



# South Coast Air Quality Management District



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BOARD MEETING DATE: January 12, 1996

AGENDA NO. 24


PROPOSAL: Public Hearing on the First Annual RECLAIM Program Audit Report

SYNOPSIS: In accordance with Rule 2015 - Backstop Provisions, the first annual report on the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program has been prepared and is presented for a public hearing. The report assesses emission reductions, average annual price and availability of RTCs, job impacts, compliance issues and other measures of performance.

COMMITTEE: Stationary Source Committee, November 16, 1995, Approved.

RECOMMENDED ACTION:

1. Approve the attached report.

  
James M. Lents, Ph.D.  
Executive Officer

PL:CC:CM:EMM:KCC:scs  
Attachment

First Annual RECLAIM Program Audit Report

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## Background

On October 15, 1993, AQMD Governing Board adopted the RECLAIM program. The goal of the RECLAIM program is to provide facilities with added flexibility in meeting emission reduction requirements and 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 for air quality improvement, enforcement, implementation cost, job impacts and public health impacts.

Since RECLAIM is a significant departure from traditional command-and-control regulations, the RECLAIM rules provide for periodic program audits in order to verify that the

RECLAIM objectives are being met. Rule 2015 requires both annual audits focusing on specific issues, and more comprehensive three-year audits. The results of the audits will be used to determine whether any program modifications are appropriate.

The first annual RECLAIM program audit report has been prepared by AQMD staff. The period covered by the audit includes the first full year of implementation of the program for all RECLAIM facilities. Pursuant to Rule 2015, the audit report is presented for a public hearing, and will be included in the AQMD annual performance report to the California legislature.

#### **Audit Findings**

The audit findings indicate that the implementation of RECLAIM during the first compliance year was highly successful. The analysis indicates that:

- RECLAIM is meeting its emission reduction goals. Aggregate actual emissions from RECLAIM facilities were below allocations for the first compliance year. If emissions and available credits remain constant at current levels, a "cross-over" point where the supply of RECLAIM Trading Credits (RTCs) equals emission levels will be reached in the 1997-98 time frame for NOx and the 1998-99 time frame for SOx. This excess of credits in the early years of the program is consistent with the program design.
- An active trading market for RTCs has developed. More than \$10 million of trades have been registered in the NOx and SOx markets combined, and sufficient RTCs are available to meet the demand of RECLAIM facilities. Average NOx RTC prices range from \$26/ton for 1994 to about \$1,500/ton for 2010. Average SOx RTC prices range from \$13/ton for 1994 to about \$960/ton for 1996 through 1998. Average prices exclude RTCs which were transferred with a price of \$0, such as transfers between facilities of common ownership. These prices are well below the backstop price of \$15,000/ton established in Rule 2015.
- RECLAIM has not accelerated business closures. Eleven RECLAIM facilities, equal to three percent of the RECLAIM universe of 353 facilities, have gone out of business since the program began, but RECLAIM was cited as a contributing factor by only one of the eleven shutdown facilities. Two new facilities started operations under RECLAIM, and three existing facilities voluntarily joined the program.
- RECLAIM has had a minimal impact on employment. Total employment at RECLAIM facilities fell 7.2 percent from 165,713 jobs to 153,769 jobs during the first compliance year, for a total of 11,944 jobs lost. RECLAIM was cited

by facility operators as the cause of 70 jobs lost, corresponding to a job loss of four-hundredths of one percent due to RECLAIM. Two facilities attributed two jobs gained to RECLAIM.

- AQMD staff conducted a comprehensive compliance program which included at least three visits to each facility to assist with questions and confirm compliance. Eighty-six percent of facilities complied with their allocations for the first compliance year. Most instances of non-compliance with allocations were due to a lack of familiarity with program requirements. Staff will perform additional outreach efforts to ensure a better understanding of rule requirements, and also take enforcement actions as appropriate. Some facilities encountered delays in meeting compliance deadlines for installing monitoring and reporting devices such as Continuous Emissions Monitoring Systems (CEMS) and Remote Terminal Units (RTUs). However, AQMD staff has worked with RECLAIM participants to resolve specific concerns through rule amendments and implementation guidance documents.
- Staff has conducted an extensive public outreach effort for RECLAIM participants which included workshops, training seminars, open forums and other meetings, as well as written guidance documents and informational mailings. This effort has been effective in explaining and clarifying rule requirements and resolving facility concerns in a timely manner.
- RECLAIM continues to meet the requirement for equivalency with the Air Quality Management Plan (AQMP). Allocation levels have changed slightly since program adoption based on control technology reviews and other new information. However, these changes would also have occurred under command-and-control rules and therefore do not affect the ability of RECLAIM to achieve reductions equivalent to the AQMP as required by Health and Safety Code Section 39616.

AQMD staff will continue to monitor and assess the performance of the RECLAIM program and work closely with RECLAIM participants to ensure continuing program success.

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**First Annual RECLAIM Program Audit Report**

January 12, 1988

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## EXECUTIVE SUMMARY

### Introduction

On October 15, 1993, the Governing Board of the South Coast Air Quality Management District (AQMD) adopted the Regional Clean Air Incentives Market (RECLAIM) program. The RECLAIM program represents a significant departure from traditional command-and-control regulations. The goal of RECLAIM is to provide facilities with added flexibility in meeting emission reduction requirements and lower the cost of compliance.

In order to ensure that RECLAIM is meeting all state and federal requirements as well as other performance criteria, Rule 2015 - Backstop Provisions, includes provisions for annual program audits focusing on specific topics, as well as more comprehensive three-year audits. This report presents the first RECLAIM annual program audit. The audit findings are discussed below.

### Chapter 1: Universe of Sources

The total oxides of nitrogen (NOx) and oxides of sulfur (SOx) RECLAIM universe of facilities decreased slightly from 391 to 353 facilities since program adoption in October 1993. The decrease was due principally to further evaluation by AQMD staff showing that certain facilities initially identified as subject to RECLAIM actually had emissions under four tons per year or belonged to an exempt category. These adjustments have been resolved and no significant changes are expected in the future on this basis.

Eleven facilities permanently ceased operations since program adoption. The reasons for closure cannot be ascertained in one case. However, for the ten facilities where reasons are known, RECLAIM was cited as a contributing factor in only one case. Two newly opened facilities joined RECLAIM, and three existing facilities voluntarily joined the program.

### Chapter 2: Allocations and RTC Supply

The methodology for determining allocations was designed so that RECLAIM allocations would match the AQMP emission projections for 2000 and 2003 and therefore achieve emission reductions equivalent to the rules and control measures that RECLAIM subsumes. Allocation levels for certain years have changed slightly since program adoption due to corrections to initial facility allocations based on new information and technology reviews conducted pursuant to Rule 2015. These changes largely reflect adjustments to projected emissions which would also have occurred under command-and-control rules and do not adversely impact the ability of RECLAIM to achieve emission

reductions equivalent to the subsumed rules and control measures. The AQMD will continue to monitor and assess the cumulative increases and decreases in allocations and incorporate these changes as appropriate into the 1997 AQMP revision.

The supply of RTCs has increased since program adoption due to the conversion of ERCs from non-RECLAIM facilities and mobile source credits to RTCs pursuant to Rule 2008 - Mobile Source Credits. This transfer of credits into the program will assist RECLAIM facilities in finding cost-effective strategies to meet their allocations in future years.

### **Chapter 3: Emission Reductions**

Aggregate actual emissions from RECLAIM facilities were below allocations for the first compliance year, indicating that RECLAIM achieved the emission reduction goals for this year. Furthermore, RECLAIM facilities did not experience greater emission control requirement impacts compared to non-RECLAIM sources. If emissions and available credits remain constant at current levels, a "cross-over" point where the supply of RTCs equals emission levels will be reached in the 1997-98 time frame for NOx and the 1998-99 time frame for SOx. This is consistent with the program design.

### **Chapter 4: Trading**

An assessment of RTC trading activity shows that an active RTC market has developed. More than \$10 million in trades have been registered for the NOx and SOx markets combined. Average NOx RTC prices range from \$26/ton for 1994 RTCs to about \$1,500/ton for 2010 RTCs. SOx RTC prices range from \$13/ton for 1994 RTCs to about \$960/ton for 1996 through 1998. These prices are well below the backstop price of \$15,000 per ton. The prices generally exhibit the expected pattern of increasing price in anticipation of declining supply for future years. The supply of RTCs offered for sale on the market has been adequate to meet the demand of RECLAIM facilities.

### **Chapter 5: Compliance**

During the first compliance year, AQMD staff conducted an extensive compliance program which included at least three visits to each RECLAIM facility to answer questions and confirm compliance. On an aggregate basis, RECLAIM facility emissions were well below total allocations for the year. Individually, eighty-six percent of facilities complied with their allocations for the first compliance year. Most instances of non-compliance with allocations were due to a lack of familiarity with program requirements. Therefore staff will perform additional outreach and education efforts to ensure a better understanding of rule requirements. Staff will also take enforcement actions as appropriate.

Some facilities encountered delays in meeting compliance deadlines for installing monitoring and reporting devices such as Continuous Emissions Monitoring Systems (CEMS) and Remote Terminal Units (RTUs). However, AQMD staff worked with RECLAIM participants to resolve specific concerns through rule amendments and implementation guidance documents.

### **Chapter 6: New Source Review Activity**

The annual program audit assesses New Source Review (NSR) activity in order to ensure that RECLAIM is allowing new sources into the program and existing facilities to expand their operations while still meeting the applicable best available control technology (BACT) and offset requirements. Review of NSR activity shows that two new facilities began operations, three existing facilities joined the program, and 41 facilities expanded or modified their operations during the first compliance year. Sufficient RTCs were available to meet the demand for offsets by new and expanded facilities.

### **Chapter 7: Job Impacts**

Nine of the 353 RECLAIM facilities attribute the RECLAIM program with causing a total of 70 jobs lost. This amounts to approximately four-hundredths of a percent (0.04 percent) of the jobs at RECLAIM facilities. Two Cycle 2 facilities also attribute RECLAIM with causing an increase of one job each. Data pertaining to job increases due to RECLAIM at Cycle 1 facilities is not available. This assessment does not take into account RECLAIM's benefits to the facilities, as compared to command-and-control regulations.

### **Chapter 8: Air Quality and Public Health Impacts**

At this early stage of implementation, only limited data is available to assess the performance of RECLAIM with regard to the air quality and public health concerns identified in Rule 2015: emission trends, seasonal fluctuations, per capita exposure to air pollution, and toxic risk reduction. However, the currently available data does not suggest significant adverse impacts. RECLAIM facility emissions in 1994 were comparable to 1993 emissions, verifying that the program did not result in an emission increase during the first compliance year. No seasonal fluctuations in emissions are discernible at this time. Per capita exposure to ozone was lower in 1994 than projected during program development Basin-wide and for all counties except San Bernardino. The AQMD continues to monitor the geographic pattern of emissions from RECLAIM facilities. RECLAIM sources continue to be subject to the same air toxic regulations as other Basin sources, including newly adopted Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, which requires facilities with significant health risks to implement risk reduction plans.

### **Chapter 9: Other Program Activities**

In order to further improve the effectiveness of RECLAIM, AQMD staff has conducted a variety of other activities. These activities include: an extensive public outreach effort involving workshops, seminars, open forums and written guidance materials for RECLAIM participants; amendments to Rules 2011 - Requirements for Monitoring, Reporting and Recordkeeping for Oxides of Sulfur (SOx), and 2012 - Requirements for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NOx), to ease the burden of monitoring and reporting requirements on major sources; other Regulation XX amendments to address specific concerns identified by RECLAIM participants and U.S.

Environmental Protection Agency (EPA); rule development activities to expand the RECLAIM trading market into mobile and area sources, and to develop the concept of a universal trading credit; the development of a volatile organic compound (VOC) RECLAIM program; NOx emission factor reviews; a SO<sub>2</sub>/SO<sub>x</sub> monitoring feasibility evaluation; and a control technology assessment for specific source categories of concern.

### Chapter 10: Recommendations

The audit results indicate that the implementation of RECLAIM during the first compliance year was highly successful. It is recommended that AQMD staff:

- Continue to develop area and mobile source credits programs to ensure an adequate future supply of cost-effective emission reductions credits;
- Continue to investigate the feasibility of linking AQMD's mobile and stationary source credits in order to provide additional compliance flexibility;
- Conduct a study to determine the feasibility of extending the market incentive concept to other criteria pollutants such as carbon monoxide (CO) and particulate matter (PM<sub>10</sub>); and
- Continue to monitor and assess the seasonal and geographic patterns of emissions from RECLAIM facilities as additional data becomes available in the future and make any necessary adjustments if information indicates that RECLAIM has created adverse air quality or public health impacts.

## INTRODUCTION

The RECLAIM program, adopted in October 1993, replaced certain command-and-control regulations with a new market incentives program. The goal of RECLAIM is to provide facilities with added flexibility in meeting emission reduction requirements and 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 more comprehensive three-year audits. The results of the audits will be used to determine whether any program modifications are appropriate.

This report presents the first annual RECLAIM program audit. As required by Rule 2015 - Backstop Provisions, at paragraph (b)(1), this annual audit assesses:

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

In addition, as required for the first three annual program audits and pursuant to Rule 2015(b)(1), this audit reviews the effectiveness of enforcement and protocols for the purpose of recommending any appropriate revisions to the protocols to achieve improved



measurement and enforcement of RECLAIM emission reductions while minimizing administrative cost to the AQMD and RECLAIM participants.

To facilitate the presentation, the report is organized into the following chapters:

1. **Universe of Sources:** This chapter discusses changes in the universe of RECLAIM sources, including facilities permanently ceasing operations since RECLAIM was adopted.
2. **Allocations and RTC Supply:** This chapter summarizes changes in emissions allocations in the RECLAIM universe and the supply of RTCs.
3. **Emission Reductions:** This chapter assesses emission trends and reductions for RECLAIM sources and emission control requirement impacts on these sources.
4. **Trading:** This chapter discusses RTC trading activity and the price and availability of RTCs.
5. **Compliance:** This chapter discusses compliance activities and the compliance status of RECLAIM facilities, and evaluates the effectiveness of compliance and the NO<sub>x</sub> and SO<sub>x</sub> monitoring, reporting and recordkeeping protocols.
6. **New Source Review Activity:** This chapter summarizes NSR activity at RECLAIM facilities.
7. **Job Impacts:** This chapter discusses employment changes reported by facilities.
8. **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 toxics impacts for RECLAIM sources.
9. **Other Program Activities:** This chapter discusses other areas of interest, such as the universal trading credit concept and the area source credits program.
10. **Recommendations:** This chapter presents the recommendations based on the audit results.

In accordance with Rule 2015, this audit report will be presented to the AQMD Governing Board in a public hearing on January 12, 1996, and will be included in the AQMD annual performance report to the California legislature.

