Such rights may or may not be actually exercised.

There were also reports of other uses of RTCs during 2007. RTCs were provided in projects to mitigate impacts from construction projects pursuant to California Environmental Quality Act documents. RTCs were also surrendered to satisfy variance conditions, settlements with the AQMD, and settlements with EPA. In most of these cases, retiring RTCs are used to mitigate excess emissions that occurred in those cases.

Investor Impacts on RTC Market

To put investors' holdings in context, with the exception of the energy crisis during 2000 and 2001, there has typically been approximately a 20% overall surplus of NOx RTCs at the end of each compliance year. It has been reported that RECLAIM facilities have generally held back approximately 10% of their allocations each compliance year as a compliance margin to ensure that they do not inadvertently find themselves in the position of exceeding (failing to reconcile) their allocations if their reported emissions are increased as the result of any problems or errors discovered by AQMD inspectors during annual audits. Total RECLAIM NOx emissions during Compliance Year 2006 were 9,155 tons. If total RECLAIM NOx emissions were to remain constant, the NOx RTC surplus in 2011 will only be 522 tons (5.4%), significantly less than the 10 % compliance

margin. Therefore, the current aggregate investors' holdings of 4.2% of NOx RTCs valid for Compliance Year 2011 and beyond (IYB RTCs) have the potential to result in a sellers' market.

On the other hand, overall emissions in RECLAIM will certainly change from now through 2011 and can be affected by various factors including further installation of emission control equipment, change in production, and shift in industry sectors. In January 2005, AQMD identified cost-effective control opportunities outside the power producing industry sector that would amount to 3.7 tons per day of additional NOx reductions based on historical production rates. The significance of the investors' holdings will certainly depend on the ability of RECLAIM facilities to generate adequate surplus RTCs in time to dampen the effect of a sellers' market which may exist if the demand surges in a short period of time similar to the situation during the California energy crisis of 2000-2001. While it can be argued that the holding of IYB RTCs by investors as a group is still small relative to the total supply of IYB RTCs (4.2% of NOx and 8.5% of SOx as of the end of 2007), there is no clear basis to estimate the level of IYB RTCs available for sale or the extent of additional emissions reductions which will be achieved by 2011. Therefore, it is not possible to determine whether this holding is significant enough to allow price manipulation by an individual investor or a group of them. However, the recent rise in holding of IYB RTCs by investors may continue further increasing the potential for greater market influence by investors. Furthermore, current data indicates that the trading activity of IYB RTCs by investors is high and the price of these credits is increasing. Even though no evidence exists that investors are manipulating price through the hoarding of credits, the potential for investors' involvement to create an adverse impact on RTC availability and price still exists.

Governing Board Chairman Burke has directed staff to address recent price increases in the RECLAIM program due to third-party investor market participation. AQMD staff is establishing a Working Group including agency, business, environmental, and community stakeholders to assist in the development of concepts to help stabilize RTC prices. Additionally, staff will develop a concept paper in conjunction with the Working Group describing and evaluating the options to better protect RECLAIM facilities from adverse impacts that may arise from investor stockpiling of RTCs. Upon Governing Board approval of the concept paper, staff will commence implementation of the proposal, which may include the public rule development process.

CHAPTER 3 EMISSION REDUCTIONS

Summary

Aggregate NOx and SOx emissions from RECLAIM facilities continued to be below allocations for Compliance Year 2006. Total aggregate NOx emissions were below total allocations by 27% and total aggregate SOx emissions were below total allocations by 16%. Therefore, aside from the effects of the California energy crisis on Compliance Years 2000 and 2001 emissions, it can be concluded that RECLAIM has achieved its targeted emission reductions since aggregate emissions have been below aggregate allocations during all other compliance years. Finally, no emissions associated with breakdowns were excluded from being accounted against facility allocations in Compliance Year 2006. As such, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports.

Background

One major objective of the annual RECLAIM program audits 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 subsumed command-and-control rules and control measures. In January 2005, the Board adopted further reductions to RECLAIM allocations starting Compliance Year 2007 to implement BARCT. As such, RECLAIM is designed to achieve the same level of emissions reductions as would have been achieved in aggregate by implementing the subsumed rules and command-and-control measures as well as complying with state and federal law, such as California Health and Safety Code §39616(e).

In 2000, power producing facilities increased their power generation in response to the California energy crisis. The corresponding increases in RECLAIM NOx emissions caused a sudden surge in NOx RTC prices. This increase in NOx emissions adversely impacted other RECLAIM participants, as well as the overall objective of the program. To correct this problem, the Governing Board amended Regulation XX to bifurcate power producing facilities (as defined in Rule 2000(c)(56)) from the rest of the RECLAIM program participants to stabilize the RTC prices. Power producing facilities were still subject to the requirements of the RECLAIM Program, except that they could not purchase additional RTCs to offset their emissions. Instead these facilities were able to participate, if needed, in the Mitigation Fee Program which was in effect through the end of the 2004 compliance year. However, the RECLAIM rules were subsequently amended by the Governing Board on January 7, 2005 to allow power producing facilities to purchase NOx RTCs valid for Compliance Year 2005 and after from any party. The only remaining trade restriction on power producing facilities after this amendment is that NOx RTCs issued to power producing facilities as original allocations by AQMD for Compliance Years 2005 or 2006 may only be sold or transferred to new power generating facilities brought on-line as of January 1, 2004 or later.

Emissions Audit Process

Since the inception of the program, AQMD has conducted annual audits of the data submitted by RECLAIM facilities 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 audit process also includes field inspections to check the equipment, monitoring devices, and operational records. It typically involves verification of emissions data reported during the course of the year (daily, monthly, quarterly, and annually).

Common findings from these audits reveal that some facilities made errors in quantifying their emissions, such as arithmetic errors, use of inappropriate emission factors, or inappropriate use of missing data procedures (MDP). Consequently, APEP reported emissions are adjusted to correct the errors. Whenever AQMD staff finds such discrepancies, they are discussed with the facility operators. Facilities are provided an opportunity to review the changes resulting from facility audits and to present additional data or arguments in support of the data in their APEP reports. This 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. It is important to understand that the RECLAIM program is successful at achieving these emission reduction goals even when individual RECLAIM facilities exceed their RTC account balances provided aggregate RECLAIM emissions do not exceed aggregate RTC balances by pollutant. Table 3-1 summarizes NO_x emissions from RECLAIM facilities since program inception. Emissions reported by each facility, either under its APEP report or, if the APEP report is not available, its Quarterly Certification of Emissions Reports (QCERs), were used when emissions data from completed audits were not available.

Table 3-1
Annual NOx Emissions for Compliance Years 1994 through 2006

	Annual NOx Emissions ¹ (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%
2004	9,953	-60.7%	12,477	2,524	20%
2005	9,556	-62.3%	12,484	2,928	23%
2006	9,166	-63.8%	12,487	3,321	27%

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, programmatically, there were excess NOx RTCs left over after accounting for NOx emissions for every compliance year since 1994 except for Compliance Years 2000 and 2001. During Compliance Year 2000, power producing facilities operated at production levels significantly higher than their past operation levels due to California's energy crisis. The high production levels continued into Compliance Year 2001. The high production resulted in elevated emissions from the power producing sector. Since 2002, RECLAIM NOx emissions have been at or below 80% of annual allocations. Therefore, except for these two years, RECLAIM facilities have met the program's annual NOx emission goals.

Tables 3-2 and 3-3 illustrate emission trends between Compliance Years 2000 and 2006 and the emission impacts from power producing facilities. 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 presents Compliance Year 2006 emissions in the same fashion as Table 3-2. Although power producing facilities were initially allocated 1,705 tons of NOx RTCs for Compliance Year 2006 based on their historical operations, these facilities only reported 575 tons of NOx emissions in Compliance Year 2006. This level was approximately 6,213 tons (92%) below emissions from power producing facilities in Compliance Year 2000. The decrease in emissions was due to the installation of NOx control equipment at power producing facilities and a reduction in electricity generation. To a lesser extent, there was also an appreciable reduction in emissions from non-power producing facilities. Non-power producing facilities emitted 8,591 tons of NOx in Compliance Year 2006 which

was almost 5,112 tons (37%) less than their emissions in Compliance Year 2000. In aggregate, annual NOx emissions in Compliance Year 2006 totaled 9,166 tons from RECLAIM facilities. This total is over 55% less than the 20,491 tons of NOx emissions in Compliance Year 2000. Thus, both power producing and non-power producing sectors contributed to the decreases in emissions between Compliance Years 2000 and 2006. As a result, Compliance Year 2006 NOx emissions again achieved aggregate RECLAIM emission reduction goals and were below the total allocations by 27%.

**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 and Allocations for Compliance Year 2006**

	Compliance Year 2006				
	Non-Power Producing Facilities (a)		Power Producing Facilities (b)		All Facilities (a) + (b)
	RTCs Held	Initial Allocations	RTCs Held	Initial Allocations	
Allocations [tons]	10,279	10,782	2,208	1,705	12,487
Emissions [tons]	8,591		575		9,166
Difference [tons] (Exceedance)	1,688	2,191	1,633	1,130	3,321

As shown in Table 3-4, RECLAIM facilities have not exceeded their SOx allocations on an aggregate basis since program inception. The data indicates that RECLAIM met its programmatic SOx emission reduction goals and demonstrated equivalency in SOx emission reductions compared to the subsumed command-and-control rules and control measures. Table 3-4 shows

that since 1995, annual SOx emissions have decreased every year, inclusive of Compliance Year 2006, except for slight increases in Compliance Years 1998 and 2005. Overall, the reductions in SOx emissions resulted mainly from emission reductions projects implemented at the area's refineries. Typical projects included removal of sulfur compounds from feed streams and refinery fuel gas, and the use of catalysts to reduce SOx emissions. 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 for Compliance Years 1994 through 2006

	Annual SOx Emissions ¹ (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%
2004	3,580	-50.5%	4,292	712	17%
2005	3,621	-49.9%	4,292	671	16%
2006	3,580	-50.5%	4,282	702	16%

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

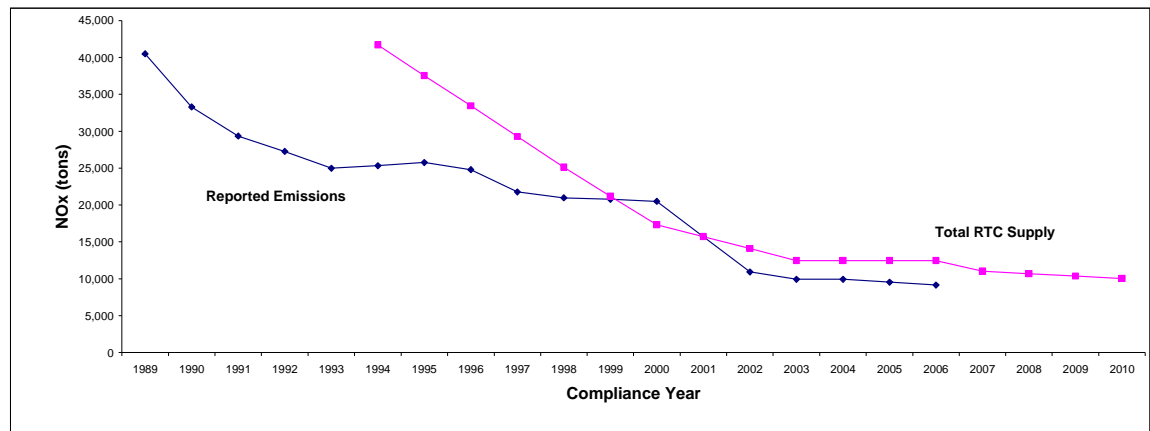
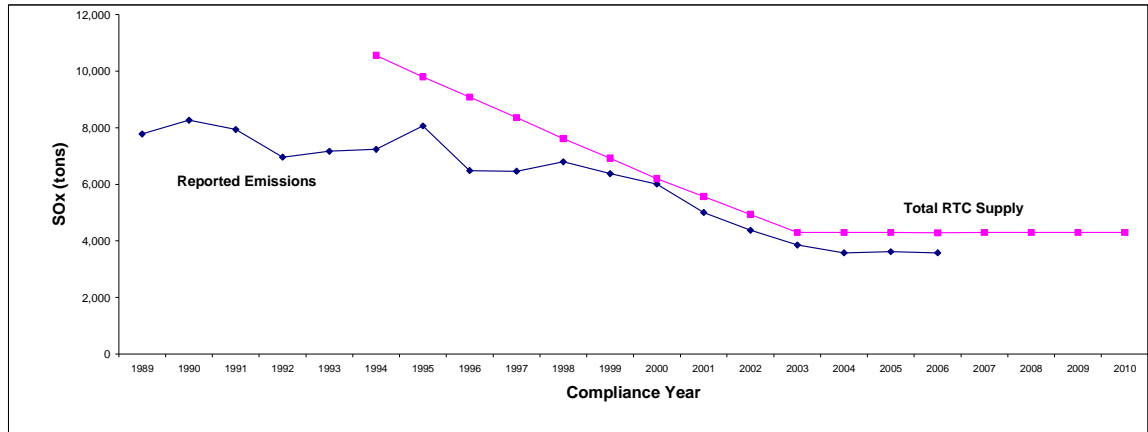


Figure 3-2
SOx Emissions and Available RTCs



Comparison to Command-and-Control Rules

RECLAIM subsumed a number of command-and-control rules¹ and sought to achieve equivalent reductions as these subsumed rules. RECLAIM facilities are exempt from the requirements of the subsumed rules which apply to SOx or NOx emissions once they are in compliance with the applicable monitoring requirements of Rules 2011 and 2012, respectively. No changes were made to these subsumed rules during Compliance Year 2006.

Program Amendments

There were no new amendments to Regulation XX during Calendar Year 2006. However, as part of amendments to the RECLAIM Program adopted in January 2005, the Board directed staff to assemble a Stakeholder Task Force to examine the future RECLAIM Trading structure. Members of the Stakeholder Task Force included market participants, agency representatives, and members of the environmental community and academia. Meetings by stakeholders were held on September 30 and November 1 of 2005 and March 28 and July 27 of 2006 to develop recommendations regarding emission reduction objectives, program efficiency, market viability, and business stability.

Issues raised at these meetings included standardizing price reporting for future streams of RTCs, allowing facilities to pool RTCs during reconciliation, converting SOx RTCs to PM10 ERCs, identifying innovative technologies, enhancing the protocols for reporting trades, providing more safeguards to the RECLAIM market, and allowing facilities to exit from the RECLAIM market (“RECLAIM off-ramping”). Of these issues studied, staff recommended that facilities with no RECLAIM sources and meeting certain criteria be exempt from reporting zero emissions on a quarterly basis (QCERs) and annual basis (APEPs), as an amendment to Rule 2004. The Governing Board adopted such an amendment to Rule 2004 on April 6, 2007, as well as the following administrative amendments:

¹ See Tables 1 and 2 of Rule 2001.

- Rule 2007 - an amendment addressing the requirements for sellers and buyers of RTCs that do not reside in California, and
- Rule 2010 - an amendment clarifying the assignment of liability for excess emissions for situations involving change of operator and prior violations of a facility's allocations.

Additionally, on March 2, 2007 the Governing Board held a Public Hearing regarding the "Annual RECLAIM Audit Report for 2005 Compliance Year." The report revealed that the average annual price for Compliance Year 2010 NOx RTCs traded in Calendar Year 2006 (\$15,698 per ton) was in excess of the \$15,000 per ton program review threshold pursuant to Rule 2015(b)(6) and Health and Safety Code §39616(f). Consequently, the Governing Board directed staff to perform an evaluation and review of the compliance and enforcement aspects of RECLAIM pursuant to Rule 2015(b)(6), prepare a report presenting the results of the evaluation and review for the Board's consideration and submittal to the U.S. Environmental Protection Agency and the Air Resources Board, and propose a recommended methodology for determining and monitoring average prices for IYB RTCs, as describe in detail in Chapter 2.