This first annual audit report will be followed by additional annual and three-year audits. The first three-year audit report will be conducted in 1997 and presented to the Board in 1998. This audit will include a comprehensive evaluation of the performance of the program against specific criteria.

## CHAPTER 1 UNIVERSE OF SOURCES

### Summary

*The total NO<sub>x</sub> and SO<sub>x</sub> RECLAIM universe of facilities decreased slightly from 391 to 353 facilities since program adoption in October 1993. The decrease was due principally to further evaluation by AQMD staff showing that certain facilities initially identified as subject to RECLAIM actually had emissions under four tons per year or belonged to an exempt category. These adjustments have been resolved and no significant changes are expected in the future on this basis.*

*Eleven facilities permanently ceased operations since program adoption. The reasons for closure cannot be ascertained in one case. However, for the ten facilities where reasons are known, RECLAIM was cited as a contributing factor in only one case. Two newly opened facilities joined RECLAIM, and three existing facilities voluntarily joined the program.*

### Background

Rule 2001 - Applicability, specifies the criteria for inclusion in RECLAIM. Facilities are subject to RECLAIM if they have NO<sub>x</sub> or SO<sub>x</sub> emissions greater than four tons for 1990 or any subsequent year. Certain facilities such as restaurants, schools, hospitals, prisons, public transit, equipment rental facilities, and facilities possessing solely "various locations" permits are exempt. An initial universe of 391 RECLAIM facilities was developed based on 1990, 1991 and 1992 facility emissions data.

A facility may be removed from the RECLAIM universe pursuant to Rule 2001 if:

- The facility demonstrates that due to the installation of control equipment prior to RECLAIM rule adoption, future emissions will be below four tons per year; or
- The facility is discovered by AQMD staff to have been misclassified as a RECLAIM facility. Reasons for misclassification include corrected emissions data indicating emissions below four tons per year, new information that the facility belongs to an exempt category, or going out of business before the start of the program; or
- The facility ceases operations and permanently retires its RTCs.

Facilities which permanently cease operations which emit RECLAIM pollutants and go out of business are removed from the active, emitting RECLAIM universe, but may retain their RTCs and participate in trading.

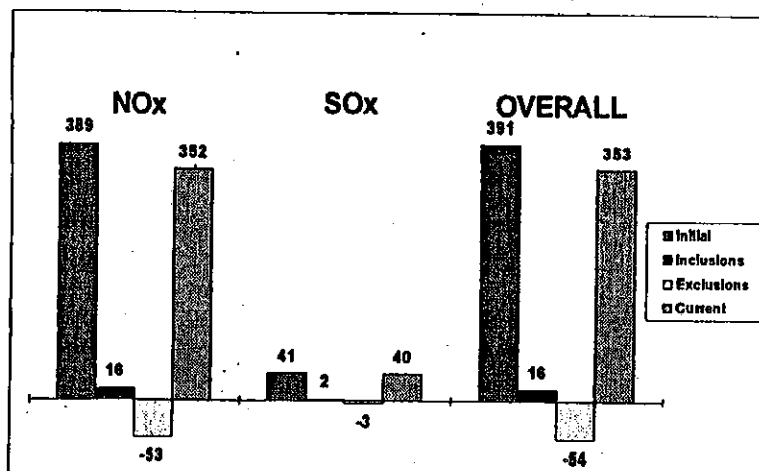
A facility may voluntarily choose to enter the RECLAIM universe, regardless of its emission level. Additionally, a facility must enter the RECLAIM universe if:

- It is a new facility which expects to emit over four tons per year;
- It is an existing facility which increases its emissions above the four-ton threshold or ceases to belong to an exempt category; or
- The facility is discovered by AQMD staff to meet the applicability requirements of RECLAIM, but was initially misclassified as a non-RECLAIM facility.

### Universe Changes

Figure 1-1 summarizes the changes in the RECLAIM universe since program adoption in October 1993. The figure shows that the NOx universe has experienced a net decrease of 37 facilities, while the SOx universe has experienced net decrease of one facility. A list of facilities in the RECLAIM universe as of November 1995 is provided in Appendix A.

Figure 1-1  
RECLAIM Universe Changes



### Facility Exclusions

Table 1-1 lists the reasons for the exclusions of facilities from the RECLAIM universe. Appendix B provides the list of excluded facilities as of November 1995.

Table 1-1  
Reasons for RECLAIM Universe Exclusions

Reason for Exclusion	NOx	SOx	Total
<b>Reclassification Based on Corrected Information:</b>			
<i>Corrected Emissions Data</i>	13	0	13
<i>Met Exemption Criteria</i>	15	0	15
<i>Out of Business Before Program Adoption</i>	6	1	6
<i>Consolidated With Adjacent Facility Under Common Ownership</i>	2	1	2
<b>Installed Controls Before Program Adoption (Rule 2001(b) Requests)</b>	17	1	18
<b>TOTALS</b>	<b>53</b>	<b>3</b>	<b>54</b>

Note: Two excluded facilities belonged to both the NOx and SOx universes.

Exclusions of facilities from RECLAIM were due largely to reclassifications, that is, further evaluations by AQMD staff showing that certain facilities that had been initially identified as subject to RECLAIM did not meet the applicability criteria. Most of these evaluations were performed pursuant to new or corrected information submitted by facilities. In particular, these evaluations showed that:

- Thirteen facilities were found to have emissions below four tons per year in 1990 and subsequent years. These facilities therefore did not meet the applicability criteria and were removed.
- Fifteen facilities were found to belong to exempt categories and were therefore removed from the RECLAIM universe.
- Six facilities initially included in the universe due to their emissions in 1990-1992 were discovered to have gone out of business prior to program adoption.

- Two facilities initially considered to be separate entities were consolidated when it was learned that adjacent facilities were under common ownership.

Eighteen facilities (17 NO<sub>x</sub> facilities and one SO<sub>x</sub> facility) requested and were granted exclusion from RECLAIM due to the installation of control equipment prior to October 15, 1993 which lowered their previous and expected future emissions below the four-ton threshold. Such requests are allowed pursuant to Rule 2001(b).

All exclusions to date have been based on concerns that have been largely resolved. No significant changes to the universe are expected in the future based on reclassification or requests for exclusion pursuant to Rule 2001(b).

### Facility Inclusions

Table 1-2 provides the reasons for inclusions of facilities into the RECLAIM universe. Appendix B provides the list of included facilities as of November 1995.

**Table 1-2**  
**Reasons for RECLAIM Universe Inclusions**

Reason for Inclusion	NO <sub>x</sub>	SO <sub>x</sub>	Total
Reclassification Based on Corrected Emissions Information	9	2	9
New Facilities	2	0	2
Opt-Ins by Existing Facilities	3	0	3
Outer Continental Shelf Facilities	2	0	2
<b>TOTALS</b>	<b>16</b>	<b>2</b>	<b>16</b>

Note: Two included facilities joined both the NO<sub>x</sub> and SO<sub>x</sub> universes.

Most additions of facilities to RECLAIM were based on new emissions information discovered by AQMD staff indicating that certain facilities should have been included in the initial RECLAIM universe. Nine facilities were added to the NO<sub>x</sub> universe on this basis. Two of these facilities were also added to the SO<sub>x</sub> universe based on emissions.

Two new facilities which began operations after the start of the program and that expect to emit over four tons per year of NO<sub>x</sub> in the future were added to the RECLAIM universe.

Three existing facilities voluntarily joined RECLAIM. The reasons cited by existing facilities joining the program include gains in administrative efficiency by consolidating

local operations under RECLAIM, and the opportunity to acquire RTCs based on past emissions.

Two NO<sub>x</sub> facilities located on the outer continental shelf (OCS) were added to RECLAIM in 1994 following EPA's delegation of authority to the AQMD to regulate certain OCS facilities. The inclusion of these facilities is provided for in Rule 2001(c)(1)(F).

### Facilities Permanently Ceasing Operations

The AQMD is aware of eleven RECLAIM facilities which have permanently ceased operations and gone out of business since RECLAIM was adopted on October 15, 1993. These facilities are identified in Appendix C. AQMD staff attempted to ascertain the reasons for the closures, but was not able to contact the facility operator in one case. However, for the ten facilities where reasons were ascertained, RECLAIM was cited as a contributing factor in only one case. This facility operator claimed that the closure of his business was due partially to economic reasons and partially to the cost of RECLAIM compliance.

## CHAPTER 2

### ALLOCATIONS AND RTC SUPPLY

#### Summary

*The methodology for determining allocations was designed so that RECLAIM allocations would match the AQMP emission projections for 2000 and 2003 and therefore achieve emission reductions equivalent to the rules and control measures that RECLAIM subsumes. Allocation levels for certain years have changed slightly since program adoption due to corrections to initial facility allocations based on new information and technology reviews conducted pursuant to Rule 2015. These changes largely reflect adjustments to projected emissions which would also have occurred under command-and-control rules and do not adversely impact the ability of RECLAIM to achieve emission reductions equivalent to the subsumed rules and control measures. The AQMD will continue to monitor and assess the cumulative increases and decreases in allocations and incorporate these changes as appropriate into the 1997 AQMP revision.*

*The supply of RTCs has increased since program adoption due to the conversion of ERCs from non-RECLAIM facilities and mobile source credits to RTCs pursuant to Rule 2008 - Mobile Source Credits. This transfer of credits into the program will assist RECLAIM facilities in finding cost-effective strategies to meet their allocations in future years.*

#### Background

One of the most important components of RECLAIM is the annual allocations for the facilities in the program. Pursuant to Health and Safety Code Section 39616, RECLAIM is intended to achieve emission reductions equivalent to the rules and control measures that would have been required by the AQMP for the universe of sources. To ensure equivalent emission reductions, the methodology for determining allocations was designed so that RECLAIM would match the AQMP emission projections for 2000 and 2003. The allocation methodology was also designed to ensure equity and fairness for RECLAIM participants.

Rule 2002 - Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>), establishes the methodology for calculating allocations. The method for determining each facility's starting, intermediate and ending year allocation is based primarily on historical activity levels during "peak" activity years and the relative control that would be required by the AQMP in the years 1994, 2000 and 2003, respectively. In addition, after program adoption, all NO<sub>x</sub> and SO<sub>x</sub> ERCs held by RECLAIM facilities were converted to RTCs

and added to the facility starting allocations. Non-RECLAIM participants were also allowed to convert ERCs to RTCs and participate in the RECLAIM market as well.

At the time of adoption, some industries had concerns about the amount of reductions proposed in the AQMP. Therefore Rule 2015 required an evaluation of the ending emission factors for six source categories: glass melting furnaces; gray cement kilns; steel slab reheating, flat rolled product annealing and flat rolled product galvanizing furnaces; metal melting furnaces; hot mix asphalt operations; and petroleum coke calcining. The technology review for petroleum coke calcining was completed and approved in March 1995. This industry received an earlier evaluation because there is only one facility with a coke calcining operation and it was scheduled for a major "turn-around" in 1995.

The technology reviews for the remaining five source categories were presented to the Board on December 7, 1995. On this date, the Board adopted revised starting and ending emission factors for glass furnaces. Consideration of revised emission factors for gray cement kilns was continued to the March 1996 Board meeting in order to address CEQA issues. No changes were made based on the remaining three technology reviews.

During preparation of the 1994 AQMP, preliminary recommendations from the technology reviews were available. The 1994 AQMP included an increase in NO<sub>x</sub> allocations for RECLAIM facilities the years 2000 and 2003 based on these recommendations.

#### Allocation Changes

The aggregate amount of allocations has changed since program adoption due to corrections to individual facility allocations based on new information, the technology reviews conducted pursuant to Rule 2015, and facility inclusions and exclusions from the RECLAIM universe.

As of December 1995, the allocations of 145 facilities have been revised based on new information. These revisions were made both pursuant to facility requests and at the initiative of staff. Staff performed a thorough review of all proposed revisions and approved revisions consistent with the methodology in Rule 2002. The primary reasons for adjusting a facility's allocation include emission factor corrections, re-apportionment of fuel usage, changing the peak activity year, and amendment of previously submitted emissions data by facilities. Revisions to initial facility allocations have been largely resolved and AQMD staff does not foresee any future changes on this basis that would significantly affect total allocations.

The technology review for petroleum coke calcining resulted in NO<sub>x</sub> allocation adjustments for one facility. Pursuant to the recently adopted technology review for glass furnaces, the allocations of three facilities will be revised. These adjustments have been included in this report. The outcome of the Board's consideration of the technology review for gray cement kilns may affect the allocations of one facility.

Changes in the universe of RECLAIM sources resulted in a small net change in total allocations.

In order to evaluate whether these adjustments will affect the achievement of AQMP emission reduction targets, Figures 2-1 and 2-2 compare the original allocations, adjusted allocations, and the 1991 and 1994 AQMP emission targets for the benchmark years 1994, 2000 and 2003. Tables 2-1 and 2-2 provide the numerical values. The 1994 AQMP targets and the adjusted allocations are shown both with and without ERC conversions at RECLAIM facilities. ERC conversions are discussed in the next section of this chapter.

As the figures show, certain allocations have changed since program adoption. NOx allocations show small increases as a result of individual facility allocation adjustments, universe changes and the technology reviews. Conversion of NOx ERCs to RTCs by RECLAIM facilities resulted in 3.6 tons/day of new RTCs for 1994 and 2000, and 2.6 tons/day for 2003.

SOx allocations show a small increase in 1994, no change in 2000, and a small decrease in 2003 as a result of individual facility allocation adjustments and universe changes. Conversion of SOx ERCs to RTCs by RECLAIM facilities resulted in 2.5 tons/day of new RTCs for 1994 and 2000, and 1.6 tons/day for 2003.

Current adjusted allocations are slightly higher than 1994 AQMP emission targets. Current adjusted NOx allocations exceed the 1994 AQMP targets by about three tons/day for 2000 and 2003. Current adjusted SOx allocations exceed 1994 AQMP targets by about two tons/day for 2000 and are approximately equal for 2003.

One technology review, the review for gray cement kilns, is pending. The outcome of this review could affect the NOx allocations for one facility.

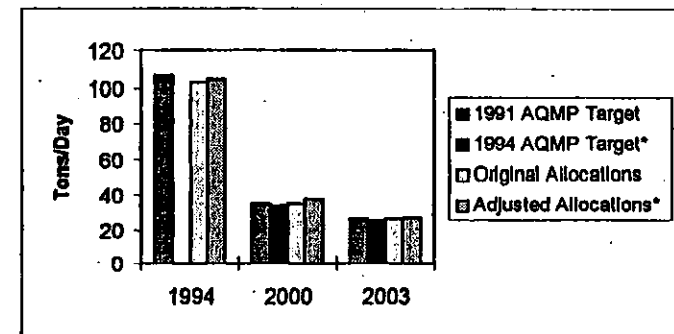
In general, the allocation changes for future years largely reflect changes in projected emissions which would have occurred regardless of RECLAIM. The adjustment of compliance limits based on technology reviews and the revision of emission estimates based on new information are activities which also occur under command-and-control rules.

Since similar changes would have occurred under the command-and-control rules and control measures subsumed by RECLAIM, the allocation changes are consistent with the program design principle that RECLAIM sources be required to reduce their emissions to a level equivalent to the reductions that would have occurred under the subsumed rules and control measures. Therefore RECLAIM continues to conform with the requirement for emission reductions equivalent to the subsumed rules and control measures as required by Health and Safety Code Section 39616.

Regardless of RECLAIM, such changes would be incorporated into future AQMP revisions. The RECLAIM rules anticipated the potential for allocation adjustments. Rule 2015 at paragraph (c)(1) provides that the AQMD will propose AQMP revisions which ensure that any increases in allocations which occur based on any adjustments made pursuant to Rule 2002 (c)(12), Rule 2015 (c)(2), and Rule 2015 (e) shall be offset in the AQMP.

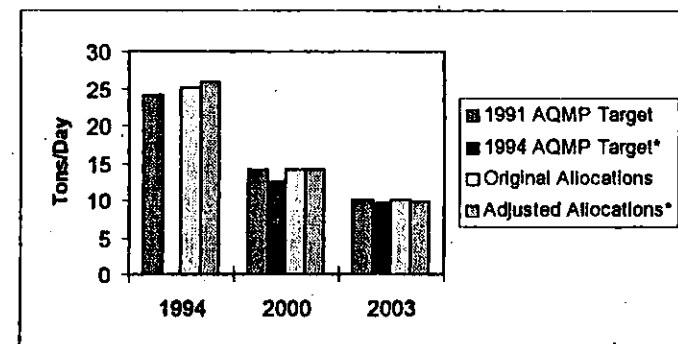
The AQMD will continue to monitor and assess all increases and decreases in allocations and incorporate these changes as appropriate into future AQMP revisions.

Figure 2-1  
NOx Allocation Adjustments



\* Values for 1994 AQMP Targets and Adjusted Allocations as presented in this figure do not include ERC conversions to RTCs. See Table 2-1 for ERC conversions values. 1994 AQMP does not include emission reduction targets for 1994.

Figure 2-2  
SOx Allocation Adjustments



\* Values for 1994 AQMP Targets and Adjusted Allocations as presented in this figure do not include ERC conversions to RTCs. See Table 2-2 for ERC conversions values. 1994 AQMP does not include emission reduction targets for 1994.

**Table 2-1**  
**NOx Allocation Adjustments (Tons/Day)**  
 (Numerical Values)

Year	1991 AQMP Target	1994 AQMP Target		Original Allocations*	Adjusted Allocations**	
		Without ERC Conversions	With ERC Conversions		Without ERC Conversions	With ERC Conversions
1994	106	N/A	N/A	103	104.8	108.4
2000	35	34.3	37.5	35	37.2	40.8
2003	26	25.1	28.2	26	26.6	29.2

\* The original allocations did not include ERC conversions to RTCs at RECLAIM facilities.

\*\* Includes adjustments to individual facility allocations, universe inclusions and exclusions, and results of Rule 2015 technology reviews (except gray cement kilns, which was pending resolution at the time of this report).

**Table 2-2**  
**SOx Allocation Adjustments (Tons/Day)**  
 (Numerical Values)

Year	1991 AQMP Target	1994 AQMP Target		Original Allocations*	Adjusted Allocations**	
		Without ERC Conversions	With ERC Conversions		Without ERC Conversions	With ERC Conversions
1994	24	N/A	N/A	25	25.9	28.4
2000	14	12.4	14.5	14	14.0	16.5
2003	10	9.5	11.5	10	9.8	11.4

\* The original allocations did not include ERC conversions to RTCs at RECLAIM facilities.

\*\* Includes adjustments to individual facility allocations and universe inclusions and exclusions. SOx allocations were not affected by Rule 2015 technology reviews.

### RTC Supply

RECLAIM was designed with the intention that ERCs from outside the program could be transferred into the RECLAIM market in order to assist RECLAIM facilities in meeting their emission reduction goals without compromising progress towards attainment of clean air goals.

The RECLAIM rules include two mechanisms for bringing non-RECLAIM source emission reductions into the program:

- **Conversion of ERCs to RTCs.** After rule adoption, ERCs held by RECLAIM facilities were automatically converted to RTCs and added to the respective facility allocation accounts. Additionally, non-RECLAIM participants had the option to voluntarily convert ERCs to RTCs provided requests for conversions were received prior to July 1, 1994.
- **Conversion of Mobile Source ERCs to RTCs.** Mobile source credits generated under Regulation XVI rules may be converted to RTCs pursuant to Rule 2008 - Mobile Source Credits. Thus far, five applications for mobile source credit conversions have been approved.

Figures 2-3 and 2-4 illustrate the increase in the total supply of RTCs due to the transfer of credits into the RECLAIM program. These figures show that the total available RTCs has increased since program adoption for all compliance years. This increase in RTC supply will assist RECLAIM facilities in finding cost-effective strategies for meeting their emission reduction requirements.

Efforts to further expand the trading market and the available supply of credits are discussed in Chapter 9, Other Program Activities.

Allocations and the supply of RTCs will continue to be monitored throughout program implementation and evaluated as part of future annual and three-year audits.

Figure 2-3

NOx: Allocations and RTC Supply

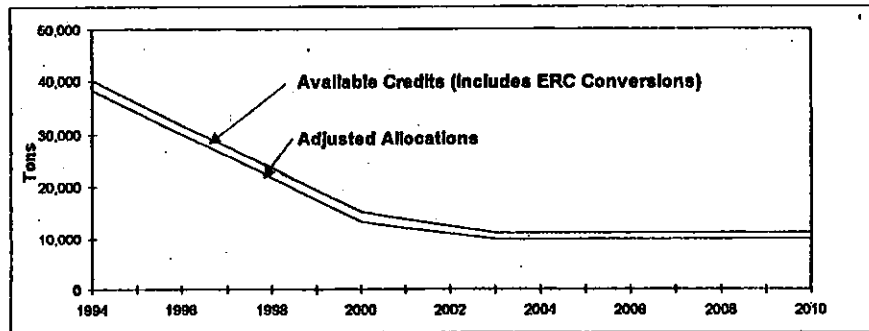
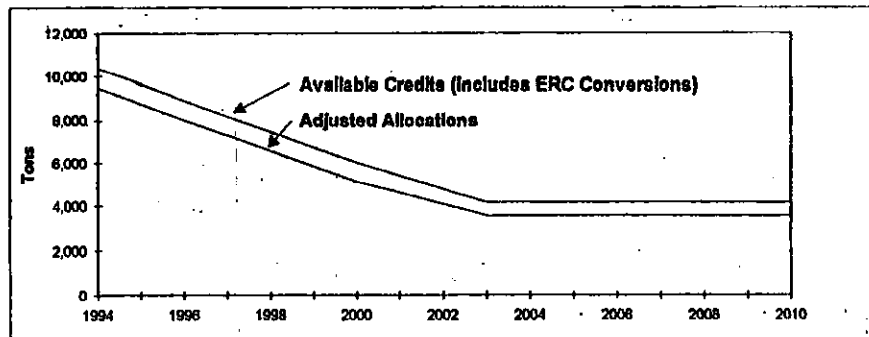


Figure 2-4

SOx: Allocations and RTC Supply



## CHAPTER 3

## EMISSION REDUCTIONS

## Summary

Aggregate actual emissions from RECLAIM facilities were below allocations for the first compliance year, indicating that RECLAIM achieved the emission reduction goals for this year. Furthermore, RECLAIM facilities did not experience greater emission control requirement impacts compared to non-RECLAIM sources. If emissions and available credits remain constant at current levels, a "cross-over" point where the supply of RTCs equals emission levels will be reached in the 1997-98 time frame for NOx and the 1998-99 time frame for SOx. This is consistent with the design of the program.

## Background

One purpose of the RECLAIM program audits is to assess whether RECLAIM is achieving the required emission reductions. The emission reduction requirements for RECLAIM facilities are reflected in the declining annual allocations. Annual aggregate emission levels which do not exceed allocations indicates success in achieving the emission reduction goals.

The annual program audit is also required to assess emission control requirement impacts on RECLAIM sources as compared to other stationary sources identified in the AQMP. This provision reflects the requirements of Health and Safety Code Section 39616(c)(6), which stipulates that RECLAIM "will not result in disproportionate impacts, measured in terms of required emission reductions, and measured on an aggregate basis, on those stationary sources included in the program compared to other permitted stationary sources in the [AQMD]'s attainment plan."

## Emission Reduction Trends

Figures 3-1 and 3-2 show the trend in emissions for RECLAIM facilities for the years 1989 through 1994, the adjusted allocations for the years 1994 through 2010, and the total credits currently available for these years.

The adjusted allocations reflect corrections to individual facility allocations based on new information and the small change due to facility inclusions and exclusions, as discussed in Chapter 2, Allocations and RTC Supply.

Figure 3-1  
NOx Emissions and Allocations

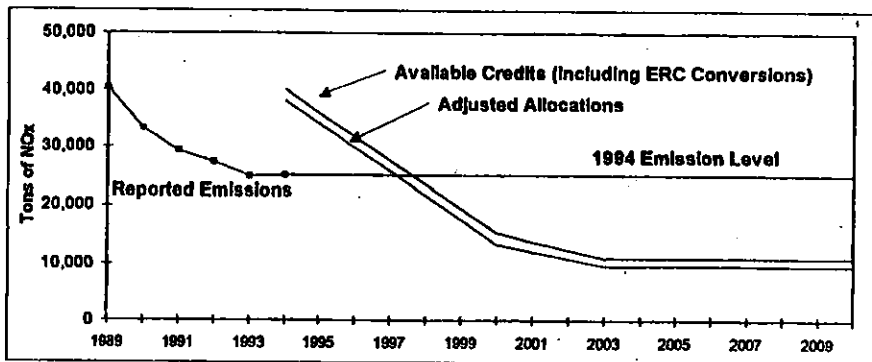
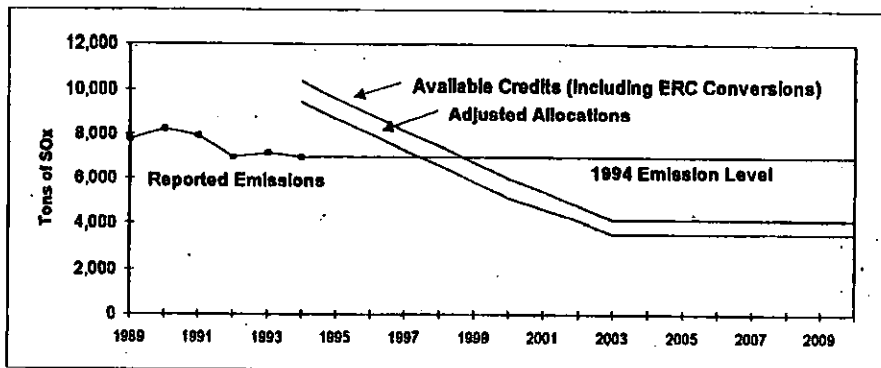


Figure 3-2  
SOx Emissions and Allocations



The available credits reflects all RTCs held by both RECLAIM and non-RECLAIM participants, including allocations, RTCs from ERC conversions, and RTCs from mobile source credit conversions.

It should be noted that the RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. For Cycle 1 facilities, the first compliance year ran from January 1, 1994 to December 31, 1994. For Cycle 2 facilities, the first compliance year was July 1, 1994 through June 30, 1995. Placement in either cycle was determined by a computer-generated random assignment shortly after the RECLAIM rules were adopted. To facilitate the analysis, Cycle 1 and Cycle 2 data were combined as if Cycle 2 coincided with Cycle 1.

Figures 3-1 and 3-2 illustrate several points:

- RECLAIM facilities did not exceed their allocations on an aggregate basis in the first compliance year, indicating that RECLAIM met its emission goals for that year.
- 1994 emission levels for RECLAIM facilities were comparable to 1993 emission levels, indicating that facilities have not increased emissions due to RECLAIM. Furthermore, the trend shows a decrease in annual emissions since 1989.
- If reported emissions and available credits remain constant at current levels, a "cross-over" point where the supply of RTCs equals emission levels will be reached in the 1997-98 time frame for NOx and the 1998-99 time frame for SOx. This is consistent with the program design.

It is anticipated that reported emissions in the second compliance year will be lower than previously reported emissions due to the completion of CEMS installation for most major sources. The emissions reported by CEMS will be more accurate than emission reported based upon emission factors used by facilities during the first compliance year. These emission factors tend to be conservative and estimate emissions based on the high end of the test data range.

#### Emission Control Requirement Impacts

Many facilities had sufficient allocations for the first compliance year. Furthermore, aggregate actual emissions from RECLAIM facilities were below aggregate allocations for the first compliance year. Therefore the RECLAIM universe did not experience greater emission reduction requirements compared to non-RECLAIM stationary sources identified in the AQMP.

The program is designed to achieve an equitable distribution of emission reductions from RECLAIM and non-RECLAIM sources. For example, during the first compliance year, non-RECLAIM stationary sources were required to meet specific compliance deadlines in such rules as Rule 1110.2 - Emissions From Gaseous- and Liquid-Fueled Internal Combustion Engines, and Rule 1134 - Emissions of Oxides of Nitrogen from Stationary Gas Turbines. RECLAIM facilities were also required to achieve comparable emission reductions, but the emission control requirements were reflected in their allocations.



The AQMD will continue to monitor and assess emission trends and control requirement impacts for RECLAIM facilities to ensure continued success and equity in achieving the emission reduction goals.

## CHAPTER 4

### TRADING

#### Summary

*An assessment of RTC trading activity shows that an active RTC market has developed. More than \$10 million in trades have been registered. NOx RTC prices range from \$26/ton for 1994 RTCs to about \$1,500/ton for 2010 RTCs. SOx RTC prices range from \$13/ton for 1994 RTCs to about \$960/ton for 1996 through 1998. Average prices exclude RTCs which were transferred with a price of \$0, such as transfers between facilities of common ownership. These prices are well below the backstop price of \$15,000 per ton. The prices generally exhibit the expected pattern of increasing price in anticipation of declining supply for future years. The supply of RTCs offered for sale on the market has been adequate to meet the demand of RECLAIM facilities.*

#### Background

The RECLAIM trading market is a core element of the program, for it allows facilities to seek and secure reductions in a way that minimizes compliance costs. RTCs are the instrument of the market. A RTC is a unit of NOx or SOx emissions. Each RTC has a term of one year and may only be used for emissions that occurred during the instrument term.