A series of four RECLAIM Working Group meetings was held in April, May, June, and August of 2007 with RECLAIM facilities and other interested parties to solicit, develop, and propose a standardized methodology for the reporting of both discrete and infinite year block RTC prices. These meetings resulted in a new price reporting methodology which bifurcated the price reporting of discrete year RTCs from infinite year block RTCs. The new reporting methodology was proposed in "Report on RECLAIM Compliance, Enforcement and Reporting of Credit Prices," approved by the Governing Board on September 7, 2007, and submitted to ARB and EPA.

Rule 2015 – Backstop Provisions

Rule 2015 requires that AQMD review the program and implement necessary measures to amend it whenever aggregate emissions exceed the aggregate allocations by five percent or more, or whenever the average annual price of RTCs exceeds \$15,000 per ton. Compliance Year 2006 aggregate NOx and SOx emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2. Average annual prices for NOx and SOx RTCs in Calendar 2006 were below \$15,000 per ton, as shown in Chapter 2.

Breakdowns

Pursuant to Rule 2004(i) – Breakdown Provisions, a facility may request that breakdown emissions in excess of normal emission levels not be counted toward compliance with the facility's allocations. In order to qualify for such exclusion, the facility must demonstrate that the excess emissions were the result of a fire or of a mechanical or electrical failure caused by circumstances beyond the facility's reasonable control. The facility must also take steps to minimize emissions resulting from the breakdown and mitigate the excess emissions to the maximum extent feasible. Applications for exclusion of unmitigated breakdown emissions from the total reported annual RECLAIM emissions must be approved by AQMD in writing. In addition, facilities are asked to quantify unmitigated

breakdown emissions, for which an exclusion request has been approved, in their APEP report.

As part of the annual audit report, Rule 2015(d)(3) requires AQMD to determine whether excess emissions approved to be excluded from allocation compliance have been programmatically offset by unused RTCs within the RECLAIM program. If the breakdown emissions exceed the unused RTCs, any excess breakdown emissions remaining must be offset by either: (1) deducting the RTC holdings for the subsequent compliance year from facilities that had unmitigated breakdown emissions, proportional to each facility's contribution to the total amount of unmitigated breakdown emissions; and/or (2) with RTCs obtained by the Executive Officer for the compliance year following the completion of the annual audit report in an amount sufficient to offset the unmitigated breakdown emissions.

As shown in Table 3-5, a review of APEP reports for the 2006 compliance year found that no facilities requested to exclude breakdown emissions from being counted against their allocations. Thus, for Compliance Year 2006, no additional offset is required pursuant to Rule 2015(d)(3).

**Table 3-5
Breakdown Emission Comparison for Compliance Year 2006**

Emittant	Unmitigated Breakdown Emissions ¹ (tons)	Compliance Year 2006 Unused RTCs ² (tons)
NOx	0	3,569
SOx	0	719

¹ Data for unmitigated breakdown emissions (not counted against Allocation) as reported under Annual Permit Emissions Program (APEP) reports.

² Unused RTCs = RTC supply – Reported Emissions.

Impact of Changing Universe

As discussed in Chapter 1, changes to the NOx RECLAIM universe during Compliance Year 2006 were: five facilities were included into RECLAIM, one facility was excluded, and 13 facilities ceased operations. With the exception of two shutdown facilities that participated in both the NOx and SOx markets, all of these changes occurred within the NOx universe in Compliance Year 2006. Staff conducted an analysis to evaluate the impact on emissions reductions due to such changes in the RECLAIM universe.

During Compliance Year 2006, five facilities entered the RECLAIM program. Of these five, three facilities voluntarily entered to participate in the NOx market and their overall effect on RTCs are described in further detail below. The remaining two facilities were partial changes of operator of existing RECLAIM facilities, and thus have no impact on the fixed supply of NOx RTCs.

When a newly constructed facility joins the RECLAIM universe, it is required to obtain sufficient RTCs to offset its NOx or SOx emissions. These RTCs must be

obtained through the trading market and are not issued by AQMD to the facility. 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. No newly-constructed facility was added to RECLAIM during Compliance Year 2006.

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. Shutdown facilities have the opposite effect on the RTC market as do new facilities: the overall demand for RTCs is reduced while the supply remains constant. Thirteen NOx RECLAIM facilities shut down permanently during Compliance Year 2006.

A facility is excluded from the Universe if it is determined that the facility was included in the program in error. Emissions from excluded facilities are also excluded from the emissions in the RECLAIM market. In such cases, the RTCs that were issued to the facility for future years are also withdrawn, thereby decreasing the supply of RTCs. However, as explained in Chapter 1, one facility was excluded in Compliance Year 2006 because the facility's operation was assumed by another RECLAIM facility, resulting in a decrease in the number of facilities in the RECLAIM universe without impacting aggregate RECLAIM emissions, the equipment subject to the program, or aggregate allocations. Therefore, this exclusion did not impact the supply of RTCs.

Facilities that were in operation prior to October 15, 1993 may subsequently choose to enter the program even though they did not initially meet the inclusion criteria. When one of these facilities opts-in to the program, they are issued RTC allocations based on their operational history using the same methodology applied to facilities in the initial universe. Overall, 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. Inclusions also change the rules and requirements that apply to the affected facilities. One of the three facilities that chose to opt-in to the RECLAIM program in Compliance Year 2006 did exist prior to October 15, 1993 and thus was issued an initial allocation based on its prior operating history. This facility will increase the supply of RTCs and (based on future operation) may increase the demand for RTCs. The second facility that chose to opt-in was in existence prior to opting-in to the RECLAIM program, but not prior to October 1993. As such, this facility was not issued any RTC allocations and the shift of this facility's emissions from the non-RECLAIM universe into the RECLAIM universe will affect the overall demand for the fixed supply of RTCs. Similarly, the third opt-in facility was also a facility that existed prior to opting-in to the RECLAIM program, but not prior to October 1993. However, it was issued an initial allocation based on offsets the facility provided during the initial permitting process. Therefore, this third opt-in facility increased the supply of RTCs and may increase the demand as well.

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

RECLAIM and non-RECLAIM universes. Note that this does not apply to the previously discussed case of an exclusion resulting from two RECLAIM facilities merging into one or the inclusion of facilities resulting from partial change of operator.

Compliance Year 2006 NOx and SOx emissions and initial allocations for facilities which were included into the program, were shutdown, or were excluded from July 1, 2006 and June 30, 2007 are summarized in Tables 3-6 and 3-7.

Table 3-6
NOx Emissions Impact from the Changes in Universe (Tons)

Category	NOx Emissions 7/1/06-6/30/07 (tons)	2006 NOx Initial Allocations (tons)
Shutdown Facilities	66	176
Excluded Facilities	Not applicable	Not applicable
Included Facilities	4	0.9
RECLAIM Universe	9,166	12,487

Table 3-7
SOx Emissions Impact from the Changes in Universe (Tons)

Category	SOx Emissions 7/1/06-6/30/07 (tons)	2006 SOx Initial Allocations (tons)
Shutdown Facilities	54	4
Excluded Facilities	Not applicable	Not applicable
Included Facilities	Not applicable	Not applicable
RECLAIM Universe	3,580	4,282

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 federal and state NSR requirements, while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2006, three facilities joined the RECLAIM NO_x market, while no facility joined the SO_x market. In Compliance Year 2006, twenty-three NO_x RECLAIM facilities had NSR NO_x emission increases due to expansion or modification. There were no SO_x RECLAIM facilities that had NSR increases due to expansion or modification. These data indicate that the RECLAIM program does not inhibit entry into the RECLAIM program or expansion at existing RECLAIM facilities.

RECLAIM is required to comply with federal NSR requirements at a 1.2-to-1 offset ratio for NO_x emission increases and at least at a 1-to-1 offset ratio for SO_x emission increases on a programmatic basis. In Compliance Year 2006, RECLAIM provided an offset ratio of 66-to-1 for NO_x on an aggregate basis, demonstrating federal equivalency. Similar to Compliance Year 2005, there was no SO_x offset ratio calculated due to the fact that there were no SO_x NSR emission increases for Compliance Year 2006. 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 Technology (BACT) 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.

Title 42, United States Code §7511a(e) requires major sources in extreme non-attainment areas to offset emission increases of extreme nonattainment pollutants and their precursors at a 1.5-to-1 ratio. However, if all major sources in the extreme non-attainment area are required to implement federal Best Available Control Technology (BACT), a 1.2-to-1 offset ratio may be used. Federal BACT is comparable to California's Best Available Retrofit Control Technology (BARCT). AQMD does require all major sources to employ federal BACT/California BARCT and, therefore, is eligible for a 1.2-to-1 offset ratio for ozone precursors (*i.e.*, NO_x and VOC). The federal offset requirement for major SO_x sources is at least a 1-to-1 ratio. California Health and Safety Code §40920.5 requires "no net increase in emissions from new or modified stationary sources of nonattainment pollutants or their precursors" (*i.e.*, a 1-to-1 offset ratio

on an actual emissions basis). RTCs are allocated based on actual (not potential) historic emissions adjusted (reduced) to reflect changes in BARCT.

RECLAIM requires California BACT/federal Lowest Achievable Emission Rate (LAER) 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 California Health and Safety Code §40410.5. Furthermore, facilities with actual RECLAIM emissions which exceed their initial allocation by 40 tons per year or more are required to analyze the potential impact of their emissions increases through modeling.

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 increase in potential emissions 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 potential 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 for NO_x 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 for NO_x. Similarly, provided aggregate RECLAIM emissions do not exceed aggregate allocations for a specific RECLAIM pollutant, RECLAIM inherently complies with the state's no net increase requirement on a programmatic basis.

This annual audit report assesses NSR permitting activities for the 2006 compliance year to verify that programmatic compliance of RECLAIM with federal and state NSR requirements has been maintained.

NSR Activity

Evaluation of NSR data for Compliance Year 2006 indicates that RECLAIM facilities continue to successfully expand or modify their operations while complying with NSR requirements. Three facilities joined the NO_x program and no new or existing facility joined the SO_x program. One of these facilities had NSR activity of 3 tons of NO_x emission increase due to installation of new equipment. Twenty-two existing RECLAIM facilities experienced a total of 48 tons per year of NO_x NSR emission increases due to expansion or modification. There was no SO_x NSR emission increase at the SO_x RECLAIM facility.

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 for NO_x and at least 1-to-1

for SOx) 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 federal 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 at the time the program was initially implemented, any emissions reductions beyond the initial allocations are available for NSR offset purposes until such time as RACT becomes more stringent. The programmatic offset ratio calculations presented in the Annual RECLAIM Audit Reports for Compliance Years 1994 through 2004 have relied upon aggregate Compliance Year 1994 allocations as representing RACT. However, staff recognizes that RACT may have become more stringent in the intervening years, so it may no longer be appropriate to calculate the programmatic offset ratio based upon aggregate 1994 allocations. Aggregate allocations for each compliance year represent federal Best Available Control Technology (BACT, which is equivalent to local BARCT). Federal BACT is more stringent than federal RACT (*i.e.*, the best available control technology is more stringent than that which is reasonably available), so staff started using current allocations (BACT) as a surrogate for RACT as the basis for calculating programmatic offset ratios in the annual audit report for Compliance Year 2005 and is continuing to do so in this report. This is a more conservative (*i.e.*, more stringent) approach than using actual RACT and is much more conservative than using aggregate Compliance Year 1994 allocations. The advantage of this approach is that, as long as the calculated offset ratios are at least 1.2-to-1 for NOx and 1-to-1 for SOx, it provides certainty that RECLAIM has complied with federal and state offset requirements without the need to know exactly where RACT lies for RECLAIM facilities.

Provided aggregate RECLAIM emissions do not exceed aggregate allocations, all RECLAIM emissions are offset at a ratio of 1-to-1. This leaves all unused allocations available to provide offsets beyond the 1-to-1 ratio for NSR emission increases. Unused allocations are based on all Cycle 1 and Cycle 2 RTCs of a given compliance year and the aggregate RECLAIM emissions for the selected time period. The NSR emission increase is the sum of emission increases due to permit activities at all RECLAIM facilities during the same compliance year. The aggregate RECLAIM offset ratios are expressed by the following formulas:

$$\text{Offset Ratio} = \left(1 + \frac{\text{compliance year's total unused allocations}}{\text{total NSR emission increases}} \right)\text{-to-1}$$

The Compliance Year 2006 NOx programmatic offset ratio calculated from this methodology is 66-to-1:

$$\begin{aligned} \text{Offset Ratio} &= \left(1 + \frac{3,321 \text{ tons}}{51 \text{ tons}} \right)\text{-to-1} \\ &= 66\text{-to-1} \end{aligned}$$

There were no NSR SOx increases at SOx RECLAIM facilities during Compliance Year 2006. RECLAIM continues to generate sufficient excess emissions reductions to provide greater than 1.2-to-1 and 1-to-1 offset ratios for NOx and SOx, respectively, 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. Furthermore, the RTC trading zone restrictions in Rule 2005 – New Source Review for RECLAIM, limit trades conducted to offset 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 Compliance Year 2006 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 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 2006, four RECLAIM facilities were found to be subject to this requirement. Three of these facilities had emissions which exceeded their Compliance Year 1994 NOx allocation by at least 40 tons and the other exceeded its 1994 SOx allocation by at least 40 tons.

CHAPTER 5 COMPLIANCE

Summary

There were 304 NOx facilities and 33 SOx facilities in operation in the RECLAIM program at the start of the 2006 compliance year. During the 2006 compliance year, three new facilities elected to join the NOx RECLAIM Program and two additional inclusions to the NOx RECLAIM Program were due to partial change of operator. Of these 309 NOx RECLAIM facilities, 297 facilities (96%) complied with their NOx allocations and all but one of the 33 SOx facilities (97%) complied with their SOx allocations during Compliance Year 2006. Verification of facility-reported emissions and audits of facility records for the compliance year are still on-going. Initial results for Compliance Year 2006 revealed that the overall RECLAIM NOx and SOx emission goals were met for this compliance year (i.e. aggregate emissions were below allocations for Compliance Year 2006). Thirteen facilities were found to have exceeded their individual allocations. The amounts of emissions in excess of individual allocations ranged from 20 pounds to 7.1 tons. The combined excess NOx emissions totaled 14.7 tons and the excess SOx emissions totaled 2.7 tons. These amounts are relatively small when compared to the overall allocations for the compliance year (0.1% of NOx and 0.06% of SOx allocations).

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 emissions reports by the time due results in emissions determined instead by a rule prescribed methodology known as Missing Data Procedures (MDP). Depending on the performance of the monitoring equipment (i.e., availability of quality-assured data), MDP use 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, an existing 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. A new facility without prior operating history receives no allocation and must purchase enough RTCs to cover the emissions for the upcoming compliance year before the start of that compliance year. 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, sell unneeded RTCs, or employ emission control technology to further curtail emissions.