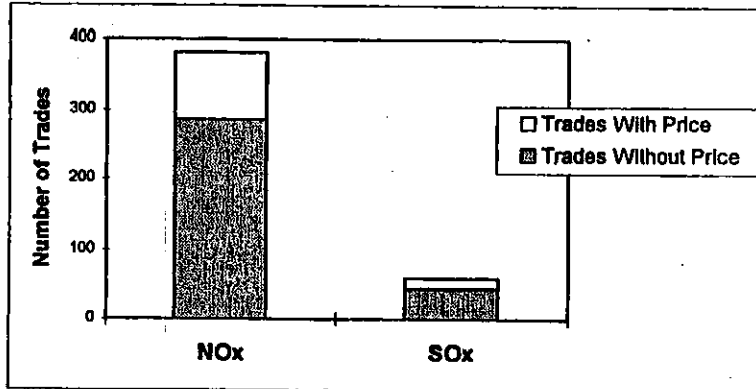
RTCs may be bought, sold or otherwise traded or transferred between RECLAIM facilities or other persons who choose to participate in the market. RTC trades may be completed at any time prior to the instrument expiration date. RECLAIM facilities must hold sufficient RTCs to cover their emissions at the end of each compliance year.

Rule 2015 requires the annual program audit to assess the annual average price of each type of RTC and the availability of RTCs in order to determine whether RTCs are available to RECLAIM facilities at a reasonable cost. The rule designates a backstop price of \$15,000 per ton which, if exceeded, will trigger a program evaluation and review.

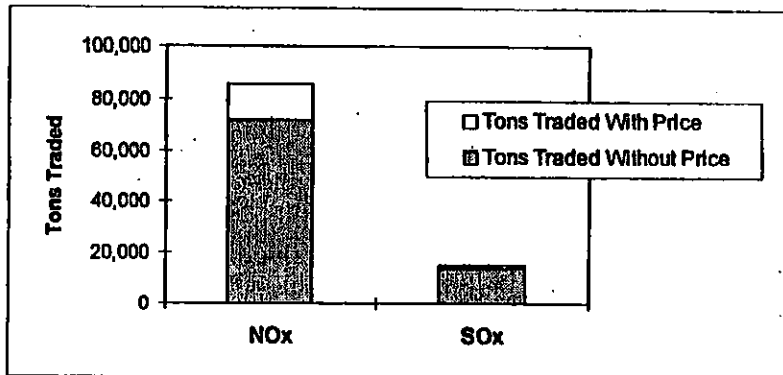
#### RTC Trading Activity

An assessment of RTC trading activity shows that an active RTC market has developed. Figures 4-1 and 4-2 show that since the beginning of the program, over 400 RTC trades have occurred, involving over 100,000 tons of pollutants.

**Figure 4-1**  
**Number of RTC Trades**  
 As of November 3, 1995



**Figure 4-2**  
**Tons of RTC Traded**  
 As of November 3, 1995

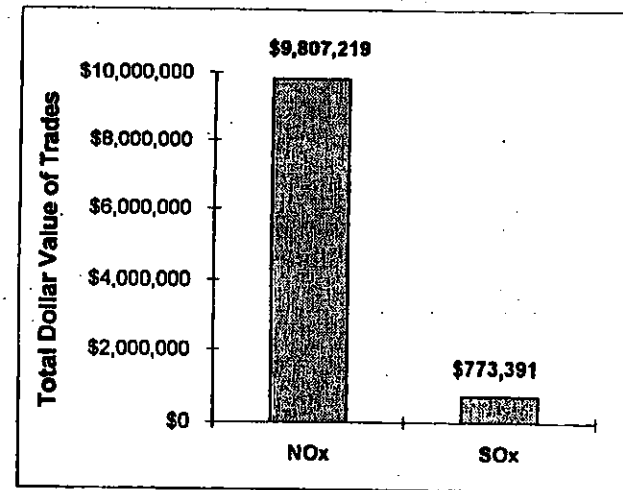


These figures show both trades with prices and transactions which did not involve a RTC price. Trades with prices reflect sales of RTCs between two parties. Trades without

prices include transfers due to change of ownership, transfers between facilities within the same company, transfers to and from brokers associated with auctions, and "dumping," i.e., transfers of RTCs which are surplus or will soon expire to non-RECLAIM participants in order to avoid payment of fees associated with holding these RTCs.

Figure 4-3 provides the total dollar value of these trades to date. As of November 3, 1995, the total dollar value of NOx trades was almost \$10 million, while the total value of SOx trades was over \$700,000.

**Figure 4-3**  
**Total Dollar Value of RTC Trades**  
 As of November 3, 1995



Market participants are using a variety of different trading mechanisms, including auctions, brokers and direct exchanges.

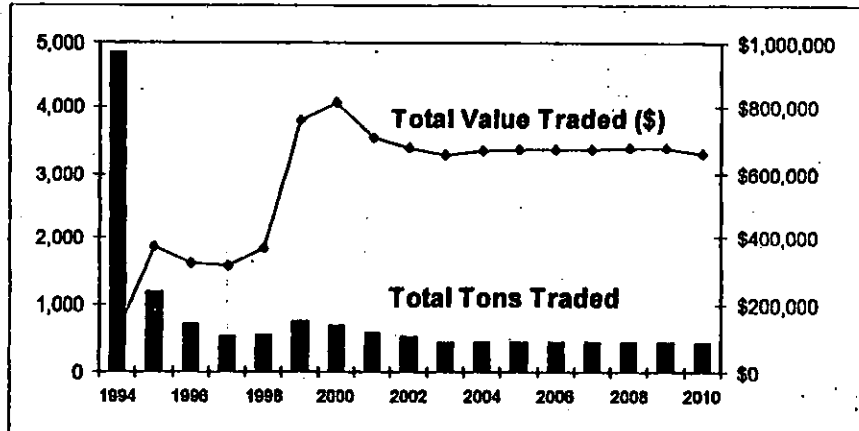
Auctions include the Clean Air Auction sponsored by the New York-based brokerage firm Cantor Fitzgerald with Dames and Moore, and the Automated Environmental Credit Exchange (ACE) developed by a group of entrepreneurs in partnership with the Pacific Stock Exchange. The Clean Air Auction is an order-driven market in which participants place buy or sell orders which are matched by the sponsors. The Clean Air Auction is held every six months or more frequently as determined by market demand. Three Clean Air Auctions have been held to date. ACE is an electronic trading market accessed via the Internet, fax, or other computerized link. Trading is conducted through several rounds of

bidding, with ACE attempting to match bids during each round. This market operates quarterly prior to the end of each reconciliation period. Three ACE auctions have occurred to date.

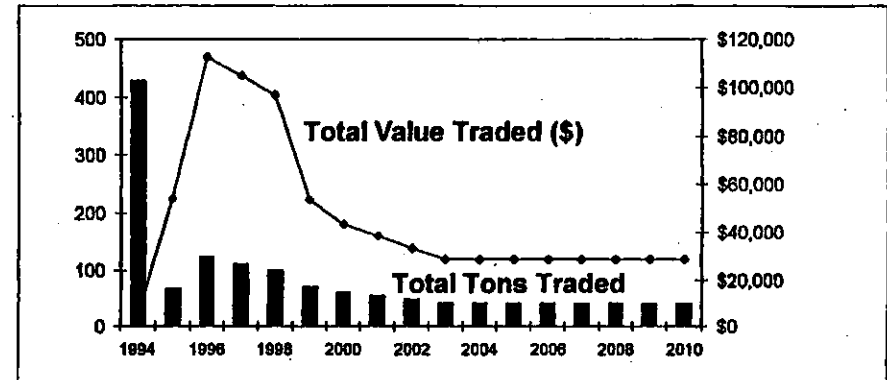
Other broker and market facilitator services are also being offered. For example, RTCEX, operated by Justice & Associates, is a trading service which accepts listings of orders from buyers and sellers and broadcasts the orders by fax to interested parties. RTCEX trades can take place daily.

Figures 4-4 and 4-5 take a closer look at the trades associated with price. These figures show the tonnage of pollutants traded and the total value of trades for NOx and SOx RTCs for each year through 2010. RTC trades for Cycle 2 have been combined with Cycle 1 to facilitate the analysis. The figures show a high level of trading activity for the first compliance year due to facilities adjusting their allocations to meet their emission levels. Facilities also traded RTCs for future years in anticipation of future emission levels.

**Figure 4-4**  
**NOx Trading Volumes and Total Trade Values**  
 As of November 3, 1995



**Figure 4-5**  
**SOx Trading Volumes and Total Trade Values**  
 As of November 3, 1995



**RTC Prices**

Table 4-1 provides the annual average prices of NOx RTCs for each year from 1994 through 2010 as of November 3, 1995. Figure 4-6 presents the annual average prices and the range of prices observed on the market. As of November 3, 1995, the average prices of NOx RTCs ranged from \$26/ton for the first compliance year to \$1,529/ton for year 2009.

Figure 4-7 compares average NOx RTC prices to the total available supply of RTCs for each compliance year. NOx RTC prices show an increase in later years in anticipation of the decrease in supply. However, prices for all years are well below the program backstop price of \$15,000 per ton.

**Table 4-1**  
**Annual Average NOx RTC Prices**  
 As of November 3, 1995

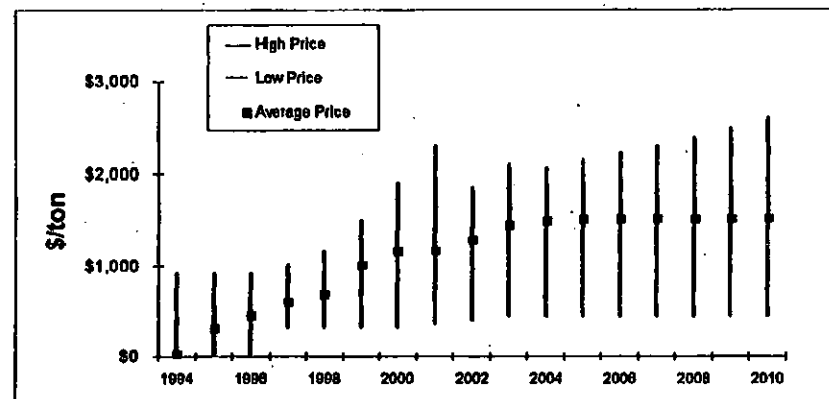
RTC Year	Annual Average Price per Ton
1994	\$26
1995	\$315
1996	\$450
1997	\$599
1998	\$671
1999	\$1,008
2000	\$1,161
2001	\$1,175
2002	\$1,293
2003	\$1,457
2004	\$1,509
2005	\$1,520
2006	\$1,520
2007	\$1,525
2008	\$1,529
2009	\$1,529
2010	\$1,526

Table 4-2 provides the annual average prices of SOx RTCs for each year from 1994 through 2010 as of November 3, 1995. Figure 4-8 presents the annual average prices and the range of prices observed on the market. As of November 3, 1995, annual average SOx RTC prices ranged from about \$13/ton in the first compliance year to \$964/ton for 1998.

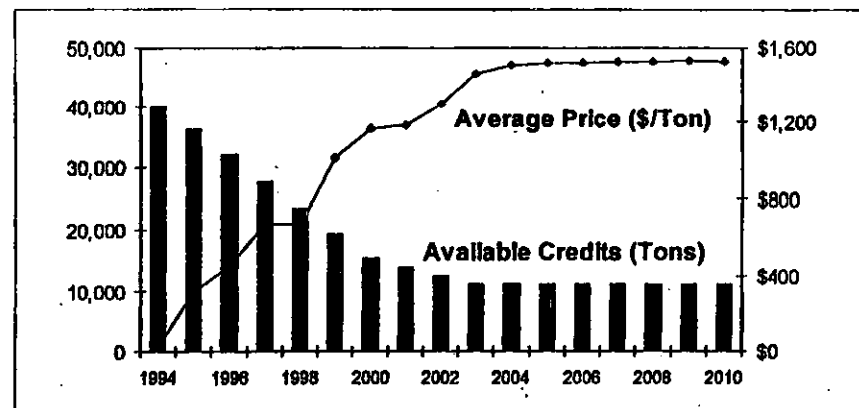
Figure 4-9 compares average SOx RTC prices to the total available supply of RTCs for each compliance year. Unlike NOx, SOx RTC prices do not show a continuous rise in later compliance years in response to the anticipated decrease in supply. Rather, the price drops in 1998 and remains about constant thereafter. This pattern is attributable to a few large multi-year trades at relatively low prices for the later compliance years.

SOx RTC prices are also well below the backstop price of \$15,000 per ton.

**Figure 4-6**  
**NOx RTC Prices**  
 As of November 3, 1995



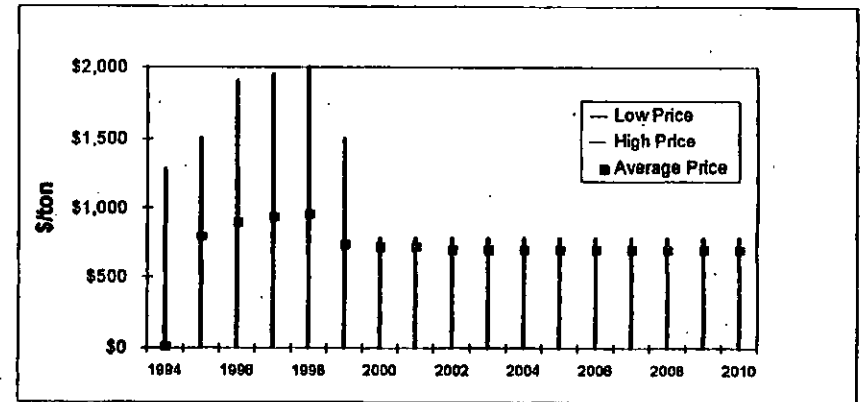
**Figure 4-7**  
**NOx RTC Price vs. Supply**



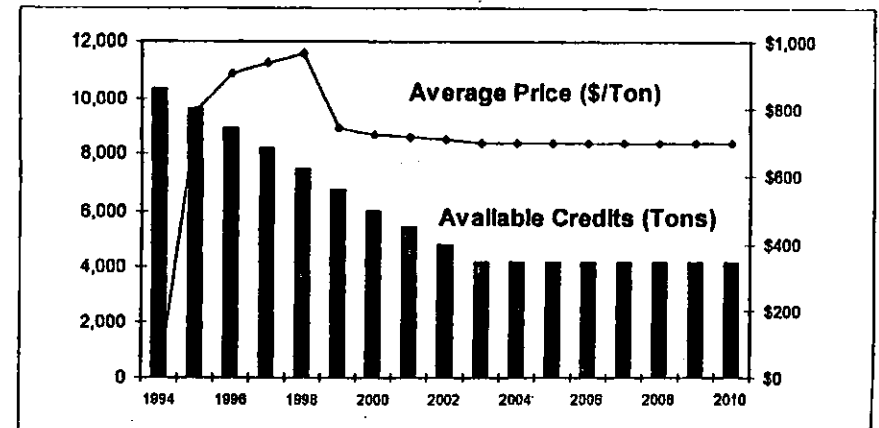
**Table 4-2**  
**Annual Average SOx RTC Prices**  
 As of November 3, 1995

RTC Year	Annual Average Price
1994	\$13
1995	\$800
1996	\$900
1997	\$940
1998	\$960
1999	\$740
2000	\$720
2001	\$720
2002	\$700
2003	\$700
2004	\$700
2005	\$700
2006	\$700
2007	\$700
2008	\$700
2009	\$700
2010	\$700

**Figure 4-B**  
**SOx RTC Prices**  
 As of November 3, 1995



**Figure 4-8**  
**SOx RTC Price vs. Supply**

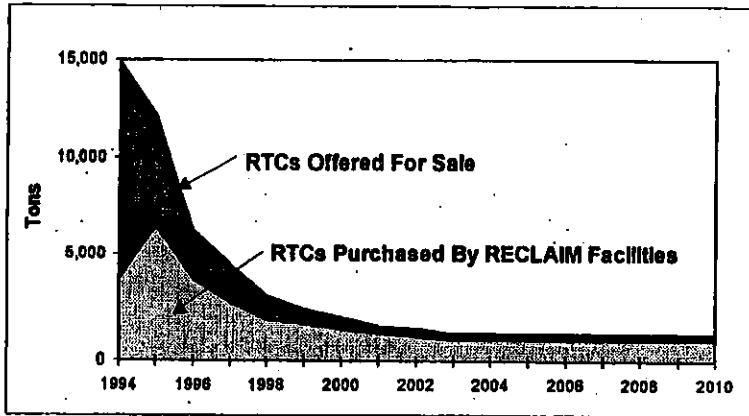


**RTC Availability**

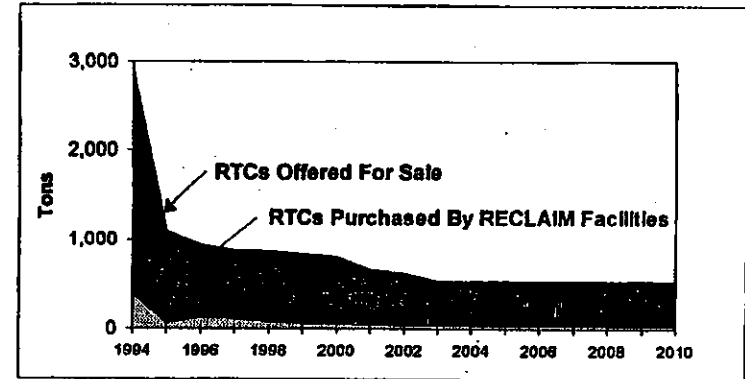
The annual program audit is required to assess RTC availability in order to determine whether the supply of RTCs is adequate to meet the demand of RECLAIM facilities.

Figures 4-10 and 4-11 show the availability of RTCs by comparing the supply of RTCs offered for sale to the demand for RTCs by RECLAIM facilities. For both NOx and SOx, the quantity of RTCs offered for sale exceeded the quantity purchased by RECLAIM facilities. This indicates that sufficient RTCs were available on the market for those RECLAIM facilities who wished to purchase them.

**Figure 4-10**  
**NOx RTC Availability**



**Figure 4-11**  
**SOx RTC Availability**



## CHAPTER 5

### COMPLIANCE

#### Summary

*During the first compliance year, AQMD staff conducted an extensive compliance program which included at least three visits to each RECLAIM facility to answer questions and confirm compliance. On an aggregate basis, RECLAIM facility emissions were well below total allocations for the year. Individually, eighty-six percent of facilities complied with their allocations for the first compliance year. Most instances of non-compliance with allocations were due to a lack of familiarity with program requirements. Therefore staff will perform additional outreach and education efforts to ensure a better understanding of rule requirements. Staff will also take enforcement actions as appropriate.*

*Some facilities encountered delays in meeting compliance deadlines for installing monitoring and reporting devices such as Continuous Emissions Monitoring Systems (CEMS) and Remote Terminal Units (RTUs). However, AQMD staff worked with RECLAIM participants to resolve specific concerns through rule amendments and implementation guidance documents.*

#### Background

Compliance is a critical element of the RECLAIM program. In order to meet clean air goals, the AQMD must ensure that the annual emission targets for the RECLAIM universe are being met.

RECLAIM replaced the concentration-based emission limits on individual pieces of equipment specified in command-and-control regulations with an annual allocation of emissions for the facility as a whole. With the exception of meeting Best Available Control Technology (BACT) requirements, a RECLAIM facility has the flexibility to decide how emissions are distributed among its equipment in order to meet its annual allocation, and may also choose to purchase RTCs to increase its allocation. This flexibility is supported by standardized emission monitoring, reporting and recordkeeping (MRR) requirements to ensure the accuracy of reported emissions.

The first compliance year was an interim period during which the RECLAIM rules provided time for facilities to install and certify certain required monitoring and reporting devices. Important compliance milestones for the first compliance year were:

- Compliance with the annual allocation for the first year;
- Installation and/or certification of monitoring devices, i.e., fuel meters and CEMS; and
- Electronic reporting by RTU or modem.

When facilities achieve these milestones for all RECLAIM devices, they move into the next phase: the removal of command and control limits from their permits. Each of these topics is discussed in detail below.

As required for the first annual program audit in Rule 2015(b)(1), this chapter also includes a review of "the effectiveness of enforcement and protocols [for the purpose of recommending any appropriate] revisions to the protocols to achieve improved measurement and enforcement of RECLAIM emission reductions while minimizing administrative cost to the District and RECLAIM participants."

#### Compliance Activities

AQMD staff conducted an extensive outreach and compliance program for RECLAIM facilities to inform these facilities of the program requirements and to ensure compliance. Outreach and compliance activities have included over 20 informational mailings to each RECLAIM facility and numerous seminars, workshops and open forums as discussed in Chapter 9, "Other Program Activities." The many workshops and other meetings during rule development also served to inform facilities of the requirements.

AQMD staff has made a concerted effort during the first compliance year to work closely with individual facilities to ensure that they understand and comply with the rule requirements. Every RECLAIM facility has been visited by AQMD staff at least three times, for a total of over 1,000 site visits. These visits included:

- An initial general visit to each facility to ensure that they were informed about the program, answer any questions, and check for compliance with the fuel meter requirements;
- A follow-up visit to each facility to provide further assistance and ensure that fuel meters were installed and operating properly;
- A formal RECLAIM compliance audit.

In addition, some facilities were visited additional times to address specific issues such as breakdowns or complaints, or provide further assistance.

The RECLAIM compliance audit is a carefully planned yearly enforcement activity. AQMD staff conducts these audits to meet four objectives:

- To verify that each facility's annual NOx and/or SOx emissions do not exceed the facility's allocation;
- To verify the operational integrity of monitoring, measuring and reporting devices;

- To verify the compliance status of RECLAIM and non-RECLAIM equipment; and
- To assess the effectiveness of the RECLAIM program.

RECLAIM compliance audits are conducted by a team of two or more AQMD staff. Each audit involves an extensive records review and physical inspection of CEMS, fuel meters, RTUs, and RECLAIM and non-RECLAIM equipment. The records review concentrates on the accuracy of emission calculations and reports, recordkeeping practices, and compliance with the facility permit. The audit also includes an investigation of non-RECLAIM rule compliance.

### Allocation Compliance

#### Requirements

At the beginning of the program, each RECLAIM facility received an annual allocation for each year from 1994 through 2010. Each facility has the flexibility to decide how to manage its emissions in order to meet its allocation in the most cost-effective manner. Facilities may also buy RTCs to increase their allocation, or sell unneeded RTCs.

A fundamental requirement of RECLAIM is that at the end of each compliance year, each facility must hold sufficient RTCs in its allocation account to cover its emissions for the year. Facilities may buy or sell RTCs at any time of year in order to ensure that their emissions are covered. In addition, after the end of each compliance year, there is a 60-day reconciliation period during which facilities have a final opportunity to buy or sell RTCs for that year.

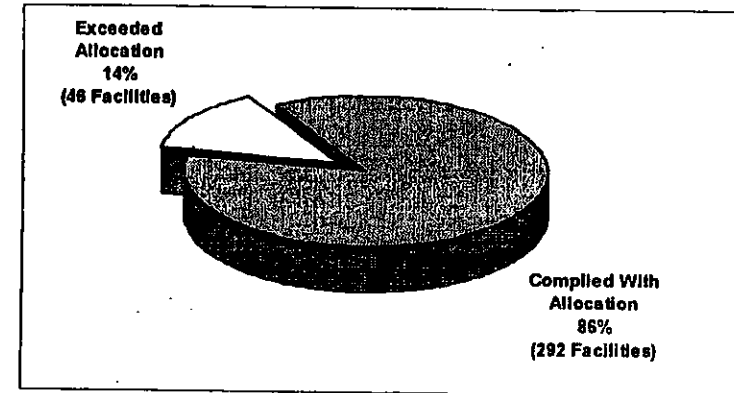
#### Compliance Status

Analysis of the trading data shows that many RECLAIM facilities took advantage of the opportunity to purchase RTCs for the first compliance year. Of the 40 facilities in the SOx market, five facilities purchased RTCs for the first compliance year. Of the 352 facilities in the NOx market, 70 facilities purchased RTCs for the first compliance year.

Overall, 86 percent of facilities complied with their allocation for the first compliance year, i.e., their final allocation balance after trading was sufficient to cover their final audited emission level. This is illustrated by Figure 5-1.

At the time of this report, the determination of allocation compliance status is pending for 20 facilities due to failure of the facility operators to submit complete APEP reports and records. Appropriate enforcement actions have been taken in these cases. The following compliance statistics were calculated exclusive of these facilities.

Figure 5-1  
Compliance With Allocations for First Year\*



\* Does not include 20 facilities for which the determination of allocation compliance is pending due to failure to submit complete APEP reports and records. The total number of facilities which must comply with an allocation exceeds the current universe of 353 facilities due to changes of ownership.

Forty-six facilities exceeded their allocations for the first year. Forty facilities exceeded their NOx allocation, two facilities exceeded their SOx allocation, and four facilities exceeded both their NOx and SOx allocations, for a total of 50 allocation exceedances.

Preliminary evaluations by AQMD staff indicate that the exceedances were largely due to miscalculations by the facility operators and/or a lack of familiarity with certain program requirements. Reasons for exceedances include:

- **Emission Calculation Errors:** Emission calculation errors by the facility operators were a factor in about 70 percent of the exceedances. Typical errors included using the wrong emission factor or making arithmetic errors in the calculations.
- **Omission of Equipment from Emission Calculations:** In about 15 percent of the exceedances, facilities failed to report emissions from process units and/or Rule 219 equipment at the facility, and therefore failed to retain or buy sufficient RTCs.



- **Failure to Convert NTCs or Certificates:** In about 10 percent of the exceedances, facilities had Non-Tradable Credits (NTCs) or RTC Certificates which, if converted into RTCs and added to their allocations, would have been sufficient to cover their emissions, but failed to convert these NTCs or Certificates.
- **Failure to Trade:** In about 30 percent of the exceedances, the facility lacked sufficient RTCs to cover its reported emissions, yet did not buy RTCs.

For some facilities, two or more of these factors contributed to the exceedances.

None of the exceedances were due to lack of availability of RTCs on the market. As discussed in Chapter 4, Trading, the amount of NOx and SOx RTCs offered for sale for the first compliance year was more than adequate to cover the demand by RECLAIM facilities.

The exceedances did not affect achievement of the overall emission reduction goals of the program. Despite these exceedances at individual facilities, the total emissions from RECLAIM facilities were well below the total allocations for the year. The total amount of the exceedances was 1.4 tons/day of NOx and 0.1 tons/day of SOx. This represents about 1.3 percent of the total NOx allocation and about 0.39 percent of the total SOx allocation for the first compliance year. Figures 5-2 and 5-3 compare reported emissions and exceedances to the aggregate allocations for NOx and SOx, respectively.

Figure 5-2

NOx Allocations, Emissions and Exceedances For First Compliance Year

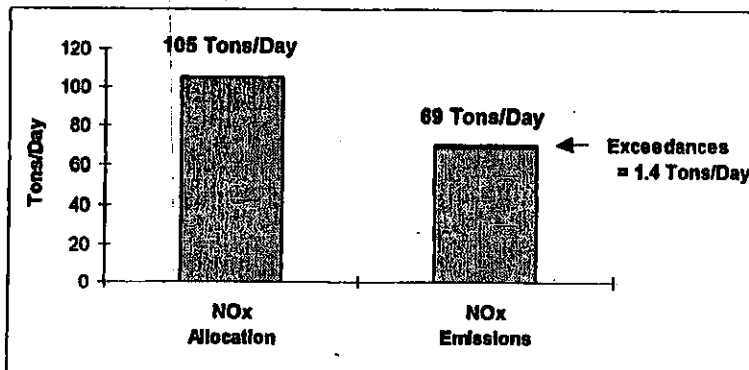
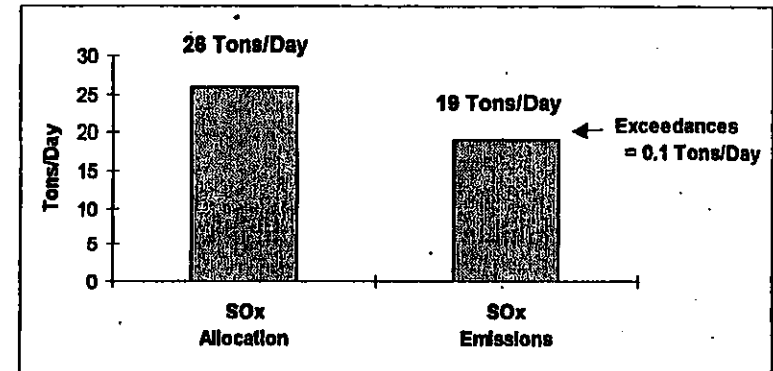


Figure 5-3

SOx Allocations, Emissions and Exceedances For First Compliance Year



The AQMD is currently evaluating the circumstances of the exceedances in order to determine the best enforcement actions to take to ensure improved compliance with allocations in the future. Preliminary review suggests that many exceedances were due to a lack of familiarity with program requirements. This lack of familiarity is not unusual for a new program. Therefore the AQMD's compliance response will include outreach and source education efforts to ensure a better understanding of the rule requirements for emission calculations and allocation compliance.