At the end of the reconciliation period for each quarter and each compliance year, a RECLAIM 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 during the year in order to ensure that their emissions are covered. In addition, at 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. By the end of this reconciliation period, each facility is required to certify the emissions for the preceding compliance year by submitting its 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 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 procedures. 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

At the beginning of Compliance Year 2006, there were 304 NO_x RECLAIM facilities. As stated in Chapter 1, five facilities were included in the NO_x RECLAIM program bringing the number of NO_x RECLAIM facilities to 309 during Compliance Year 2006. Based on QCERs or APEP reports, enforcement action

was taken on twelve NOx facilities and one SOx facility. All thirteen of these facilities exceeded their allocation in Compliance Year 2006 because they failed to acquire sufficient RTCs to cover their reported emissions during either the quarterly or annual reconciliation periods. This corresponded to an overall compliance rate of 96% (297 out of 309 facilities) for NOx RECLAIM facilities and 97% (32 out of 33 facilities) for SOx RECLAIM facilities. The amounts of excess emissions from these facilities were 14.7 tons of NOx and 2.7 tons of SOx (0.1% of NOx and 0.06% of SOx allocations). Appendix D lists these facilities that were determined to have failed to reconcile their emissions with their allocations for Compliance Year 2006. Staff is conducting audits of emissions reported by facilities. As facility-reported emissions are verified and audits are completed, the list of facilities that exceeded their allocations is updated whenever applicable. Additional cases of allocation violation may be identified. The up-to-date list is available to the public at AQMD Headquarters in Diamond Bar by contacting RECLAIM Administration Team staff.

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 averaged or maximum emissions from previous operating periods are allowed to be used.

Based on Compliance Year 2006 APEP reports, 48 NOx facilities and no SOx facilities used MDP in reporting their annual emissions. In terms of mass emissions, 2.5% of the total reported NOx emissions and zero percent of the total reported SOx emissions in the APEP reports for Compliance Year 2006 were calculated using MDP. However, as discussed above, the majority of these emissions are representative of actual emissions from RECLAIM sources. Table 5-1 compares the impact of MDP on annual emissions for the last few compliance years versus the second compliance year, 1995 (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	2001	2002	2003	2004	2005	2006
NOx	23.0% (65)	8.1% (47)	3.4% (85)	4.5% (87)	8.3% (106)	3.0% (88)	2.5% (48)
SOx	40.0% (12)	11.0% (9)	4.8% (14)	4.7% (15)	10.4% (16)	3.6% (15)	0.0% (0)

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

As indicated in Table 5-1, the current impact of MDP on reported emissions is at its lowest level since the first year MDP applied. In most of the cases where MDP was used, the substituted data were representative of actual emissions, as explained below.

Most of the issues associated with Continuous Emission Monitoring System (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 may considerably overstate 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. In comparison, 48 facilities reported NOx emissions using MDP in Compliance Year 2006. In terms of both the number of facilities and the percentage of emissions reported, MDP used in Compliance Year 2006 is much lower than in Compliance Year 1995. Since most CEMS had 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 2.5% of NO_x annual emissions were reported using MDP in Compliance Year 2006. This does not mean that 2.5% of Compliance Year 2006 reported NO_x emissions were not real. A portion of the 2.5% 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 per day and seven days per 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 and have low monitoring system availability, and/or lengthy missing data periods.

For Compliance Year 2006, a significant portion of NO_x emissions data quantified using MDP (53%) 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 NO_x sources into major sources, large sources, process units, and equipment exempt pursuant to Rule 219. All SO_x 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 terms of emission potential 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, or Alternative Continuous Emission Monitoring Systems (ACEMSs), 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 their CEMS certified or provisionally approved. The only remaining 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 certification process for a significant length of time and that are experiencing delays due to unusual circumstances.

Standing Working Group on RECLAIM CEMS Technical Issues

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 on RECLAIM CEMS Technical Issues (SWG) was

formed to provide a forum in which facility representatives, consultants and AQMD staff could discuss and work out technically sound and reasonable solutions to CEMS issues. 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 conduct 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. These tests are conducted 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 required relative accuracies obtained during an audit are 7.5% 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% for pollutant concentration, ±15% for stack flow rate, and ±20% 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).

Tables 5-3 and 5-4, respectively, summarize the 2006 and 2007 calendar years' 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 calculations), and NOx and SOx mass emissions. However, the tables do not include SOx mass emissions calculated from total sulfur analyzer systems because such systems serve numerous devices and therefore, are not conducive to mass emissions-based RATA testing.

**Table 5-3
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2006¹**

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
355	100	62	100	18	100	42	100	370	100	355	100	62	100

¹ For CEMS certified in Calendar Year 2006, all passing rates were calculated from data submitted before January 5, 2007 and may exclude data from the 4th quarter of Calendar Year 2006. About five percent of test audits were still submitted in paper form. RATA's include Cylinder Gas Audit (CGA) tests.

² Does not include SOx emissions calculated from total sulfur analyzers.

Table 5-4
Passing Rates Based on Relative Accuracy Test Audits of Certified CEMS in 2007¹

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
364	100	57	100	20	100	49	100	374	100	364	100	57	100

¹ For CEMS certified in Calendar Year 2007, all passing rates were calculated from data submitted before January 9, 2008 and may exclude data from the 4th quarter of Calendar Year 2007. About five percent of test audits were still submitted in paper form. RATA's include Cylinder Gas Audit (CGA) tests.

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 all equipment other than major sources may be transmitted via RTU or compiled manually and transmitted to the Central Station via modem. Alternatively, since January 2005, the existing AQMD internet based application, Web Access To Electronic Reporting System (WATERS), was upgraded to allow RECLAIM facilities to transmit emission data from these sources. The data may be transmitted directly by 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 Central Station. In addition to providing operators a means to confirm the receipt of the reports, the WATERS application can also be used to view the electronic reports that were submitted to, and received by, the Central Station. This system helps to reduce instances where MDP has 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 was only required by Rule 2015(b)(1) 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 AQMD 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. There were no new amendments to the RECLAIM rules during Calendar Year 2006. Staff will continue to work closely with RECLAIM participants to resolve any issues and concerns that may arise.

CHAPTER 6 JOB IMPACTS

Summary

According to the Compliance Year 2006 employment survey, the RECLAIM program had no impact on jobs at most facilities. RECLAIM facilities reported a net loss of 2,272 jobs, representing 2.02% of total employment. Most of these losses were attributed to factors other than RECLAIM. Fourteen RECLAIM facilities were listed as either shut down or excluded during Compliance Year 2006. One of these facilities indicated that RECLAIM was a contributing factor in their decision to close while also attributing a loss of six jobs to RECLAIM. Four operating facilities reported a total of seven jobs gained due to RECLAIM.

Background

The Annual Permit Emissions Program (APEP) reports submitted by RECLAIM facilities include survey forms that are used to evaluate the socioeconomic impacts of the program. Facilities were asked to indicate on the forms the number of jobs at the beginning of Compliance Year 2006 and any changes that took place in each of three categories; manufacturing, sale of products, and non-manufacturing. The number of jobs gained and lost in each category during the compliance year was tabulated on the basis of data reported by facilities.

Additionally, the APEP reports ask facilities that were shut down during Compliance Year 2006 to provide the reasons for their closure. The APEP reports also allow facilities to indicate whether the RECLAIM program led to the creation or elimination of jobs during Compliance Year 2006. Those who reported a change in the number of jobs due to RECLAIM were asked to specify the number of jobs lost or gained, and to state why the job loss or creation was attributed to RECLAIM.

Since data regarding job impacts and facility shutdowns are derived from the APEP reports, the submittal of these reports are essential in assessing the influence that the RECLAIM program has on these issues. The following discussion represents data obtained from APEP reports submitted to AQMD and clarifying information collected by AQMD staff.

Job Impacts

Table 6-1 summarizes job impact data gathered from Compliance Year 2006 APEP reports and follow-up telephone interviews. It should be noted that the total number of facilities reporting job gains or losses does not equal the sum of the number of facilities reporting job changes in each category (*i.e.*, the manufacture, sales of products, and non-manufacture categories) due to the fact that some facilities may report changes under all three of these categories. A total of 145 facilities reported 10,195 job gains, while 138 facilities reported a total of 12,467 job losses. Net job losses were reported in the manufacturing and non-manufacturing categories; 820 manufacturing jobs and 1,457 non-

manufacturing jobs. A net gain of 5 jobs was reported in the sales of products category. The total net loss of 2,272 jobs represents a net change in jobs at RECLAIM facilities of 2.02% during Compliance Year 2006.

**Table 6-1
Job Impacts at RECLAIM Facilities for Compliance Year 2006**

Description	Manufacture	Sales of Products	Non-Manufacture	Total
Initial Jobs	55,075	960	56,448	112,483
Overall Job Gain	3,709	113	6,373	10,195
Overall Job Loss	4,529	108	7,830	12,467
Final Jobs	54,255	965	54,991	110,211
Net Job Change	-820	5	-1,457	-2,272
Percent Job Change	-1%	1%	-3%	-2.02%
Facilities Reporting Job Gains	105	30	90	145
Facilities Reporting Job Losses	105	32	77	138

Appendix C identifies 13 facilities as shutdown and one as excluded from RECLAIM during Compliance Year 2006. Two of these facilities shut down manufacturing operations during the previous compliance year, but remained in the program until their permits were inactivated. One of these facilities shutdown in order to move to an out-of-state location closer to its customer base while the other cited high production costs as the reason for shutdown. Another facility that shut down manufacturing operations did not submit a 2006 APEP report nor provided a reason for shutting down operation. Based on information obtained from the City of Brea where the facility was located, the facility buildings had been demolished and the property had been earmarked for redevelopment for commercial and residential use.

The remaining 11 facilities reported shutting down their manufacturing operations and canceling their RECLAIM facility permits during Compliance Year 2006. One of these facilities did not provide reasons for shutdown. Staff was unable to contact the responsible official of the facility using contact information provided to AQMD. Two facilities indicated in their APEP reports that the decline in demand for products forced them to shut down. Two facilities indicated the combination of high manufacturing costs, more attractive utility of land, and the high cost of meeting air pollution regulations as the reasons behind shutdown. One facility that cited RECLAIM as the cause behind its shutdown indicated in its APEP report that the reason was the “uneven handed enforcement of the rule.” However, attempts to contact the responsible official of the facility to obtain further clarification were unsuccessful. Two facilities cited more attractive utility of land as the reason for shutdown. The remaining three facilities cited high manufacturing costs, merger with another RECLAIM facility, and inability to compete with low cost imports respectively as the reason for shutdown. In summation, 12 of the 13 shutdown facilities whose APEP reports indicated that they had closed in Compliance Year 2006 did not list RECLAIM as a factor in the decision to shut down.

Five facilities reported job impacts attributed to the RECLAIM program (refer to Appendix E). One facility, identified above as a shutdown due to difficulties in

complying with RECLAIM, reported a loss of six jobs due to the shutdown. As previously mentioned, staff was unable to contact the responsible official.

The other four facilities which reported job impacts cited a total of seven jobs gained due to the RECLAIM program. Three of these facilities indicated that additional workers were needed specifically to perform monitoring, recordkeeping and reporting duties pertaining to RECLAIM requirements. The fourth facility hired two additional staff to help with other responsibilities in addition to fulfilling monitoring, recordkeeping and reporting requirements for RECLAIM.

It should be noted that this analysis of socioeconomic impacts based on APEP reports and follow-up interviews is focused only on changes in employment that occurred at RECLAIM facilities. The effect of the program on the local economy outside of RECLAIM facilities is not considered.

CHAPTER 7

AIR QUALITY AND PUBLIC HEALTH IMPACTS

Summary

Rule 2015 specifies that each annual program audit include, among other elements, assessments of emissions trends and seasonal fluctuations in emissions, geographic distribution of emissions, per capita exposure to air pollution, and toxic risk reductions. This chapter addresses each of these issues.

Emissions reported by RECLAIM facilities have been in an overall downward trend since the program's inception. When compared to the previous compliance year, NOx and SOx emissions in Compliance Year 2006 continued their downward trends. Quarterly Calendar Year 2006 NOx emissions ranged from approximately five percent below to five percent above the year's mean NOx emissions for the year. Similarly, quarterly Calendar Year 2006 SOx emissions ranged from approximately four percent below to three percent above the year's mean SOx emissions. Thus, there is no significant seasonal fluctuation in emissions. Furthermore, this year's analysis of the geographical distribution of emissions on a quarterly basis, as in each previous year's analysis, does not show any distinct shift in the geographical distribution of emissions.

The California Clean Air Act (CCAA) requires a 50% 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 compliance with the December 2000 target prior to 1994 and Riverside and San Bernardino Counties achieved compliance in 1996. In Calendar Year 2006, the per capita exposure to ozone continues to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (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.

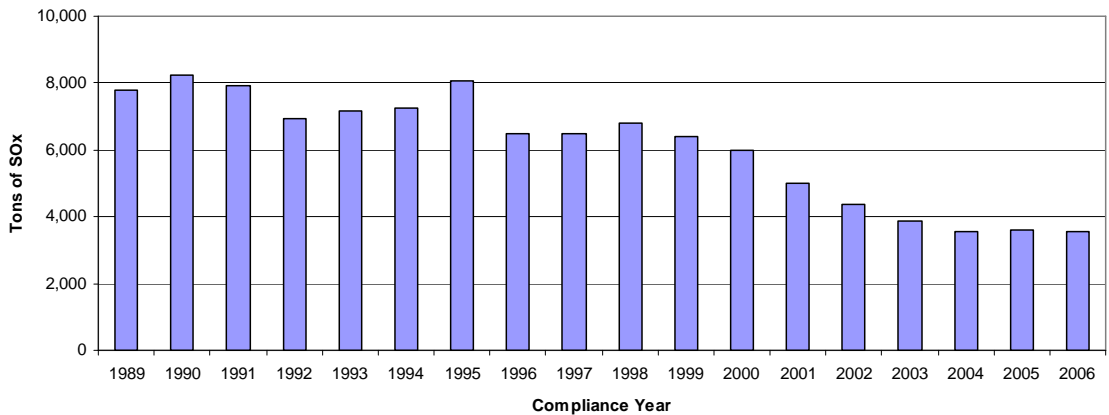
Emission Trends for RECLAIM Sources

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 from RECLAIM sources since 1989.

Figure 7-1
NOx Emission Trend for RECLAIM Sources



Figure 7-2
SOx Emission Trend for RECLAIM Sources



Overall, Figures 7-1 and 7-2 indicate a general downward trend in both NOx and SOx emissions since the inception of RECLAIM. NOx emissions have decreased every year since 1995 except there was a slight increase in the 2004 compliance year when compared to the 2003 compliance year. Similarly since 1995, annual SOx emissions have decreased every year except there were slight increases in Compliance Years 1998 and 2005. 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 increased 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 2006 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 APEP reports or the QCERs) were used.

Figure 7-3
Calendar Year 2006 NOx Quarterly Emissions

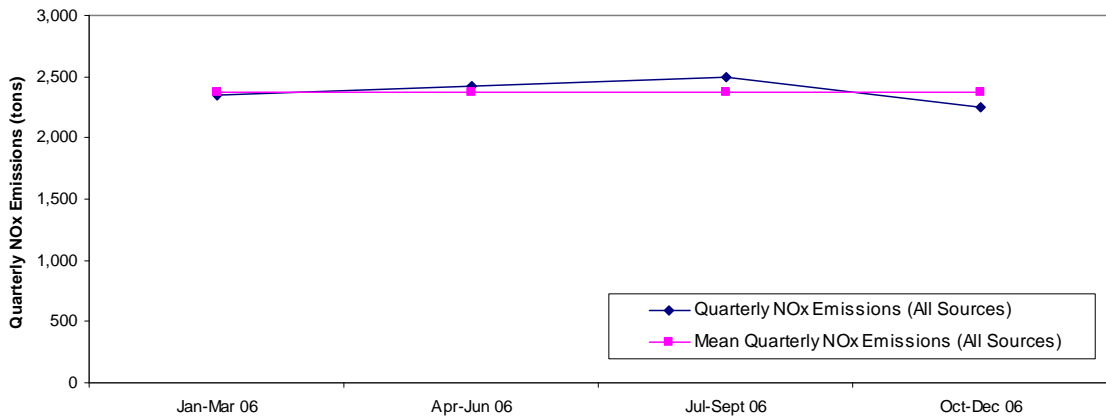


Figure 7-3 shows the mean quarterly NOx emissions, which is the average of the four quarterly emissions, versus the actual quarterly emissions. Aggregate quarterly NOx emissions varied from about five percent below the mean in the fourth quarter (October through December) to about five percent above the mean in the third quarter (July through September). Although Figure 7-3 shows that emissions during the summer of 2006 were slightly higher than the annual average, this fluctuation is not a significant shift in NOx emissions.

Figure 7-4
Calendar Year 2006 SOx Quarterly Emissions

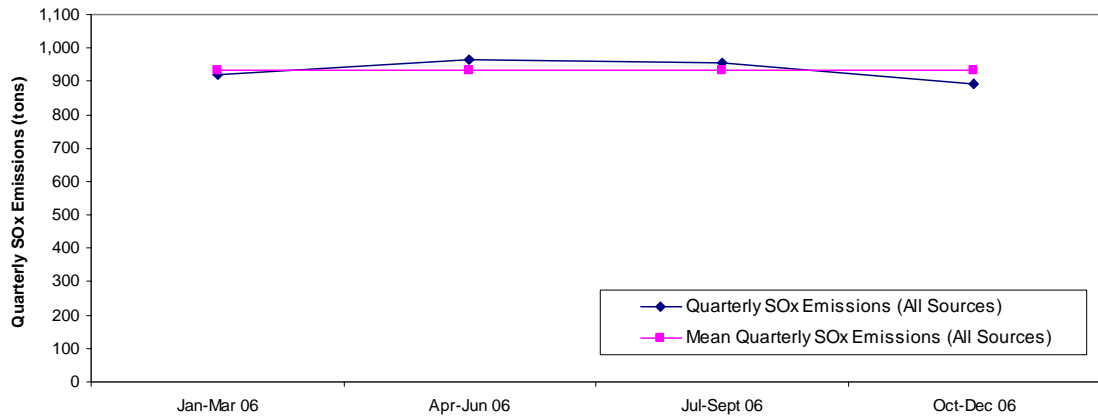


Figure 7-4 shows that quarterly SOx emissions during Calendar Year 2006 varied from about three percent above the mean in the second quarter (April through June) to about four percent below the mean in the fourth quarter (October through December). Therefore, there was no significant seasonal shift of SOx emissions.

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 their annual emissions 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 2006 (all four quarters of 2006 and the first two quarters of 2007). These maps are included in Appendices F and G. These quarterly emission maps for Compliance Year 2006 do not show any distinct shift over time 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 program development 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. As reported in previous annual reports, actual per capita exposure to ozone for 1994 and 1997 were below the projections.

Table 7-1 summarizes ozone data for Calendar Years 2000 through 2007 in terms of the number of days that exceeded the state and federal ambient ozone standards and the Basin's maximum concentration in each calendar year. This table shows that Calendar Year 2007 experienced the lowest number of days exceeding the state standard, the federal one-hour standard, and the federal eight-hour standard. The table also shows that the Basin maximum was slightly lower in Calendar Year 2007 than in Calendar Year 2006, but higher than in Calendar Years 2004 or 2005. In July 1997, the USEPA established a new ozone National Ambient Air Quality Standard (NAAQS) of 0.085 ppm based on an 8-hour average measurement. As part of the Phase I implementation that was finalized in June 2004, the federal 1-hour ozone standard was revoked. Therefore to reflect the new standard, Table 7-1 now also shows the number of days exceeding the new federal eight-hour ozone standard. Future annual reports will continue showing the monitoring results based on this new 8-hour standard as well as provide the previous 1-hour values for reference purposes.

**Table 7-1
Summary of Ozone Data**

	Calendar Year							
	2000	2001	2002	2003	2004	2005	2006	2007
Days exceeding state standard	125	121	118	133	110	111	102	99
Days exceeding federal 1-hour standard	40	36	49	68	27	28	35	18
Days exceeding federal 8-hour standard	111	100	99	120	90	84	86	79
Basin Maximum (pphm)	18.5	19.1	16.9	21.6	16.3	16.3	17.5	17.1

Table 7-2 compares the actual per capita exposures to the exposure milestones as specified in the 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% 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 7-2 for

actual per capita exposure for the four counties, and the Basin overall, show substantial progress toward continuous attainment of the state standard. As indicated in Table 7-2, the 50% per capita exposure reduction target scheduled for Calendar Year 2000 (40.2 ppm) had already been achieved by Calendar Year 1994 with an actual per capita exposure of 37.6 ppm. For Calendar Year 2007, the actual per capita exposure for the Basin was 2.90 ppm which represents a 96% reduction from the 1986-88 baseline.

Table 7-2
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
2005 actual	3.11	1.43	0.03	6.06	12.54
2006 actual	4.56	3.08	0.68	8.02	13.30
2007 actual	2.90	1.50	0.35	4.65	10.53
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 above tables (Tables 7-1 and 7-2) together show that actual per capita exposure during all the years mentioned was 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 (e.g., AQMD Regulation XIV, State AB 2588, Federal National Emissions Standards for Hazardous Air Pollutants, 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 NO_x or SO_x 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 NO_x and SO_x RECLAIM is not expected to significantly impact air toxic emissions. That is, the substitution of NO_x and SO_x 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.

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
CPMS	Continuous Process Monitoring System
DAHS	Data Acquisition and Handling System
EDR	Electronic Data Reporting
ERC	Emission Reduction Credit
IYB RTC	Infinite Year Block RECLAIM Trading Credit
LAP	Laboratory Approval Program
MDP	Missing Data Procedures
MRR	Monitoring, Recordkeeping and Reporting
MSERC	Mobile Source Emission Reduction Credit
NOx	Oxides of Nitrogen
NSR	New Source Review
QCER	Quarterly Certification of Emissions Report
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RECLAIM	Regional Clean Air Incentives Market
RTC	RECLAIM Trading Credit
RTU	Remote Terminal Unit
SOx	Oxides of Sulfur
SWG	Standing Working Group
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WATERS	Web Access To Electronic Reporting System

APPENDIX A

RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of active sources as of June 30, 2007 is provided below.

Facility ID	Cycle	Facility Name	Market
800088	2	3M COMPANY	NOx
16395	2	AAA GLASS CORP	NOx
73635	1	ABLESTIK LABORATORIES	NOx
104017	1	AERA ENERGY LLC	NOx
104012	1	AERA ENERGY LLC	NOx
104015	2	AERA ENERGY LLC	NOx
104013	2	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
140499	2	AMERESCO HUNTINGTON BEACH, L.L.C.	NOx
800196	2	AMERICAN AIRLINES INC (EIS USE)	NOx
45527	2	AMERICAN RACING EQUIPMENT INC	NOx
74424	2	ANGELICA TEXTILE SERVICES	NOx
21598	2	ANGELICA TEXTILE SERVICES	NOx
10141	2	ANGELICA TEXTILE SERVICES	NOx
16642	1	ANHEUSER-BUSCH INC., (LA BREWERY)	NOx/SOx
117140	2	AOC, LLC	NOx
11640	1	ARLON ADHESIVE SYSTEM/DECORATIVE FILMS	NOx
12155	1	ARMSTRONG WORLD INDUSTRIES 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
147764	2	BALL AEROSOL AND SPECIALTY CONTAINER 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
148228	1	BLACKSAND BREA LLC	NOx
136516	2	BLACKSAND PARTNERS LP	NOx
149491	2	BOEING REALTY CORP	NOx
800067	1	BOEING SATELLITE SYSTEMS INC	NOx
115241	1	BOEING SATELLITE SYSTEMS INC	NOx
800343	2	BOEING SATELLITE SYSTEMS, INC	NOx
131003	2	BP WEST COAST PROD.LLC BP CARSON REF.	NOx/SOx
131249	1	BP WEST COAST PRODUCTS LLC,BP WILMINGTON	NOx/SOx

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Facility ID	Cycle	Facility Name	Market
98159	2	BREITBURN ENERGY CORP	NOx
25638	2	BURBANK CITY, BURBANK WATER & POWER	NOx
128243	1	BURBANK CITY, BURBANK WATER & POWER, SCPPA	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
119104	1	CALMAT CO	NOx/SOx
107653	2	CALMAT CO	NOx
107654	2	CALMAT CO	NOx
107656	2	CALMAT CO	NOx
107655	2	CALMAT CO	NOx
94930	1	CARGILL INC	NOx
22911	2	CARLTON FORGE WORKS	NOx
118406	1	CARSON COGENERATION COMPANY	NOx
141555	2	CASTAIC CLAY PRODUCTS, LLC	NOx
800373	1	CENCO REFINING COMPANY	NOx/SOx
800030	2	CHEVRON PRODUCTS CO.	NOx/SOx
56940	1	CITY OF ANAHEIM/COMB TURBINE GEN STATION	NOx
129810	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
139796	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
16978	2	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP	NOx
800210	2	CONEXANT SYSTEMS INC	NOx
800362	1	CONOCOPHILLIPS COMPANY	NOx/SOx
800363	2	CONOCOPHILLIPS COMPANY	NOx/SOx
38440	2	COOPER & BRAIN - BREA	NOx
2537	2	CORONA CITY, DEPT OF WATER & POWER	NOx
68042	2	CORONA ENERGY PARTNERS, LTD	NOx
65384	1	CRITERION CATALYST CO L.P.	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
143741	1	DCOR LLC	NOx
143739	2	DCOR LLC	NOx
143740	2	DCOR LLC	NOx
143738	2	DCOR LLC	NOx
132071	1	DEAN FOODS CO. OF CALIFORNIA	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
142536	2	DRS TECHNOLOGIES, INC.	NOx
104571	2	E & J TEXTILE GROUP, INC	NOx
800264	2	EDGINGTON OIL COMPANY	NOx/SOx
133813	1	EI COLTON, LLC	NOx
115663	1	EL SEGUNDO POWER, LLC	NOx
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
800094	1	EXXONMOBIL OIL CORPORATION	NOx
800089	1	EXXONMOBIL OIL CORPORATION	NOx/SOx

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Facility ID	Cycle	Facility Name	Market
95212	1	FABRICA	NOx
11716	1	FONTANA PAPER MILLS INC	NOx
346	1	FRITO-LAY NORTH AMERICA, INC.	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
142267	2	FS PRECISION TECH LLC	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
106325	2	HARBOR COGENERATION CO	NOx
123774	1	HERAEUS METAL PROCESSING, INC.	NOx
141585	1	HEXION SPECIALTY CHEMICALS, 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
124808	2	INEOS POLYPROPYLENE LLC	NOx/SOx
129816	2	INLAND EMPIRE ENERGY CENTER, LLC	NOx
23589	2	INTERNATIONAL EXTRUSION CORP	NOx
106810	2	INTERSTATE BRANDS CORP	NOx
22364	1	ITT INDUSTRIES, CANNON	NOx
119134	2	ITW CIP CALIFORNIA	NOx
16338	1	KAISER ALUMINUM & CHEM CORP	NOx
21887	2	KIMBERLY-CLARK WORLDWIDE INC.-FULT. MILL	NOx/SOx
1744	2	KIRKHILL RUBBER CO	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
115277	1	LAFAYETTE TEXTILE IND LLC	NOx
141295	2	LEKOS DYE AND FINISHING, INC	NOx
144455	2	LIFOAM INDUSTRIES, LLC	NOx
83102	2	LIGHT METALS INC	NOx
31046	2	LISTON BRICK COMPANY OF CORONA	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
800080	2	LUNDAY-THAGARD COMPANY	NOx
14049	2	MARUCHAN INC	NOx
18865	2	MASTERFOODS USA	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
148340	2	MCDONNELL DOUGLAS CORP/COM AIRCRAFT SERV	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
141012	1	MILLER BREWERIES WEST LP	NOx
12372	1	MISSION CLAY PRODUCTS	NOx
121737	1	MOUNTAINVIEW POWER COMPANY LLC	NOx
11887	2	NASA JET PROPULSION LAB	NOx

ANNUAL RECLAIM AUDIT

Facility ID	Cycle	Facility Name	Market
40483	2	NELCO PROD. INC	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
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 ROOFING AND ASPHALT, LLC	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
137520	1	PACIFIC TERMINALS LLC	NOx
800416	1	PACIFIC TERMINALS LLC	NOx
800417	2	PACIFIC TERMINALS LLC	NOx
800419	2	PACIFIC TERMINALS LLC - HUNTINGTON	NOx
800420	2	PACIFIC TERMINALS LLC - LONG BEACH	NOx
800208	2	PAPER PAK PROD. INC	NOx
130211	2	PAPER-PAK INDUSTRIES	NOx
800183	1	PARAMOUNT PETR CORP (EIS USE)	NOx/SOx
800168	1	PASADENA CITY, DWP (EIS USE)	NOx
133987	1	PLAINS EXPLORATION & PRODUCTION CO, LP	NOx
133996	2	PLAINS EXPLORATION & PRODUCTION COMPANY	NOx
144792	1	PLAINS EXPLORATION AND PRODUCTION CO	NOx
144791	1	PLAINS EXPLORATION AND PRODUCTION CO	NOx
115449	1	PLAYA PHASE I COMMERCIAL LAND, LLC	NOx
800431	1	PRATT & WHITNEY ROCKETDYNE, INC.	NOx
42630	1	PRAXAIR INC	NOx
7416	1	PRAXAIR INC	NOx
133046	1	PRECISION SPECIALTY METALS INC	NOx
136	2	PRESS FORGE CO	NOx
105903	1	PRIME WHEEL	NOx
132191	1	PUREENERGY OPERATING SERVICES, LLC	NOx
132192	1	PUREENERGY 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
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
139010	2	RIPON COGENERATION LLC	NOx
800182	1	RIVERSIDE CEMENT CO (EIS USE)	NOx/SOx
98812	2	RMS FOUNDATION INC	NOx
800113	2	ROHR,INC	NOx

ANNUAL RECLAIM AUDIT

Facility ID	Cycle	Facility Name	Market
18455	2	ROYALTY CARPET MILLS INC	NOx
93073	1	SABA PETROLEUM INC	NOx
4242	2	SAN DIEGO GAS & ELECTRIC	NOx
15504	2	SCHLOSSER FORGE COMPANY	NOx
20203	2	SCOPE PRODUCTS INC, DEXT CO	NOx
14926	1	SEMPRA ENERGY (THE GAS CO)	NOx
37603	1	SGL TECHNIC INC, POLYCARBON DIVISION	NOx
131850	2	SHAW DIVERSIFIED SERVICES INC	NOx
117227	2	SHCI SM BCH HOTEL LLC, LOEWS SM BCH HOTE	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
22373	1	SMURFIT-STONE CONTAINER ENTERPRISES, INC	NOx
43201	2	SNOW SUMMIT INC	NOx
4477	1	SO CAL EDISON CO	NOx
5973	1	SO CAL GAS CO	NOx
800128	1	SO CAL GAS CO (EIS USE)	NOx
800127	1	SO CAL GAS CO (EIS USE)	NOx
8582	1	SO CAL GAS CO/PLAYA DEL REY STORAGE FACI	NOx
14871	2	SONOCO PRODUCTS CO	NOx
103618	1	SPECIALTY BRANDS INC	NOx
800338	2	SPECIALTY PAPER MILLS INC	NOx
131824	2	STEELCASE, INC.	NOx
126498	2	STEELSCAPE, INC	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
14944	1	TECHALLOY CO., INC.	NOx/SOx
96587	1	TEXOLLINI INC	NOx
4451	1	TEXTRON FASTENING SYSTEMS SANTA ANA OPER	NOx
800110	2	THE BOEING COMPANY	NOx
14736	2	THE BOEING COMPANY	NOx
800038	2	THE BOEING COMPANY - C17 PROGRAM	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
800240	2	TIN, INC. TEMPLE-INLAND, DBA	NOx
137508	2	TONOGA INC, TACONIC DBA	NOx
53729	1	TREND OFFSET PRINTING SERVICES, INC	NOx
9053	1	TRIGEN- LA ENERGY CORP	NOx
9217	1	TRIGEN-LA ENERGY CORP	NOx
11034	2	TRIGEN-LA ENERGY CORP	NOx
43436	1	TST, INC.	NOx
800026	1	ULTRAMAR INC (NSR USE ONLY)	NOx/SOx
9755	2	UNITED AIRLINES INC	NOx
73022	2	US AIRWAYS INC	NOx
800149	2	US BORAX INC	NOx
800150	1	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	NOx
18695	1	US GYPSUM CO	NOx
12185	2	US GYPSUM CO	NOx/SOx

ANNUAL RECLAIM AUDIT

Facility ID	Cycle	Facility Name	Market
1073	1	US TILE CO	NOx
83738	1	USDF	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	NOx
122012	2	VINTAGE PETROLEUM, INC DEL VALLE OIL FLD	NOx
14495	2	VISTA METALS CORPORATION	NOx
126501	2	VOUGHT AIRCRAFT INDUSTRIES	NOx
143261	1	WELLHEAD POWER COLTON LLC	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

APPENDIX B
FACILITY INCLUSIONS

As discussed in Chapter 1, five facilities were added to the NOx market of the RECLAIM universe from July 1, 2006 through June 30, 2007.