**Monitoring Devices: Continuous Emissions Monitoring Systems (CEMS)**

**Requirements**

In order to ensure the accuracy of reported emissions while minimizing compliance costs, RECLAIM sources are divided into different categories, each with specific MRR requirements appropriate to that category. The categories are based on equipment type and emissions level. NOx sources are divided into major sources, large sources, process units and equipment subject to Rule 219 - Equipment Not Requiring a Written Permit Pursuant to Regulation II. SOx sources are divided into major sources, process units and Rule 219 equipment. Table 5-1 provides the monitoring requirements for these categories.

Table 5-1

## Monitoring Requirements for RECLAIM Sources

	Major Sources (NOx and SOx)	Large Sources (NOx)	Process Units (NOx and SOx)	Rule 219 Equipment (NOx and SOx)
Monitoring Method	Continuous Emissions Monitoring System (CEMS)	Fuel Meter or Continuous Process Monitoring System (CPMS)	Fuel Meter or Timer	Fuel Meter or Timer

Major sources require a CEMS. A CEMS is a highly accurate system of equipment that continuously measures all parameters necessary to directly determine mass emissions of a pollutant. The RECLAIM rules require major sources to measure emissions of NOx and SOx through the use of CEMS or an alternative monitoring device which has been determined by the AQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility and timeliness.

The first compliance year was an interim period during which facilities were allowed to use interim reporting procedures for major sources while CEMS approved by the RECLAIM protocols were installed and certified. The deadlines for installing and certifying CEMS were the end of the first compliance year, i.e., December 31, 1994 for Cycle 1 facilities and June 30, 1995 for Cycle 2 facilities. If CEMS were not installed and certified by these deadlines, the RECLAIM rules as adopted required major sources to use missing data procedures to estimate emissions.

As of November 1995, there were 90 facilities in the RECLAIM universe requiring a total of 399 CEMS.

## Compliance Status

A CEMS is a highly complex and customized piece of equipment. Many facilities encountered delays in installing their CEMS. The reasons for delays reported by facilities included:

- Delays by contractors in the delivery and installation of equipment;
- Problems with the software required to operate the CEMS;
- Unique operations requiring further customization of the system;
- Equipment debugging; and

- Decisions by facilities to pursue derating from a major source to a large source rather than install CEMS.

Of the 90 facilities that required one or more CEMS, 70 facilities petitioned for a variance to obtain additional time for installation and certification. Sixty-five of these variance petitions were granted.

AQMD staff worked with individual facilities to assist them in installing and obtaining certification for CEMS. In addition, AQMD staff responded to the difficulties experienced by facilities by easing certain CEMS-related requirements:

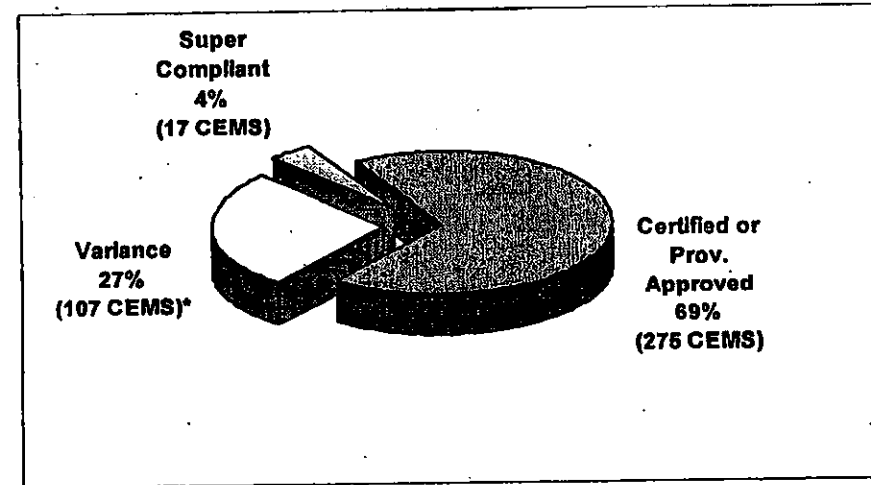
- **Emission Calculation Procedure Amendment:** The emission calculation procedures for major sources without CEMS approval were amended. The protocols as originally adopted required the use of a stringent missing data procedures when the CEMS deadline is missed. Amendments were adopted on March 10, 1995 to allow Cycle 1 facilities to continue using the interim period methodology to calculate emissions during the period January 1 through June 30, 1995.
- **Unique Operations and Inordinate Cost Burden Amendments:** Rule amendments on September 8, 1995 further extended the period during which facilities with major sources that cannot certify their CEMS due to specific reasons could continue to use the interim period methodology in lieu of the missing data procedures. The amendments extended the period to December 31, 1995 or when the CEMS is certified, whichever is earlier. This provision was retroactive to July 1, 1995. Additionally, the amendments allowed facilities that cannot certify CEMS due to inordinate cost burden associated with flow monitoring or the need for certain special equipment, to continue using the interim procedures to June 30, 1996, or when the CEMS is certified, whichever is earlier, in lieu of the missing data procedures.
- **Super Compliance:** A new designation of "Super Compliant" was adopted which allowed qualifying facilities to "derate" major sources to a lower category and therefore avoid the CEMS requirement. The Super Compliant amendments to Rules 2011 and 2012, adopted on September 8, 1995, provide for the reclassification of a major NOx source to a large NOx source or a major SOx source to a SOx process unit if the facility can be deemed Super Compliant. The term Super Compliance denotes a facility with current emissions below their adjusted allocation for compliance year 2003, or a facility which can reduce their current emissions by the installation of controls to below their adjusted allocation for compliance year 2003. In order to achieve Super Compliance status, a facility must also retire any RTCs in excess of their year 2003 allocation. This RTC retirement results in an air quality benefit.
- **Low Concentration CEMS:** Procedures were adjusted to accommodate "low concentration" CEMS. Rule amendments on September 8, 1995 expanded the acceptable valid data range of a CEMS from 20 to 95 percent of the full scan span (FSS) range to 10 to 95 percent. This amendment reduced the applicability of

missing data procedures, which are required when the concentration falls outside the acceptable valid data range. Additionally, the amendment allowed data falling below ten percent to be reported at the ten percent value. Furthermore, the amendments allow CEMS that have a "lowest vendor guaranteed" FSS range below ten percent to report actual measured values, rather than using the missing data procedures.

- **Early Use of CEMS:** AQMD issued an Implementation Guidance Document on the Early Use of CEMS clarifying that facilities could use existing AQMD-certified CEMS for data reporting during the interim period, rather than missing data procedures.
- **Equipment Reconfiguration:** AQMD issued an Implementation Guidance Document on Equipment Reconfiguration which clarified the conditions under which the reconfigured equipment would be deemed to have been recategorized into a lower monitoring category (for example, changing a major source to a large source), with an accompanying reduction in monitoring requirements and cost.
- **Provisional CEMS Approval:** AQMD issued an Implementation Guidance Document on Provisional CEMS Approval clarifying and easing the reporting requirements for sources with late submittal of certification test results. The guidance allows for the use of certified CEMS data retroactively to the date of submittal, if provisional approval is granted based on the test results.
- **Alternative Monitoring and Reporting Systems:** AQMD issued an Implementation Guidance Document on Alternative Monitoring and Reporting Systems clarifying that the AQMD can approve the use of alternate monitoring and reporting systems where it is not technologically feasible for a CEMS or other monitoring and reporting system to meet all of the performance specifications of the RECLAIM protocols. This guidance addressed the technical issue experienced by some sources regarding the lack of available CEMS technology to monitor extremely low concentrations of SO<sub>x</sub>.
- **ACEMS:** The RECLAIM rules as adopted allowed facilities the flexibility to propose the use of alternative continuous emission monitoring systems equivalent to CEMS, referred to as ACEMS.

Figure 5-4 shows the current status of the 399 required CEMS as of December 4, 1995. As of this date, 69 percent of CEMS are either certified or provisionally approved. About 27 percent of CEMS are under variance. About 4 percent of currently required CEMS are at facilities which have applied or plan to apply for Super Compliance status. If Super Compliance status is approved, sources are derated and CEMS is not required. Many of the CEMS under variance are close to provisional approval or certification. AQMD staff expects progress on CEMS certification to continue at a quick pace.

Figure 5-4  
Status of CEMS



\* Note: The total number of CEMS under variance exceeds 27 percent because some provisionally approved and certified CEMS are currently under variance.

### Monitoring Devices: Fuel Meters and Timers

#### Requirements

The RECLAIM rules require large sources and process units to install and use certain monitoring devices in order to accurately quantify emissions:

- Large sources must install totalizing fuel meters. The fuel meters measure fuel usage, which is combined with emission factors to determine mass emissions.
- Process units must install totalizing fuel meters and/or timers or equivalent devices. Mass emissions are determined by combining fuel usage with emission factors, or combining operating time with production, processing or feed rate.

Major sources are also required to install totalizing fuel meters, which are used in conjunction with CEMS.

All RECLAIM sources were required to have fuel meters and timers installed and operating by the start of the first compliance year, i.e., January 1, 1994 for Cycle 1 facilities and July 1, 1994 for Cycle 2 facilities.

As of November 1995, the RECLAIM universe includes over 3,500 large sources and process units requiring fuel meters, timers or equivalent devices. An additional 881 major sources require fuel meters in conjunction with CEMS. Essentially all RECLAIM facilities have one or more sources requiring a fuel meter or timer.

#### Compliance Status

Compliance with the fuel meter and timer requirements was assessed by AQMD staff during site visits to RECLAIM facilities. Most facilities were found to be in compliance with the requirements. Some difficulties were encountered due to issues such as:

- **Alternative fuel sources:** The RECLAIM rules require a fuel meter or timer on all fuel sources connected to a large source or process unit. Some RECLAIM facilities had equipment connected to alternative fuel sources which were unmetered.
- **Sharing of fuel meters:** Some facilities had several sources with different classifications and/or emission factors sharing a fuel meter. The RECLAIM protocols require separate fuel meters for such sources in order to quantify emissions accurately.
- **Non-operating equipment:** Some facilities had not installed fuel meters on certain equipment which was not currently operating, but which could operate in the future.
- **By-passes:** Some facilities had equipment with unmetered by-passes around their fuel meters.

A minority of facilities (46 facilities, or about 13 percent) were issued Notices to Comply due to missing fuel meters during the first compliance year. Three facilities petitioned for and were granted variances for fuel meter requirements. AQMD staff worked with facilities to resolve concerns regarding fuel meters and timers. Additionally, AQMD took several specific steps to facilitate compliance with these requirements:

- **Rule 301 - Fees,** was amended to reduce fees applicable to certain permit modifications. Facilities with equipment having alternative fuel sources had the option to either remove the alternate fuel source or install a fuel meter. Removal of the alternate fuel source requires an application for a permit amendment for an equipment modification. In response to facility concerns about the application fees associated with these modifications, Rule 301 was amended to provide for reduced fees for such applications.
- **AQMD issued a Rule Interpretation on Non-Operating Equipment** clarifying acceptable approaches for ensuring the non-operational status of this equipment

and an Implementation Guidance Document on Non-Operating Equipment clarifying procedures for reporting zero emissions from this equipment.

- **AQMD issued a Rule Interpretation on the Exclusive Use of Timers** which clarifies the circumstances under which facilities can use timers rather than fuel meters to estimate emissions, thereby reducing costs for facilities.

Due to these efforts and the cooperation of RECLAIM facilities, fuel meter compliance issues have been largely resolved.

#### Electronic Reporting

##### Requirements

RECLAIM is designed to take advantage of electronic reporting technology in order to streamline reporting requirements for both the facilities and the AQMD and track 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 RTU to telecommunicate rule-compliance data to the AQMD Central Station. The RTU collects data, performs calculations, generates the appropriate data files, and transmits the data to the Central Station.
- **Rule compliance data** for large sources and process units may be transmitted via RTU. Alternatively, RECLAIM facilities may compile the data manually for large sources and process units and transmit it to the Central Station via modem. The data may be transmitted directly from the facility or through a third party.

The first compliance year was a transition period during which facilities were provided time to install and certify the required reporting devices. All reporting devices were required to be installed and transmitting correct data by the end of the first compliance year, i.e., December 31, 1994 for Cycle 1 facilities and June 30, 1995 for Cycle 2 facilities.

All facilities were required to report electronically beginning in the second compliance year. As of November 1995, the total number of major sources, large sources and process units at RECLAIM facilities that are required to report electronically is approximately 5,000.

##### Compliance Status

Electronic reporting is a new approach for most facilities. Some facilities encountered delays in electronic reporting for several reasons:

- **Some facilities** encountered delays in obtaining, installing and configuring the software and equipment required for electronic reporting.
- **Variances** obtained for CEMS installation also provided relief from RTU requirements, resulting in delays in electronic reporting from the affected major sources.

Despite these delays, electronic reporting devices have been installed and are transmitting data for the majority of sources at RECLAIM facilities. Figures 5-5 and 5-6 show that in Cycle 1, reporting devices for 74 percent of sources are reporting, while in Cycle 2, devices for 60 percent of sources are reporting.

Given the novelty of the electronic reporting requirements for most facilities, some delays are to be expected. AQMD staff will continue to assist facilities in meeting the electronic reporting requirements.