Facility ID	Cycle	Facility Name	Market	Date	Reason
149491	2	BOEING REALTY CORP	NOx	05-Apr-07	Partial change of operator from Douglas Products Division
143738	2	DCOR LLC	NOx	26-Dec-06	Opt-in at facility's request
141295	2	LEKOS DYE AND FINISHING, INC	NOx	08-Dec-06	Opt-in at facility's request
148340	2	MCDONNELL DOUGLAS CORP/COM AIRCRAFT SERV	NOx	05-Apr-07	Partial change of operator from Douglas Products Division
105903	1	PRIME WHEEL	NOx	29-Jun-07	Opt-in at facility's request

APPENDIX C

RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

AQMD staff is aware of the following RECLAIM facilities that permanently shut down all operations, inactivated their RECLAIM permits from July 1, 2006 through June 30, 2007, or were excluded from the RECLAIM Universe. The reasons for shutdowns and exclusions cited below are based on AQMD staff's best available information.

Facility ID	119920
Facility Name	Pechiney Cast Plate Inc
City and County	Vernon, Los Angeles County
SIC	3365
Pollutants	NOx
1994 Allocation	95,438 pounds
Reason for Shutdown	In the APEP report, the facility cited high cost of manufacturing, production or raw material and more attractive utility of land or resources. The facility also cited the cost of meeting governmental regulations, including air pollution regulations.

Facility ID	129238
Facility Name	Xyron Inc
City and County	Garden Grove, Orange County
SIC	3083
Pollutants	NOx
1994 Allocation	6,465 pounds
Reason for Shutdown	Facility ceased operations 8/10/2006. In APEP report, facility cited "uneven handed enforcement of the rule" as the reason for shutdown. Staff was unable to contact the responsible official of the facility to obtain further clarification.

Facility ID	9114
Facility Name	Somitex Prints Of Cal Inc
City and County	City of Industry, Los Angeles County
SIC	2262
Pollutants	NOx
1994 Allocation	7,876 pounds
Reason for Shutdown	Ceased operation in February 2006 and all equipment were sold and removed. Reasons for shut down are unknown at this time. Staff was unable to contact the responsible official of the facility.

ANNUAL RECLAIM AUDIT

Facility ID 16575
Facility Name Trigen-LA Energy Corp
City and County Anaheim, Orange County
SIC 4961
Pollutants NOx
1994 Allocation 36,966 pounds
Reason for Shutdown Disneyland Resort Company, another RECLAIM facility, assumed operation of all existing equipment as of 3/15/2006.

Facility ID 108701
Facility Name Saint-Gobain Containers Inc
City and County El Monte, Los Angeles County
SIC 3221
Pollutants NOx/SOx
1994 Allocation NOx = 565,706 pounds and SOx = 0 pounds
Reason for Shutdown The facility ceased operations 9/1/2006. All equipment were removed and buildings demolished. Declining demand for the company's product was cited as reason. No job losses were attributed to RECLAIM.

Facility ID 110982
Facility Name Commonwealth Aluminum Concast
City and County Long Beach, Los Angeles County
SIC 3355
Pollutants NOx
1994 Allocation 48,062 pounds
Reason for Shutdown Facility ceased operations 6/21/2007. It cited high cost of manufacturing as the reason.

Facility ID 147754
Facility Name MS Kearny Northrop Avenue LLC
City and County Hawthorne, Los Angeles County
SIC N/A
Pollutants NOx
1994 Allocation 43,863 pounds
Reason for Shutdown Facility ceased operation 11/7/2006. This site was previously occupied by Vought Aircraft, which sold a portion of their property to MS Kearny. MS Kearny later cancelled their sole permit for an emergency ICE. The property was sold and all equipment was removed. Staff contacted facility representative and determined more attractive utility of land was as reason for shutdown. Company did not attribute any job losses to RECLAIM.

ANNUAL RECLAIM AUDIT

Facility ID 8791
Facility Name Cal-Pacific Dyeing & Finishing Corp
City and County Carson, Los Angeles County
SIC 2261
Pollutants NOx
1994 Allocation 7,604 pounds
Reason for Shutdown The facility cited its inability to compete with low cost imports as reasons for shut down. The facility was converted to a warehouse. All permits were deactivated 6/1/2006.

Facility ID 45953
Facility Name Hayes Lemmerz International Cal Inc
City and County La Mirada, Los Angeles County
SIC 3714
Pollutants NOx
1994 Allocation 65,768 pounds
Reason for Shutdown Facility stopped operation in May 2005 and cancelled all permits 8/1/2006. It lost its main contract with a local car company and moved its operation to Michigan. The existing facility was converted into a warehouse.

Facility ID 7931
Facility Name LA Paper Box & Board Mills
City and County Los Angeles, Los Angeles County
SIC 2631
Pollutants NOx
1994 Allocation 7,258 pounds
Reason for Shutdown Facility removed all paper making equipments November 2005 and cancelled all permits in February 2006, citing the cost of production as reason for shut down.

Facility ID 133405
Facility Name Bodycote Thermal Processing
City and County Los Angeles, Los Angeles County
SIC 3398
Pollutants NOx
1994 Allocation 16,380 pounds
Reason for Shutdown The facility stopped operations 8/30/2006. The company cited more attractive utility of land as the reason. They did not attribute any job losses to RECLAIM.

ANNUAL RECLAIM AUDIT

Facility ID 11674
Facility Name Tri-Alloy Inc
City and County Montclair, San Bernardino County
SIC 3334
Pollutants NOx
1994 Allocation 13,586 pounds
Reason for Shutdown Facility shut down 12/6/2006. The company cited high cost of manufacturing, more attractive utility of land or resources and the cost of meeting air pollution regulations as the reasons. They did not attribute any job losses to RECLAIM.

Facility ID 800258
Facility Name Unocal Corp., Hartley Center
City and County Brea, Orange County
SIC 8731
Pollutants NOx
1994 Allocation 23,796 pounds
Reason for Shutdown The former research facility did not provide a reason for shutdown. Per information from the City of Brea website, this facility was demolished and the property to be redeveloped to mixed use of homes and retail outlets.

Facility ID 9141
Facility Name Cannery Steam Co. Inc.
City and County Terminal Island, Los Angeles County
SIC 4961
Pollutants NOx/SOx
1994 Allocation NOx = 19,422 pounds and SOx = 8,594 pounds
Reason for Shutdown Facility ceased operations 2/27/2007. Declining demand for its product was cited as the reason. No job losses were attributed to RECLAIM.

APPENDIX D FACILITIES THAT WERE UNABLE TO RECONCILE EMISSIONS FOR COMPLIANCE YEAR 2006

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 2006 based on emissions reported under QCERs or the APEP report filed by the facility. 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

TRIGEN-LA Energy Corp (ID# 11034)
Los Angeles Athletic Club (ID# 17623)
US Gypsum Co. (ID# 18695)
Guardian Industries Corp. (ID# 40196)
Signal Hill Petroleum Inc. (ID# 101977)
Wildflower Energy LP/Indigo Energy (ID# 127299)
THUMS Long Beach Co. (ID# 129497)
City of Riverside Public Utilities Dept. (ID# 129810)
Dean Foods Co. of California (ID# 132071)
DCOR, LLC (ID# 143739)
American Apparel Dyeing & Finishing (ID# 145836)
MS Kearny Northrop Avenue LLC (ID# 147754)

Facilities That Failed to Reconcile SOx Emissions with Their Allocations

Ultramar Inc. (ID# 800026)

APPENDIX E

JOB IMPACTS ATTRIBUTED TO RECLAIM

Each year, RECLAIM facility operators are asked to provide employment data in their Annual Permit Emissions Program (APEP) report. The report forms ask company representatives to report job increases and/or decreases, and to quantify the positive and/or negative impacts of the RECLAIM program on employment at their facilities.

The detailed information for facilities reporting that RECLAIM contributed to job gains or losses during their 2006 compliance years (January 1 through December 31, 2006 for cycle 1 facilities and July 1, 2006 through June 30, 2007 for cycle 2 facilities) is summarized below:

Facilities with actual job gains or losses attributed to RECLAIM:

Facility ID	4477
Facility Name	So Cal Edison Co
City and County	Avalon, Los Angeles County
SIC	4911
Pollutant(s)	NOx
Cycle	1
Job Gain	2
Job Loss	0
Comments	The facility indicated that two jobs were added to maintain and operate the CEMS and clean the SCR catalyst due to RECLAIM.

Facility ID	800074
Facility Name	LA City, DWP Haynes Generating Station
City and County	Long Beach, Los Angeles County
SIC	4911
Pollutant(s)	NOx
Cycle	1
Job Gain	3
Job Loss	0
Comments	The facility reported addition of three jobs due to RECLAIM. The jobs were added to maintain CEMS, increase monitoring, reporting, recording, and coordinating testing with contractors.

Facility ID	800075
Facility Name	LA City, DWP Scattergood Generating Stn
City and County	Play Del Rey, Los Angeles County
SIC	4911
Pollutant(s)	NOx
Cycle	1
Job Gain	1
Job Loss	0

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Comments Facility added a full time environmental coordinator to manage RECLAIM-related issues.

Facility ID 800170
Facility Name LA City, DWP Harbor Generating Station
City and County Wilmington, Los Angeles County
SIC 4911
Pollutant(s) NOx
Cycle 1
Job Gain 1
Job Loss 0

Comments Facility added a full time environmental coordinator to manage RECLAIM-related issues.

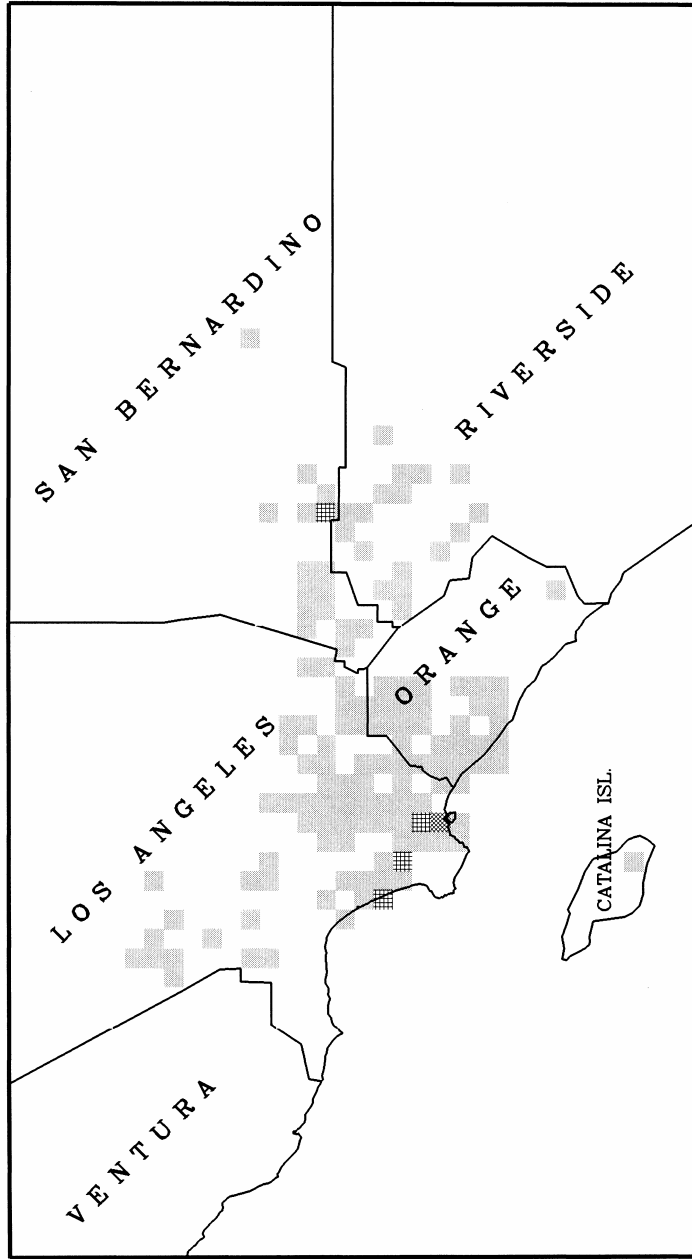
Facility ID 129238
Facility Name Xyron Inc
City and County Garden Grove, Orange County
SIC 3083
Pollutant(s) NOx
Cycle 1
Job Gain 0
Job Loss 6

Comments In its APEP report, facility cited the cost of meeting air pollution regulations and alleged that "the uneven handed enforcement of the rule" contributed to the loss of six jobs. Using contact information that had previously been provided to AQMD, staff was unable to contact the responsible official of the firm to obtain further clarification. This is one of the facilities identified in Appendix C as having ceased operation between July 1, 2006 and June 30, 2007.