Figure 5-5  
Status of Electronic Reporting Devices: Cycle 1

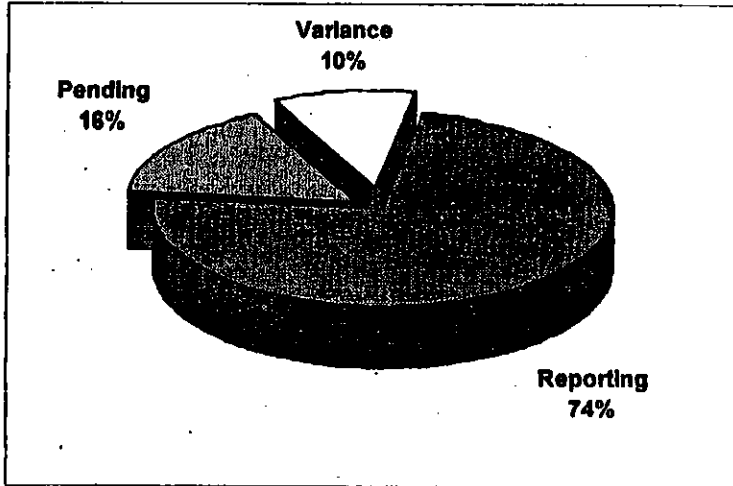
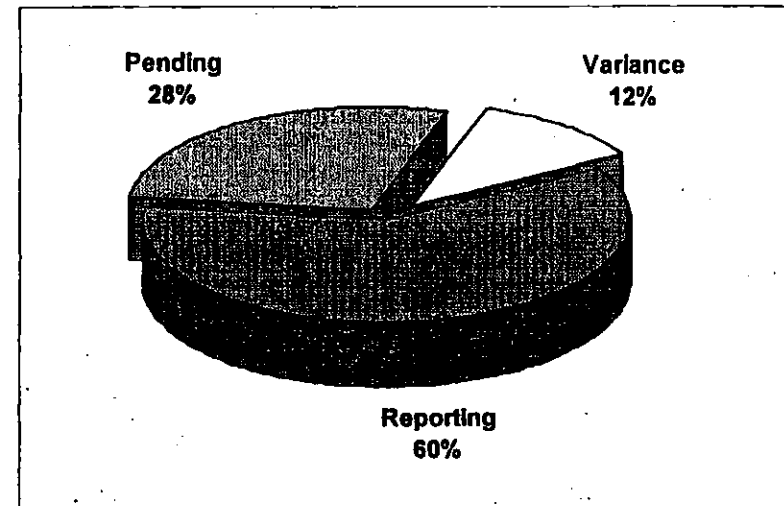


Figure 5-6  
Status of Electronic Reporting Devices: Cycle 2



**Status of Transition From Command and Control Limits**

RECLAIM facilities have made considerable progress during the first compliance year in meeting the important milestones of CEMS certification, fuel meter and timer installation, and electronic reporting despite the unforeseen difficulties and issues that inevitably arise with the implementation of a new program.

Facilities that achieve compliance with all monitoring and reporting requirements for all RECLAIM devices at their facility move into the next phase: the removal of the command-and-control limits from their permits. As of November 30, 1995, staff has determined that 67 RECLAIM facilities have met this challenge.

AQMD staff will continue to work with RECLAIM participants to ensure compliance and respond to facility concerns.

### Protocol Review

As required in Rule 2015(b)(1), staff has reviewed "the effectiveness of enforcement and protocols [for the purpose of recommending any appropriate] revisions to the protocols to achieve improved measurement and enforcement of RECLAIM emission reductions while minimizing administrative cost to the District and RECLAIM participants," and has the following recommendations:

- Staff believes that its compliance program has been comprehensive and highly effective. Each RECLAIM facility was visited at least three times during the first compliance year, including a visit for the comprehensive annual RECLAIM compliance audit. Staff also conducted numerous workshops, training classes, and open forums for RECLAIM participants. Staff recommends that the AQMD continue to conduct annual RECLAIM compliance audits for each facility and conduct other inspections and site visits as appropriate, and continue to offer additional source education classes as needed.
- Staff has worked closely with RECLAIM participants to resolve issues and concerns regarding the NO<sub>x</sub> and SO<sub>x</sub> MRR protocols in a timely manner. Since the program was adopted, staff has produced several rule interpretation 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. The protocols have been amended three times since program adoption. The most recent amendment to the protocols was on September 8, 1995. Staff also works with RECLAIM participants through the CEMS Working Group to resolve CEMS-related issues. Staff will continue to work closely with RECLAIM participants to continue to resolve concerns in the most timely and appropriate manner.

## CHAPTER 6

### NEW SOURCE REVIEW ACTIVITY

#### Summary

*The annual program audit assesses NSR activity in order to ensure that RECLAIM is allowing new sources into the program and existing facilities to expand their operations while still meeting the applicable BACT and offset requirements. Review of NSR activity shows that two new facilities began operations, three existing facilities joined the program, and 41 facilities expanded or modified their operations during the first compliance year. Sufficient RTCs were available on the market to meet the demand for offsets by new and expanded facilities.*

#### Background

Generally, state and federal laws require NSR programs to ensure that emission increases from the construction of new or modified stationary sources in nonattainment areas does not interfere with progress towards attainment of ambient air quality standards.

The annual program audit is required to assess NSR permitting activity in order to ensure that RECLAIM has not been a barrier to the entry of new facilities or inhibited the construction and operation of new and modified equipment at existing facilities.

Rule 2005 - New Source Review for RECLAIM, is designed to allow new sources into the program and allow existing facilities to expand while complying with the NSR requirements of state and federal law.

Like Regulation XIII, which specifies the NSR requirements for non-RECLAIM sources, Rule 2005 requires new, relocated and modified sources at RECLAIM facilities with emission increases to meet BACT, modeling and offset requirements.

Rule 2005 requires all RECLAIM facilities to offset their emission increases by providing RTCs at a one-to-one ratio. New or relocated facilities must hold sufficient RTCs to cover annual emissions at the beginning of each compliance year. Existing facilities which install new, modified or relocated equipment are prohibited from operating the equipment unless the facility holds sufficient RTCs to offset the first year of operation.

The AQMD tracks the NSR activity of RECLAIM facilities in order to demonstrate equivalency with federal NSR requirements. Rule 2005(j) requires the AQMD to annually report to the Governing Board on the effectiveness of RECLAIM NSR in meeting federal

requirements for the preceding year. The first report, submitted in May 1995, is attached in Appendix E. The next annual NSR report will be presented to the Board by May 1996.

### NSR Activity

Evaluation of NSR data indicates that many facilities successfully opened or expanded their operations under RECLAIM. Table 6-1 summarizes new and expanded operations under the program. Two new facilities began operations and joined RECLAIM. Three existing facilities voluntarily joined the program. Forty-one facilities reported that they started operation of new or modified NO<sub>x</sub> or SO<sub>x</sub> equipment during the first compliance year.

**Table 6-1**  
**RECLAIM Sources Starting Operation**  
**During the First Compliance Year**

New Facilities	2
Existing Facilities Joining RECLAIM	3
Expansions and Modifications at Existing Facilities (New or Modified NO <sub>x</sub> or SO <sub>x</sub> Equipment)	41

As described in the Trading chapter of the report, sufficient RTCs were available on the market to meet the total demand for RTCs, including the demand for offsets by new and expanding RECLAIM facilities.

The AQMD will continue to monitor NSR activity under RECLAIM to ensure that progress towards attainment continues without restricting economic growth.

## CHAPTER 7

### JOB IMPACTS

#### Summary

*Nine of the 353 RECLAIM facilities attribute the RECLAIM program with causing a total of 70 jobs lost. This amounts to approximately four-hundredths of a percent (0.04 percent) of the jobs at RECLAIM facilities. Two Cycle 2 facilities also attribute RECLAIM with causing an increase of one job each. Data pertaining to job increases due to RECLAIM at Cycle 1 facilities is not available. This assessment does not take into account RECLAIM's benefits to the facilities, as compared to command-and-control regulations.*

#### Background

AQMD staff assessed RECLAIM's impact on jobs in the regional economy by examining data submitted by RECLAIM facilities in their compliance year 1994 Annual Permit Emissions Program (APEP) reports.

The Cycle 1 APEP reports include the number of manufacturing and non-manufacturing jobs at each facility at both the beginning and the end of the compliance year. Each facility which reported a decrease in the number of jobs was contacted by AQMD staff in order to determine if the decrease was attributable to the RECLAIM program.

In addition to the numbers of jobs at the beginning and end of the compliance year, the Cycle 2 APEP reports also include assessments of the number of job increases and decreases (as opposed to the net change) which occurred during the compliance year and the extent to which any increase or decrease in the number of jobs is attributable to the RECLAIM program. Each of the four Cycle 2 facilities which indicated job loss due to RECLAIM were contacted in order to obtain more detailed information regarding the facilities' particular circumstances.

AQMD engineers and inspectors familiar with the facilities reporting RECLAIM-related job loss also contributed their experience and expertise to the assessment of RECLAIM's impact on the job market.

#### Job Impacts at RECLAIM Facilities

Data reported in the compliance year 1994 APEP reports for both Cycle 1 and Cycle 2 facilities, as well as information collected in follow-up conversations between AQMD staff

and facility representatives, indicates that facility operators attribute the RECLAIM program with a slight reduction in the number of jobs at their facilities. Specifically, RECLAIM is attributed with job loss at nine of the 353 facilities subject to the program. An additional 139 facilities reported job loss which they did not attribute to RECLAIM.

This data is tabulated in greater detail in Table 7-1. Additionally, Figure 7-1 and Figure 7-2 illustrate the net changes in jobs at RECLAIM facilities by cycle.

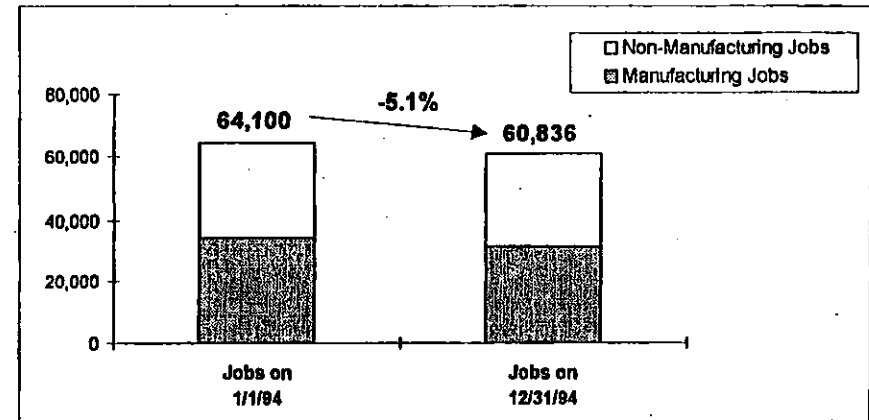
**Table 7-1**  
**Job Impacts at RECLAIM Facilities**

Activity	Cycle 1		Cycle 2		Total
	Manufacturing	Non-Manufact.	Manufacturing	Non-Manufact.	
Initial Jobs	34,229	29,871	61,182	40,431	165,713
Overall Job Gain	1,341	939	1,539	441	4,260
Job Gain Attributed to RECLAIM	N/A	N/A	2	0	2 (Cycle 2) N/A (Cycle 1)
Overall Job Loss	4,125	1,419	6,457	4,203	16,204
Job Loss Attributed to RECLAIM	38	9	20	3	70
Final Jobs	31,445	29,391	56,264	36,669	153,769
Net Job Change	-2,784	-480	-4,918	-3,762	-11,944
Percent Job Change	-8.1%	-1.6%	-8.0%	-9.3%	-7.2%
Number of Facilities With Job Loss Attributed to RECLAIM*	5	3	3	2	9

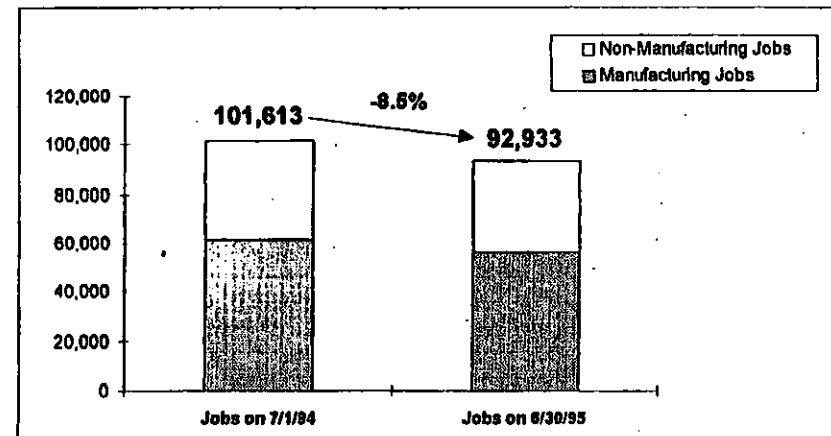
\* Values do not sum to 9 because some facilities attributed losses in both manufacturing and non-manufacturing jobs to RECLAIM.

N/A = not available

**Figure 7-1**  
**Overall Change in Jobs: Cycle 1 Facilities**



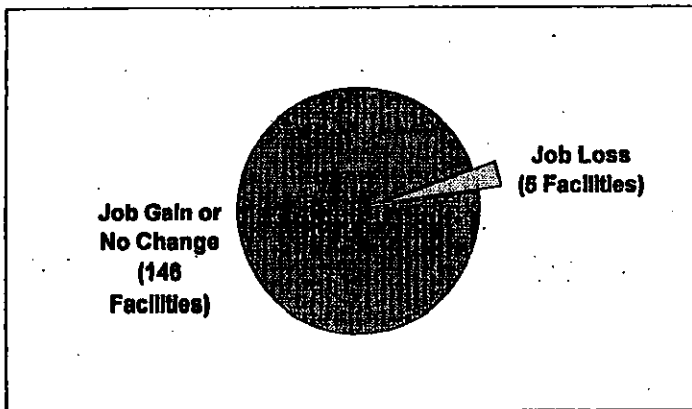
**Figure 7-2**  
**Overall Change in Jobs: Cycle 2 Facilities**





As identified in Table 7-1, nine RECLAIM facilities attributed job losses due to the RECLAIM program, while two facilities attributed job gains to RECLAIM. Figure 7-3 illustrates the fraction of Cycle 1 facilities which reported job loss due to RECLAIM versus the combined fraction of facilities which reported either no change or a job gain due to RECLAIM while Figure 7-4 presents the fractions of Cycle 2 facilities reporting job losses, job gains and no job changes due to RECLAIM.

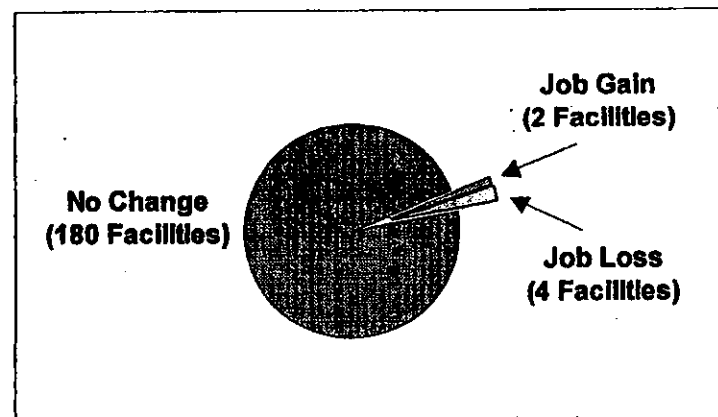
**Figure 7-3**  
Job Impacts Due to RECLAIM: Cycle 1 Facilities



The specific facilities which attribute job loss or gain to the RECLAIM program are identified in Appendix E. This appendix also includes more detailed information about the numbers of jobs lost and gained at each facility, the portion of the losses and gains attributed to RECLAIM, and a summary of the comments provided by the facility representatives.

Appendix E illustrates some interesting aspects of the job losses attributed to RECLAIM. The comments indicate that it might be more accurate to attribute such job loss to air quality regulation in general rather than to RECLAIM in particular, or, in some cases, to the overall regulatory structure of which air quality regulations are only one component.