APPENDIX F
QUARTERLY NOX EMISSION MAPS

RECLAIM Facilities

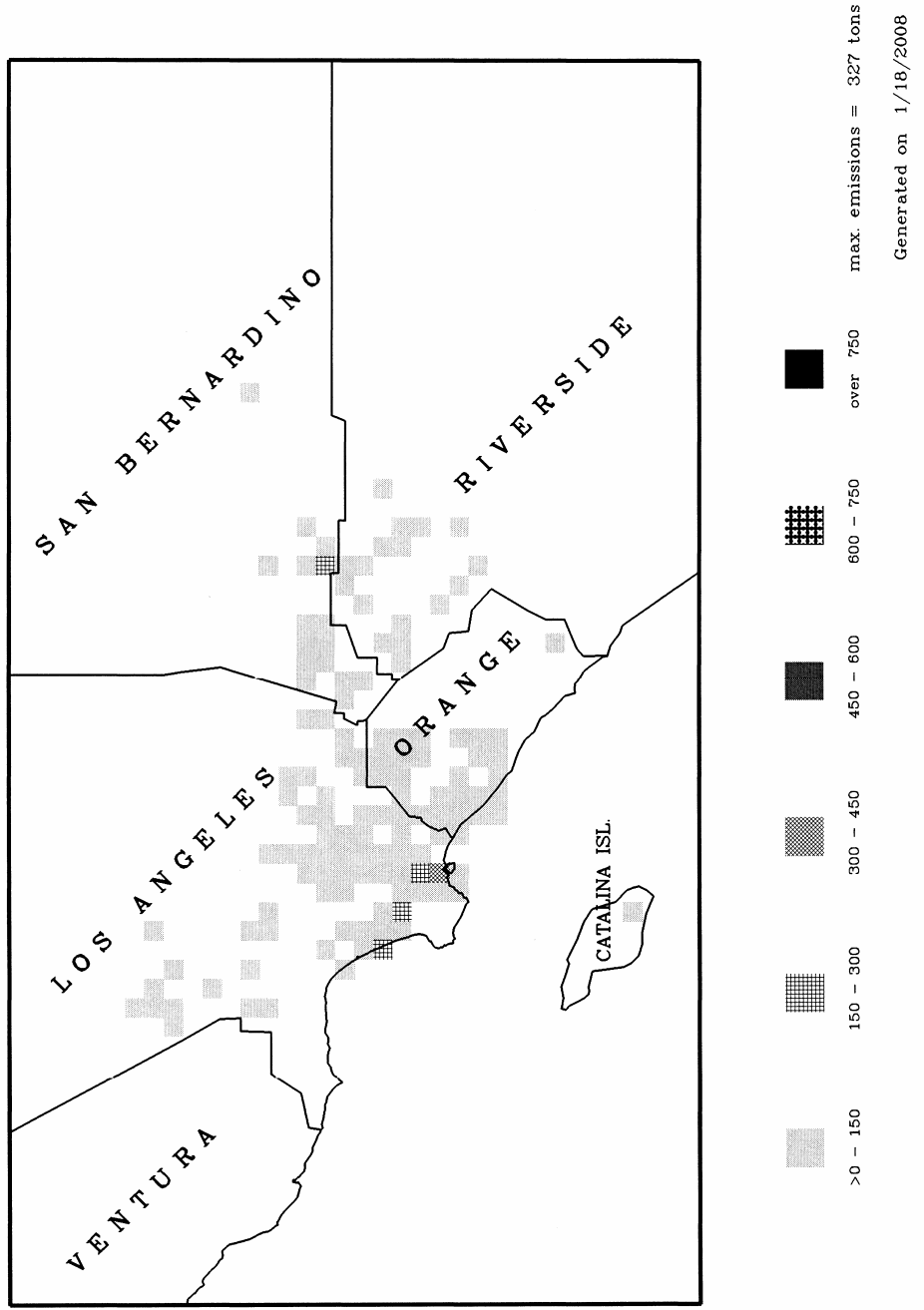
Certified NOx Emissions (Tons) from 01/2006 to 03/2006



>0 - 150 150 - 300 300 - 450 450 - 600 600 - 750 over 750 max. emissions = 345 tons
Generated on 1/18/2008

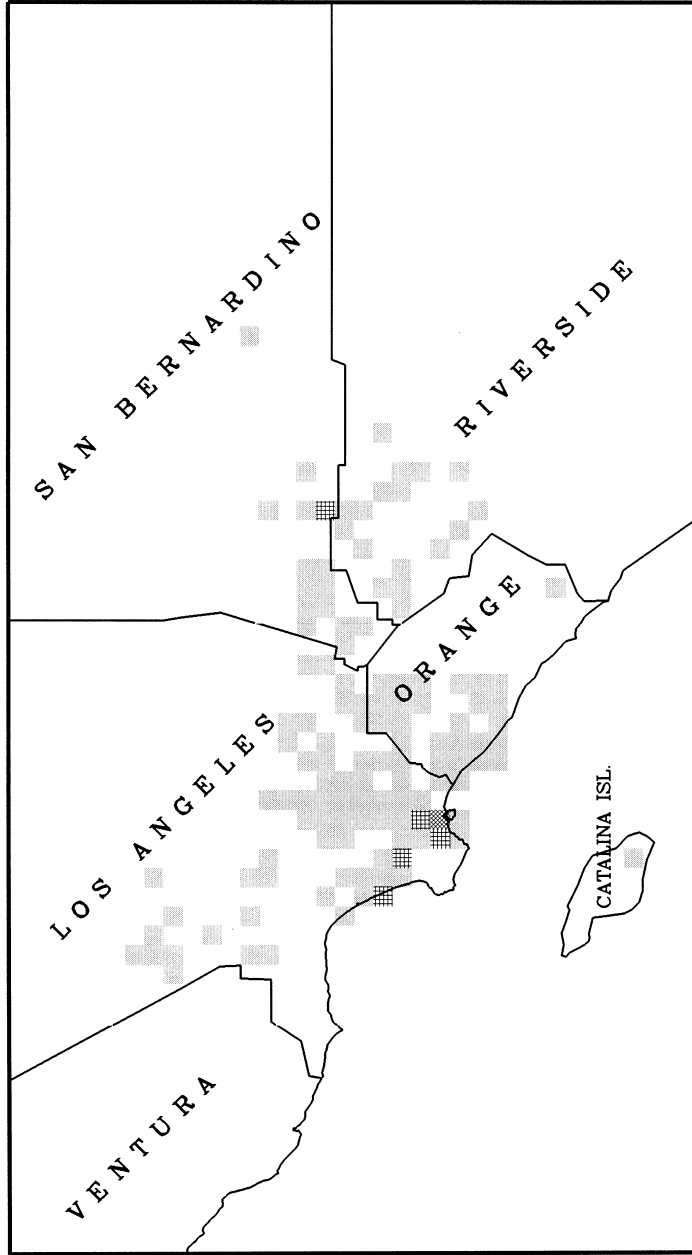
RECLAIM Facilities

Certified NOx Emissions (Tons) from 04/2006 to 06/2006



RECLAIM Facilities

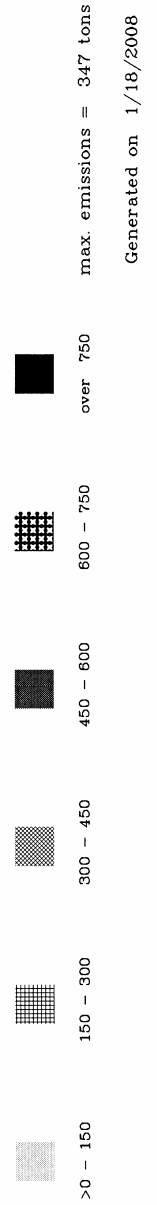
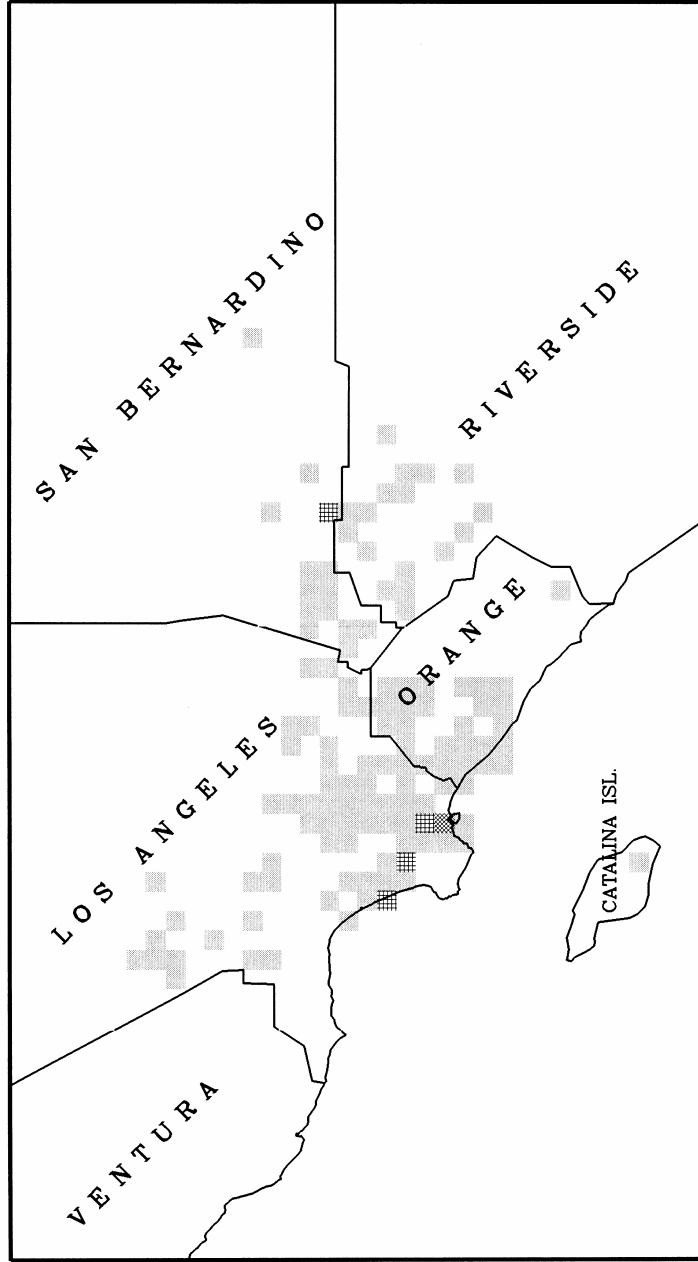
Certified NOx Emissions (Tons) from 07/2006 to 09/2006



>0 - 150
150 - 300
300 - 450
450 - 600
600 - 750
over 750
max. emissions = 383 tons
Generated on 1/18/2008

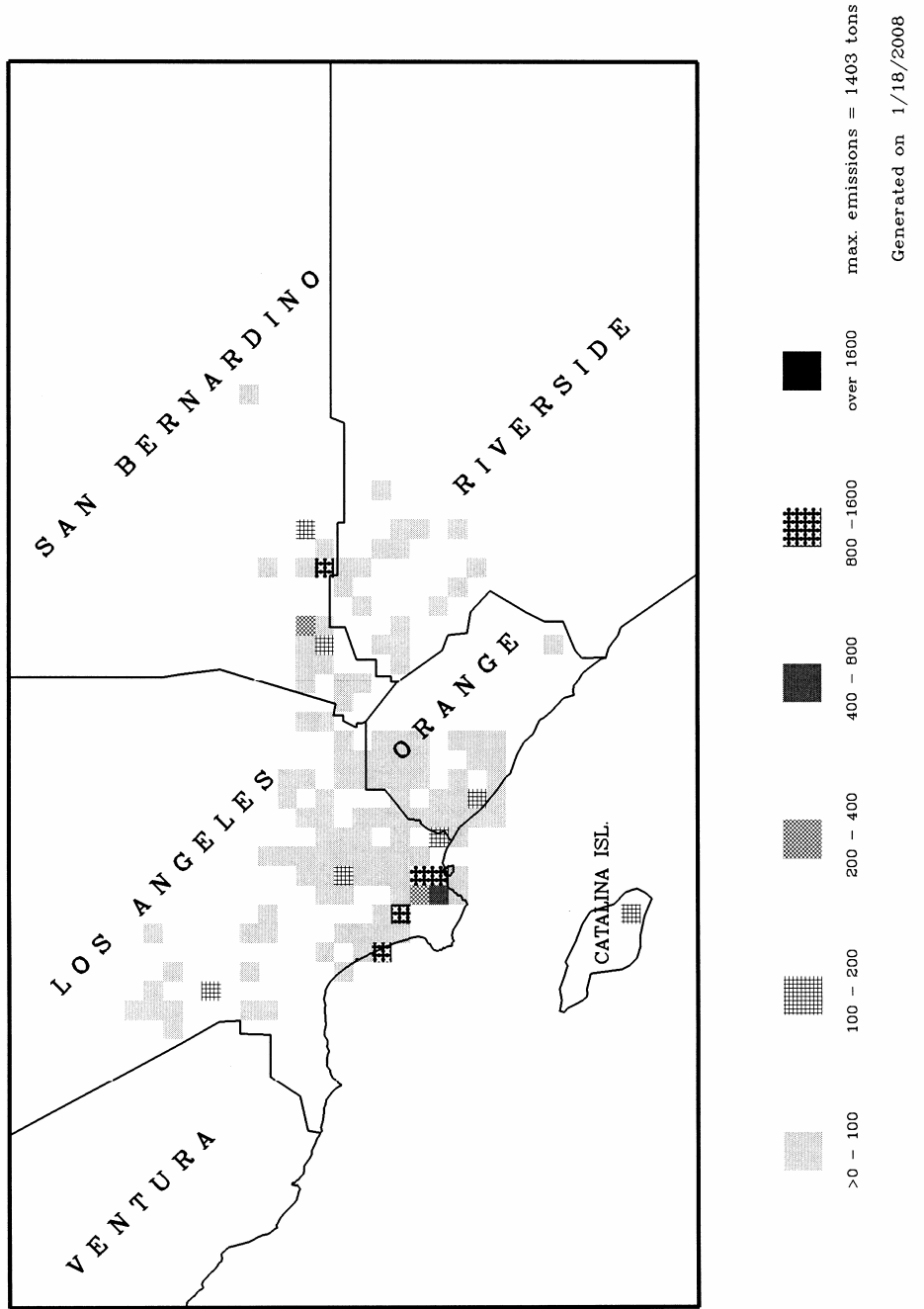
RECLAIM Facilities

Certified NOx Emissions (Tons) from 10/2006 to 12/2006



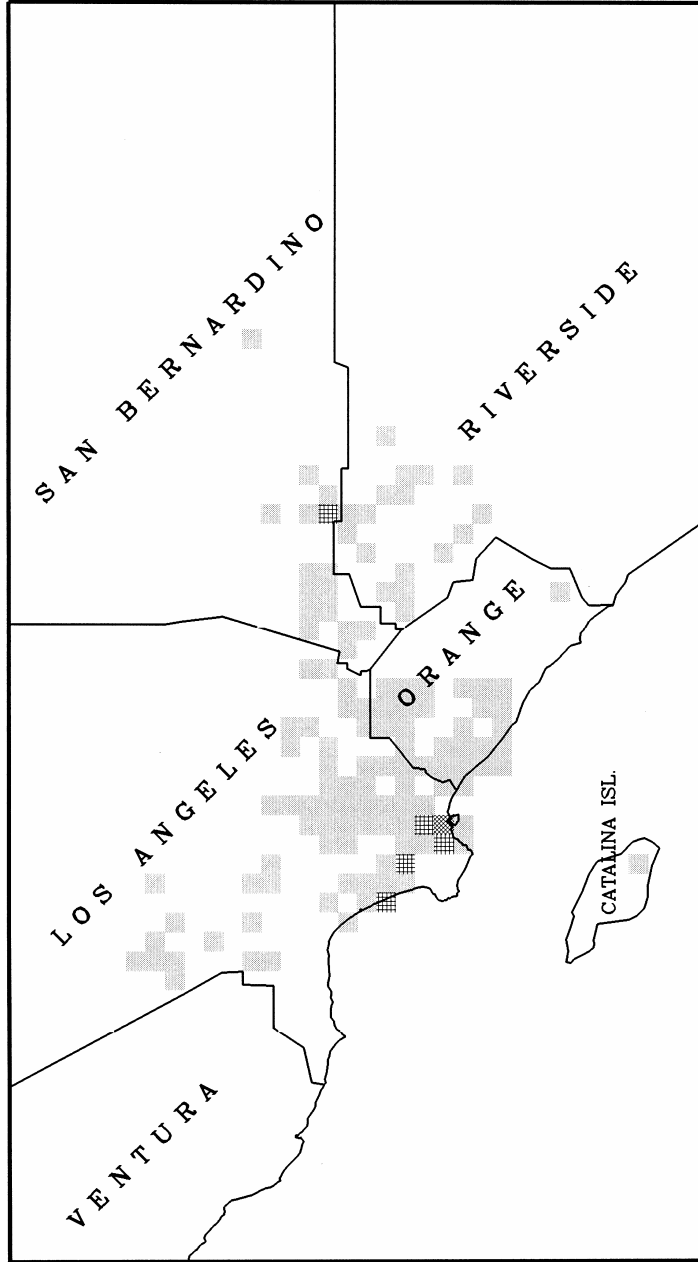
RECLAIM Facilities

Certified NOx Emissions (Tons) Year to date (12/31/2006)



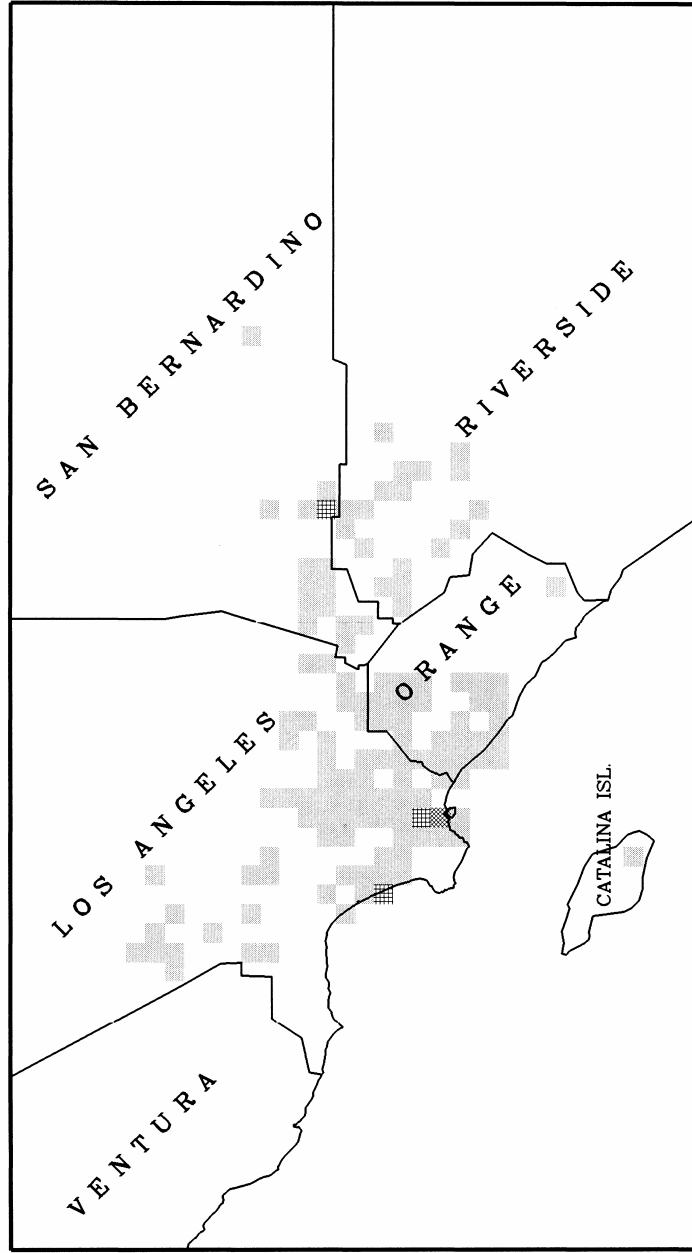
RECLAIM Facilities

Certified NOx Emissions (Tons) from 01/2007 to 03/2007



RECLAIM Facilities

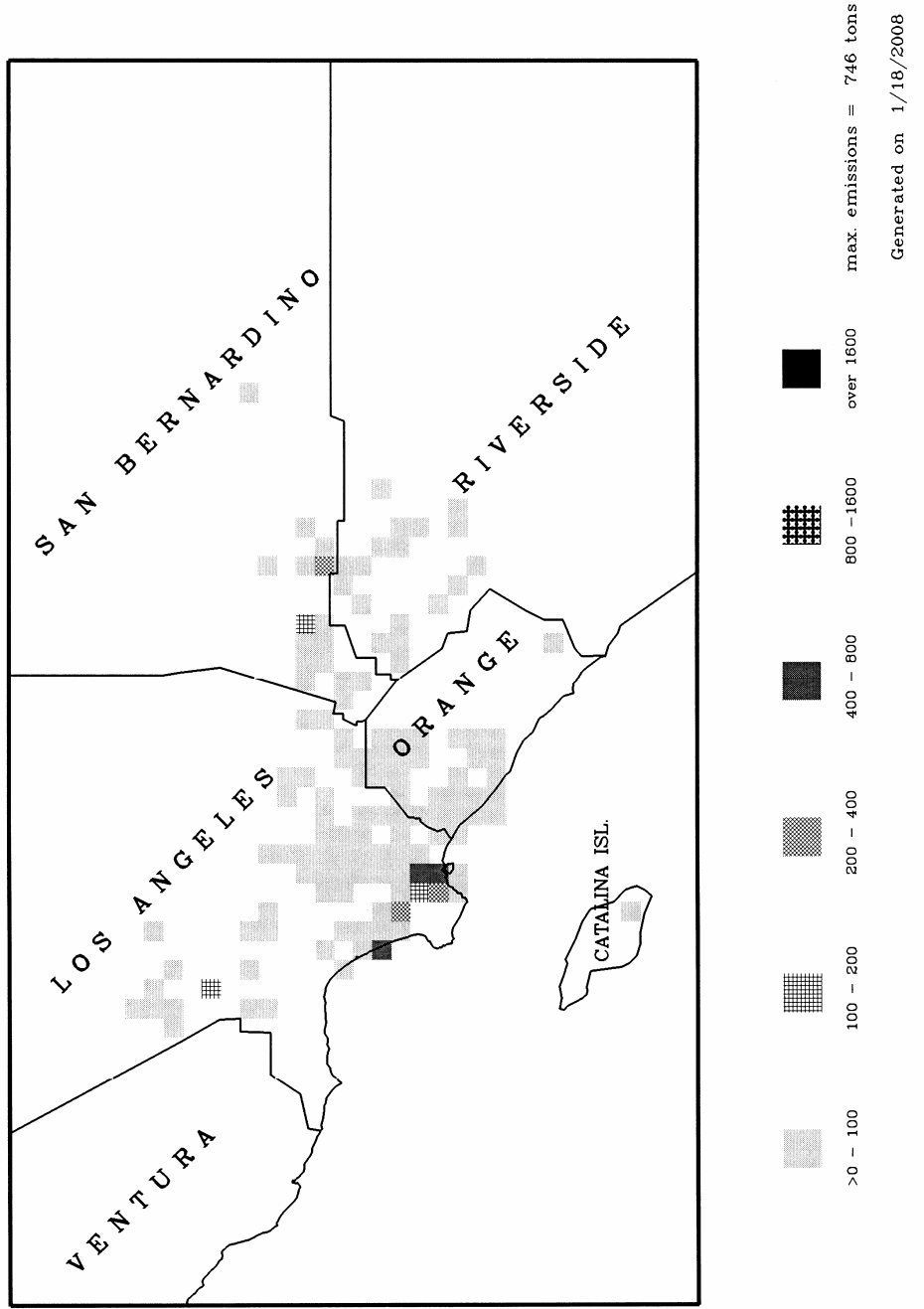
Certified NOx Emissions (Tons) from 04/2007 to 06/2007



max. emissions = 387 tons
Generated on 1/18/2008

RECLAIM Facilities

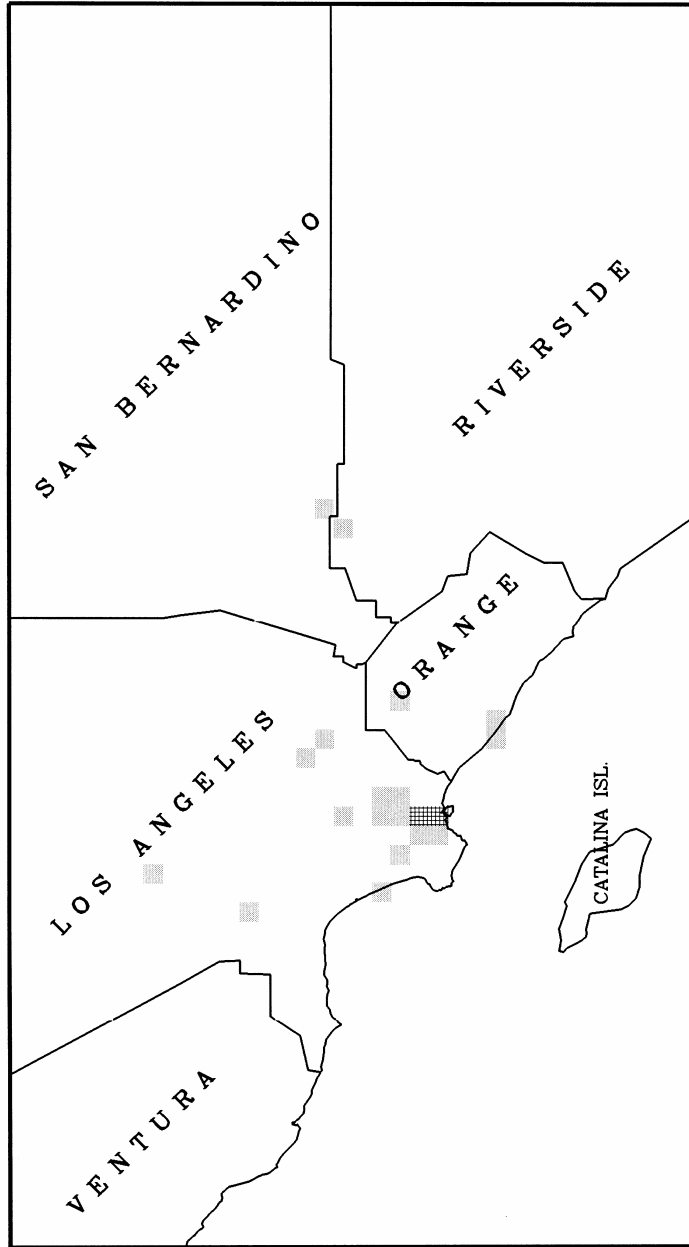
Certified NOx Emissions (Tons) Year to date (06/30/2007)



APPENDIX G
QUARTERLY SOX EMISSION MAPS

RECLAIM Facilities

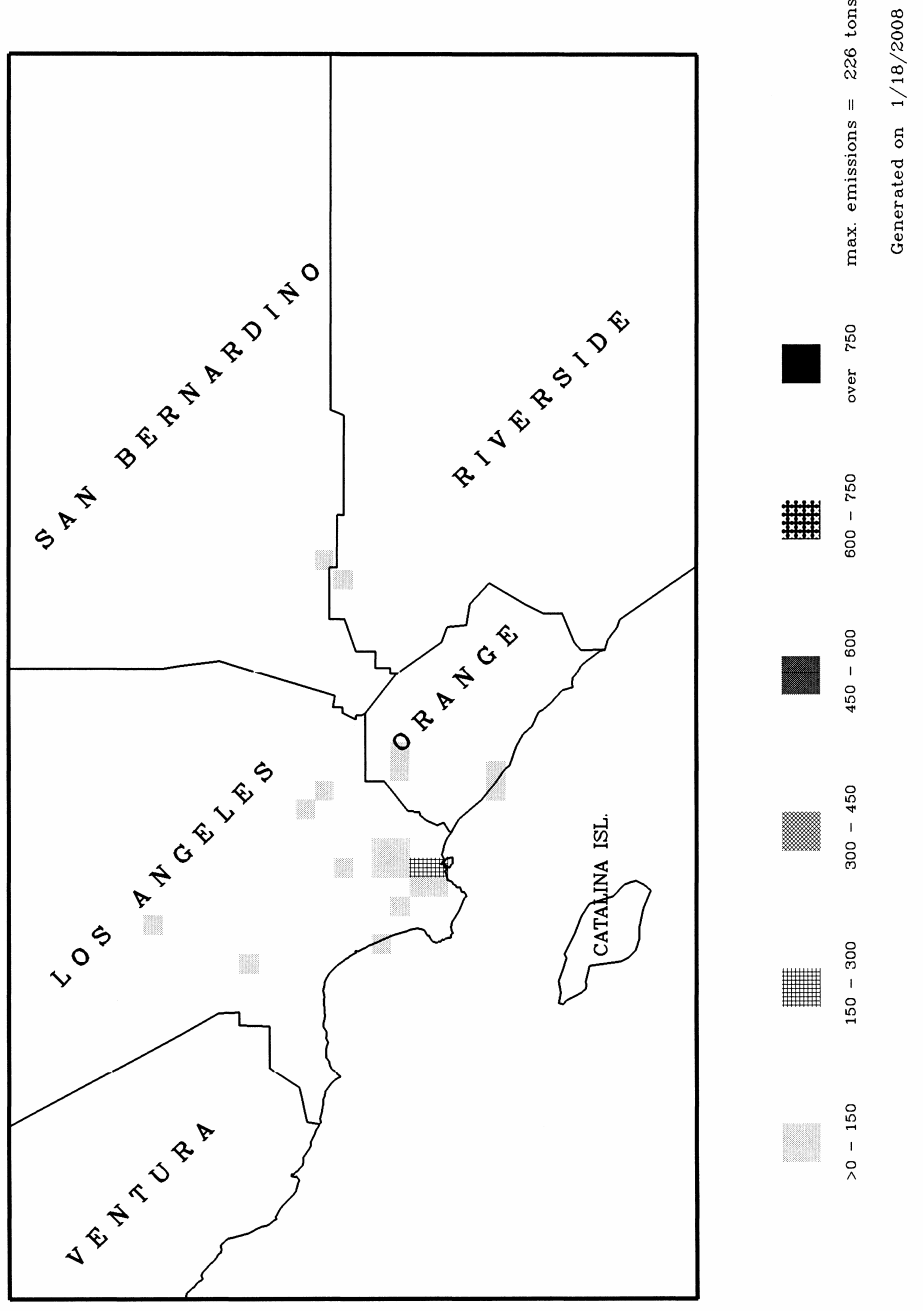
Certified SOx Emissions (Tons) from 01/2006 to 03/2006



max. emissions = 268 tons
Generated on 1/18/2008

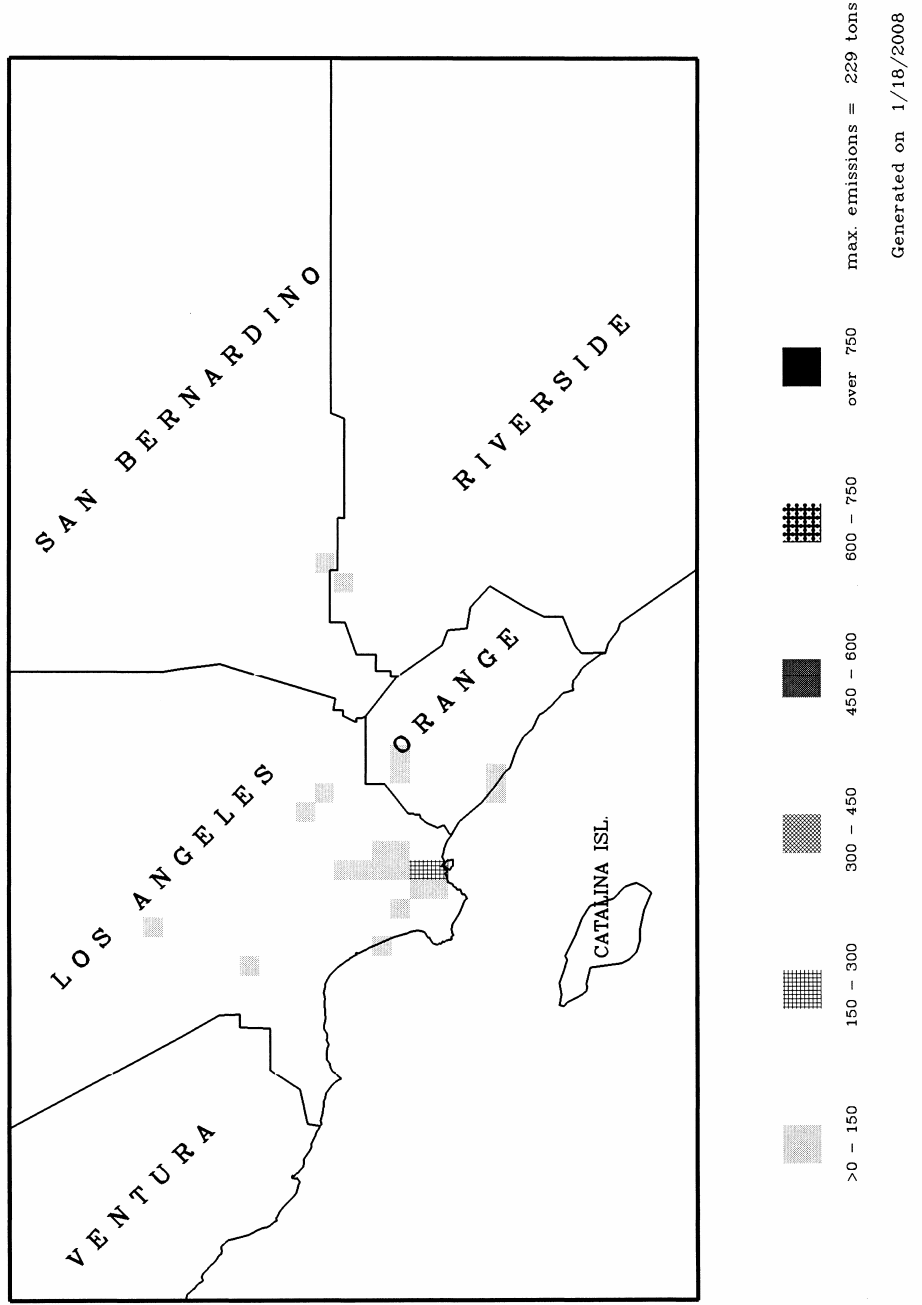
RECLAIM Facilities

Certified SOx Emissions (Tons) from 04/2006 to 06/2006



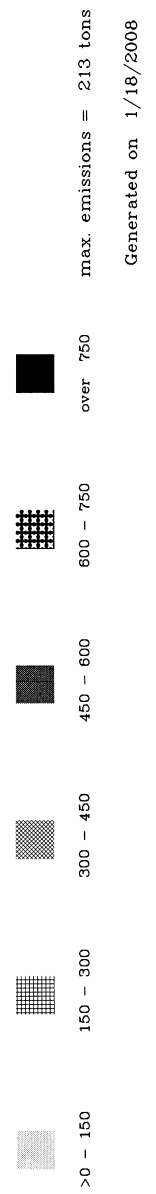
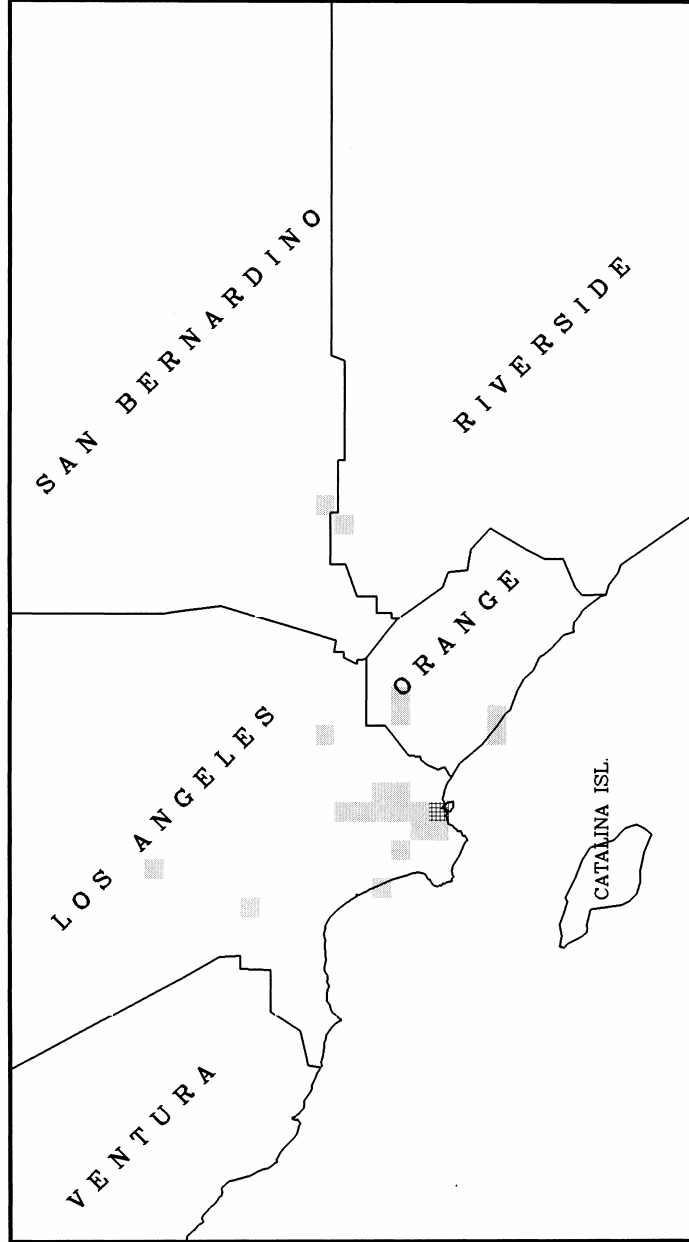
RECLAIM Facilities

Certified SOx Emissions (Tons) from 07/2006 to 09/2006



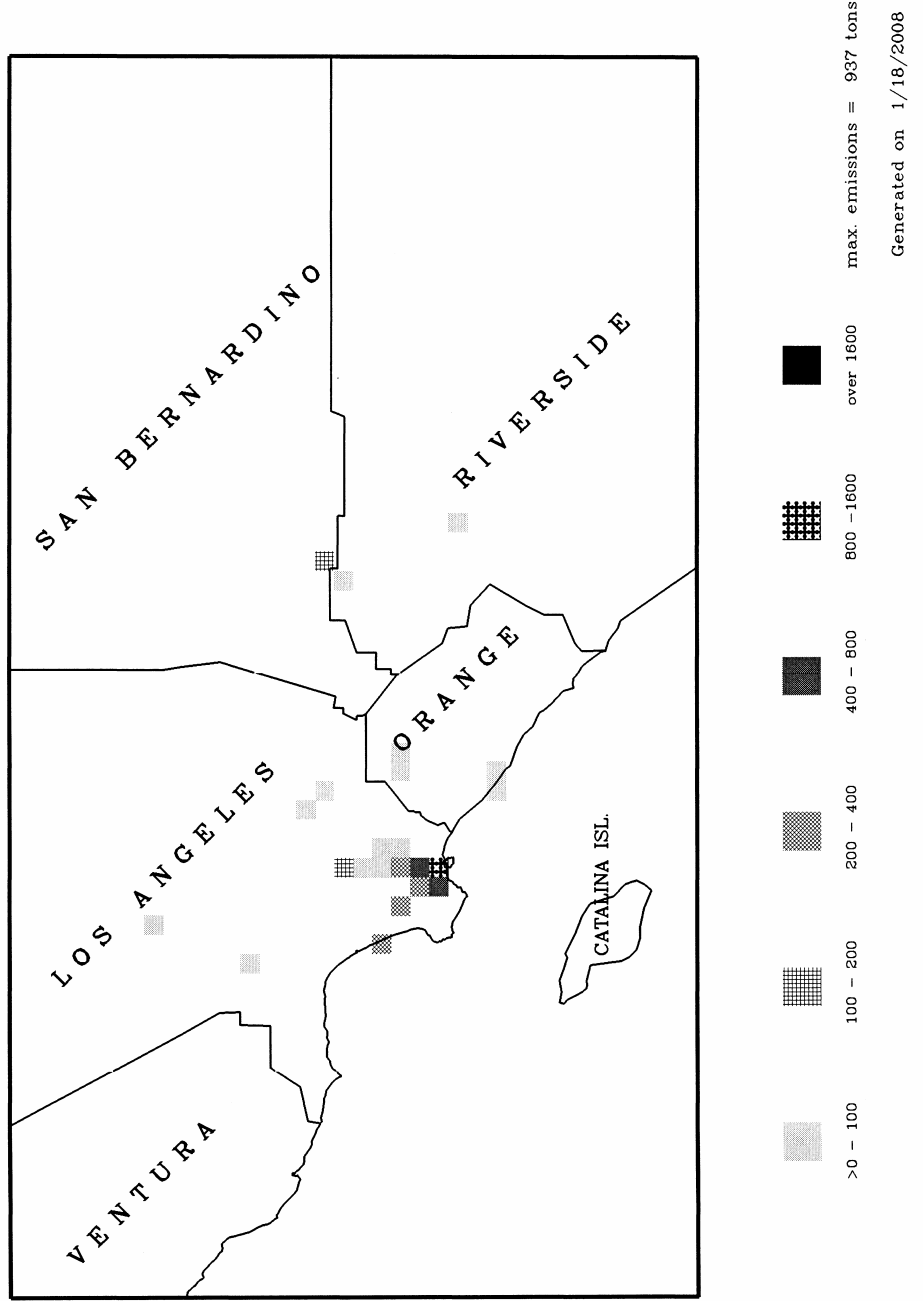
RECLAIM Facilities

Certified SOx Emissions (Tons) from 10/2006 to 12/2006



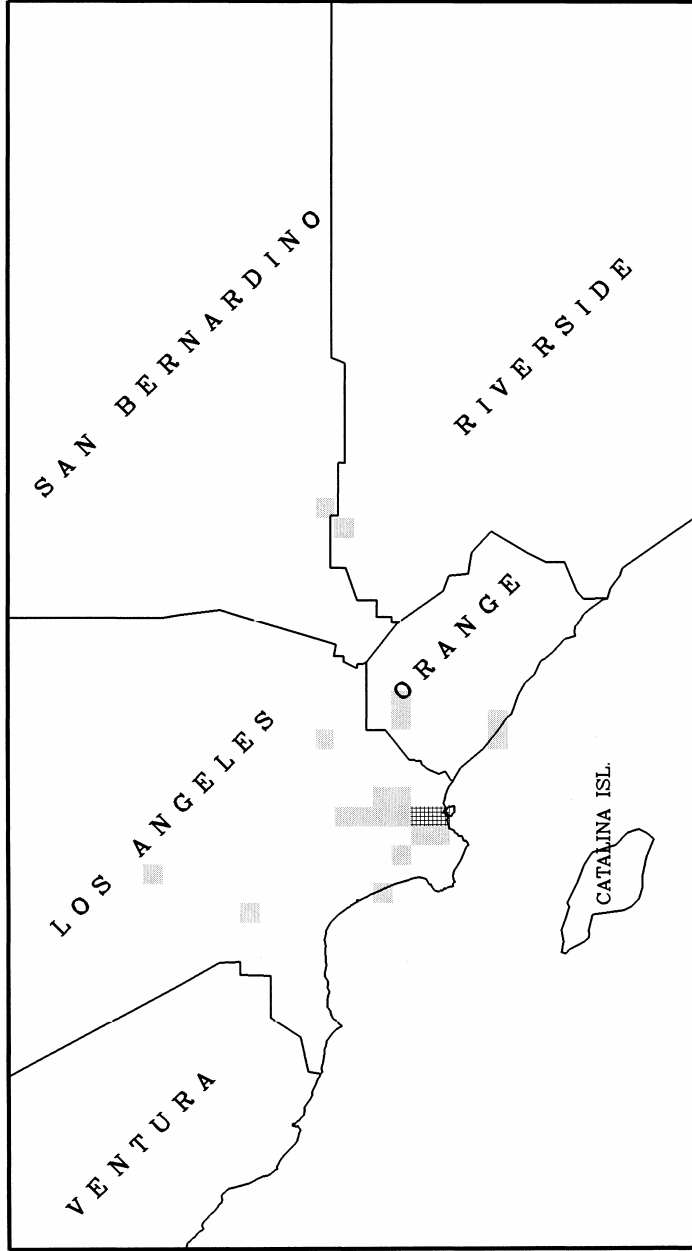
RECLAIM Facilities

Certified SOx Emissions (Tons) Year to date (12/31/2006)



RECLAIM Facilities

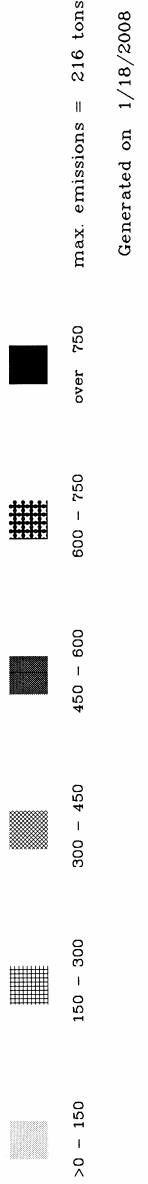
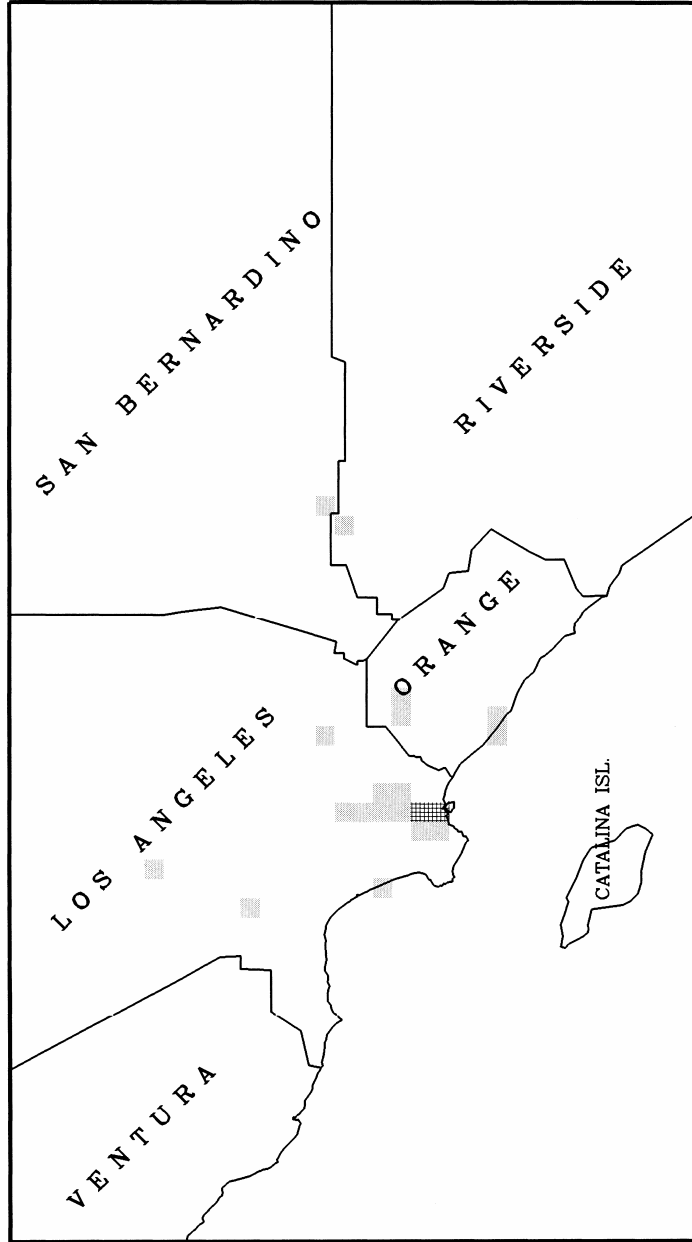
Certified SOx Emissions (Tons) from 01/2007 to 03/2007



max. emissions = 194 tons
Generated on 1/18/2008

RECLAIM Facilities

Certified SOx Emissions (Tons) from 04/2007 to 06/2007



RECLAIM Facilities

Certified SOx Emissions (Tons) Year to date (06/30/2007)