**Figure 7-4**  
Job Impacts Due to RECLAIM: Cycle 2 Facilities



In general, the job impacts reported by facilities tend to consider the costs associated with RECLAIM without accounting for the program's benefits compared to command-and-control regulations. RECLAIM facilities do incur certain costs, but they are also able to avoid many costs associated with the regulatory programs with which they would have to comply if they were not in RECLAIM.

This is illustrated by the glass plant which attributes all seven of its lost jobs to RECLAIM as a result of the installation of an oxygenated fuel-fired glass melting furnace. It is very likely that the facility would have installed the new furnace if RECLAIM had not been adopted because RECLAIM subsumed a control measure (#90P-C-7) from the 1991 AQMP which would have required the facility to reduce emissions by approximately 95 percent.

Additionally, it should be noted that the analysis of job impacts is confined to job losses and gains occurring at RECLAIM facilities; it does not address jobs created in the economy outside of RECLAIM facilities as a result of the RECLAIM program.

## CHAPTER 8

## AIR QUALITY AND PUBLIC HEALTH IMPACTS

**Summary**

*At this early stage of implementation, only limited data is available to assess the performance of RECLAIM with regard to the air quality and public health concerns identified in Rule 2015: emission trends, seasonal fluctuations, per capita exposure to air pollution, and toxic risk reduction. However, the currently available data does not suggest significant adverse impacts. RECLAIM facility emissions in 1994 were comparable to 1993 emissions, indicating that the program did not cause an emission increase. No seasonal fluctuations in emissions are discernible at this time. Per capita exposure to ozone was lower in 1994 than projected during program development Basin-wide and for all counties except San Bernardino. The AQMD continues to monitor the geographic pattern of emissions from RECLAIM facilities. RECLAIM sources continue to be subject to the same air toxic regulations as other Basin sources, including newly adopted Rule 1402, which requires facilities with significant health risks to implement risk reduction plans.*

**Background**

The RECLAIM program was designed to comply with all applicable requirements of state and federal law, including specific requirements pertaining to air quality and public health. As part of program development, the AQMD conducted extensive analysis of RECLAIM's impacts on air quality and public health, and concluded that RECLAIM would achieve nearly identical benefits compared to the regulatory programs it replaces.

To ensure that RECLAIM achieves the expected air quality and public health benefits during implementation, Rule 2015 provides for annual and three-year assessments. In particular, the annual program audit is specifically required to assess emission trends, seasonal fluctuations in emissions, per capita exposure to air pollution and toxic risk reductions. Based on these requirements and other concerns expressed during program development, this chapter of the report addresses:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Geographic patterns of emissions;

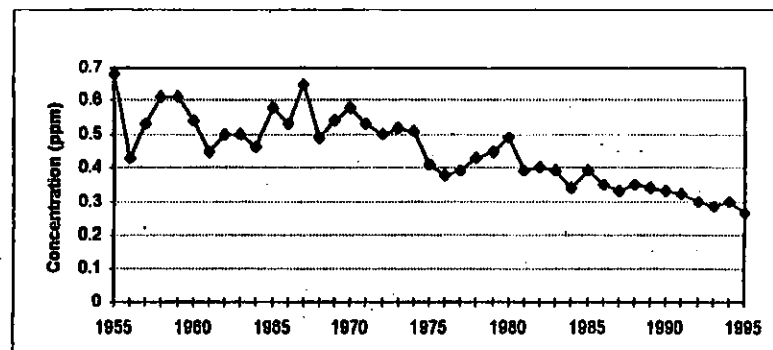
- Per capita exposure to air pollution; and
- Toxics impacts.

The data available for this first annual program audit report is limited to one full compliance year and part of the second compliance year. This data is not adequate to fully evaluate potential trends in air quality or public health impacts. Additional data will be available for future annual and three-year audits and for the five-year reassessment and associated public hearings. The reassessment and the three-year audits in particular will include an evaluation of whether public health exposure to criteria pollution has been significantly reduced, and whether public health exposure to toxics has not been significantly increased as a result of RECLAIM.

It should 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. RECLAIM applies to only a portion of emissions in the Basin. Therefore observed trends in air quality are not necessarily attributable to the implementation of RECLAIM.

Overall, air quality has improved dramatically in the Basin in recent years. Figure 8-1 presents the trend in maximum ozone concentration in the Basin for the past four decades. The figure shows that 1995 was the cleanest year on record.

Figure 8-1  
Annual Basin Maximum Ozone  
1955 to 1995

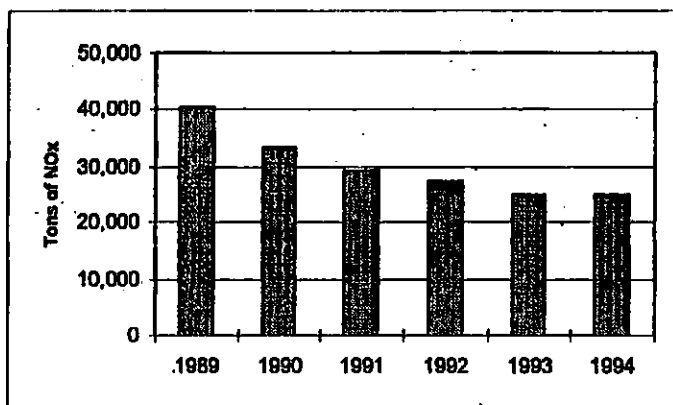


### Emission Trends for RECLAIM Sources

During program development, concerns were expressed that RECLAIM might cause sources to increase their emissions during the early years of the program due to a perceived over-allocation of emissions.

Figures 8-2 and 8-3 show the trend in emissions for RECLAIM sources for the years 1989 through 1994. The 1994 emission values combine the first RECLAIM compliance years of both Cycle 1 and Cycle 2 facilities. These charts show an overall downward trend in emissions from RECLAIM facilities over this time period. Emissions in 1994 were not significantly higher than emissions in previous years.

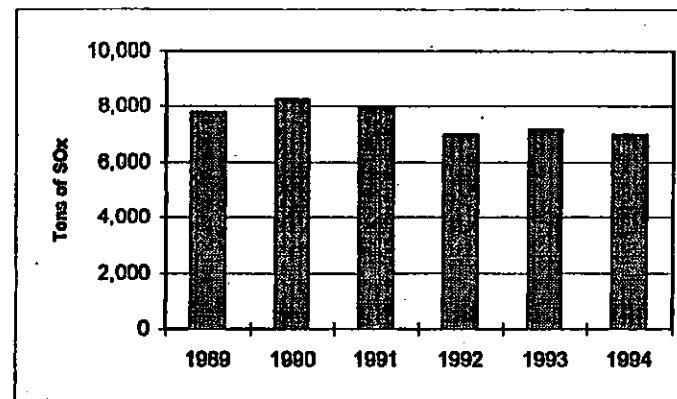
Figure 8-2  
NOx Emission Trend for RECLAIM Sources



### Seasonal Fluctuation in Emissions for RECLAIM Sources

During program development, concerns were expressed that the RECLAIM program, and particularly the removal of concentration-based emission limits on equipment, might cause facilities to shift emissions from the winter season into the summer ozone season, and therefore exacerbate air quality.

Figure 8-3  
SOx Emission Trend for RECLAIM Sources



RECLAIM facilities report their total facility NOx and SOx emissions on a quarterly and annual basis. In order to evaluate seasonal fluctuations in emissions, Figures 8-4 through 8-5 show the quarterly NOx and SOx emission levels of RECLAIM facilities.

At the time of this report, quarterly emissions data is available for the first full compliance year for both Cycle 1 facilities (January through December 1994) and Cycle 2 facilities (July 1994 through June 1995). Subsequent quarterly emission reports have been received by AQMD, but this data is undergoing quality assurance review.

Figures 8-4 and 8-5 present the available quarterly emissions data. Cycle 1 shows little variation in NOx or SOx emissions on a quarterly basis. Quarterly emissions are within  $\pm 10$  percent of the average quarterly emission level for these facilities. Cycle 2 shows more quarterly variation. In particular, SOx emissions dropped in the first quarter of 1995, then rose again in the next quarter. This pattern is largely attributable to operations at the UNOCAL refinery, which closed certain SOx-emitting operations for retooling in the first quarter of 1995, then began producing reformulated gasoline, with an accompanying SOx emission increase, in the second quarter.

At this early stage of the program, the available data does not clearly indicate any seasonal patterns in emissions which might be expected to persist. The AQMD will continue to monitor and assess seasonal emission patterns for RECLAIM sources as additional data is collected.

Figure 8-4  
NOx Quarterly Emissions By Cycle

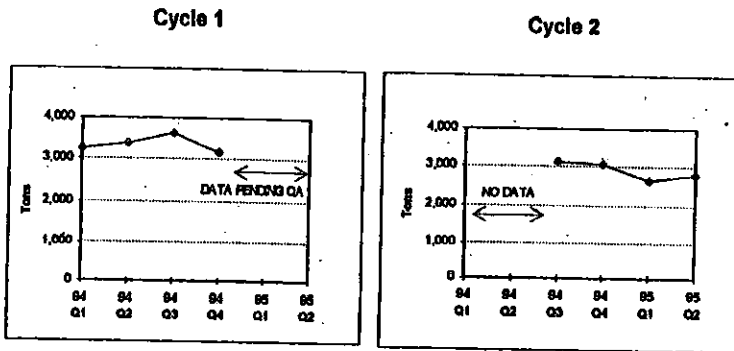
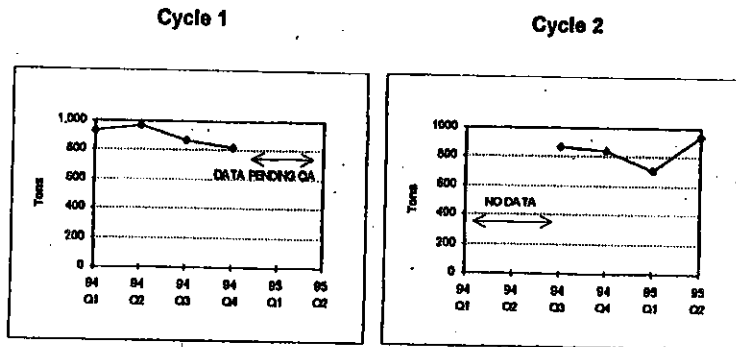


Figure 8-5

SOx Quarterly Emissions By Cycle



**Geographic Distribution of Emissions**

Concerns were raised during program development that RECLAIM could alter the geographic distribution of emission reductions in the Basin and potentially affect air quality in certain areas. To address this concern, the audit report examines quarterly patterns of emissions, and the distribution of reported emissions compared to projected emissions as reflected in the allocations.

**Quarterly Emissions Maps**

The AQMD maps RECLAIM emissions on a quarterly basis pursuant to Rule 2015(b)(2). Quarterly NOx and SOx emission maps for the first six quarters of the RECLAIM program are included in Appendix G.

In accordance with the RECLAIM compliance schedule, the first two quarters of 1994 include Cycle 1 facility emissions only. The following quarters include both Cycles 1 and 2. These maps are preliminary and subject to revision pending quality assurance review.

The quarterly maps available to date do not appear to show any distinct shift in the geographic pattern of emissions. The AQMD will continue to produce quarterly maps and assess the geographic pattern of emissions as additional quarterly emissions data becomes available.

**Annual Emissions Maps**

To further evaluate whether RECLAIM has caused a geographic shift in emissions, the reported annual emissions from RECLAIM facilities for the first compliance year were mapped and compared to the expected emissions as reflected in the distribution of RTCs for 1994. These maps are provided in Appendix H.

The certified emissions maps combine emissions data for the first compliance years for both Cycles 1 and 2.

These maps show that in each geographic sector, reported emissions from RECLAIM facilities were in the same or lower range than the allocated emissions for the first compliance year. The maps do not appear to show any distinct geographic shift in emissions. The AQMD will continue to assess the geographic pattern of emissions as additional data becomes available.

**Per Capita Exposure to Air Pollution**

Per capita population exposure reflects the length of time the Basin population is exposed to unhealthy air quality. The California Clean Air Act establishes specific milestones for achieving reductions in overall population exposure to severe nonattainment pollutants in the Basin. These milestones are 25 percent reduction by December 31, 1994, 40 percent by December 31, 1997, and 50 percent by December 31, 2000, compared to a 1986-88 baseline.

Modeling performed during program development projected that the Basin would comply with these milestones, with a margin of safety, under NOx and SOx RECLAIM. The

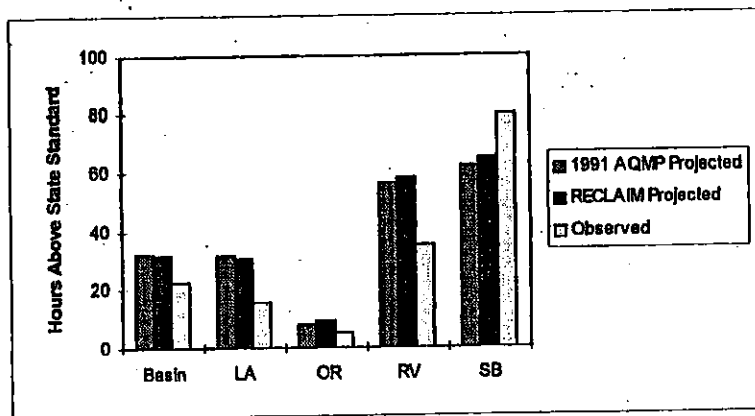
modeling showed that compared to the 1991 AQMP, per capita exposure reductions under RECLAIM would be nearly identical for 1994, and greater in 1997 and 2000.

However, the modeling also projected that while RECLAIM would decrease overall Basin-wide ozone exposure, RECLAIM might increase per capita ozone exposure in all counties except Los Angeles county in 1994.

Figure 8-6 compares the average per capita ozone exposure observed in 1994 to the exposure levels projected for the 1991 AQMP and RECLAIM during program development. The figure shows that exposures for the Basin as a whole were substantially lower than projected. Exposures were also lower than projected for all counties except San Bernardino.

The effect, if any, of RECLAIM on exposure patterns is difficult to assess due to fluctuations in annual meteorology. The AQMD will continue to monitor and assess exposure patterns as additional data becomes available in future years.

Figure 8-6  
1994 Per Capita Ozone Exposure:  
Projected vs. Observed



### Toxics Impacts

During program development, a comprehensive evaluation of the potential impacts of RECLAIM on air toxic emissions was performed. This analysis concluded that RECLAIM would not result in any significant impacts on air toxic emissions.

Nevertheless, in order to ensure that the implementation of RECLAIM does not result in adverse toxics impacts, the annual program audit is required to assess toxic risk reductions.

RECLAIM sources are subject to the same air toxic regulations as other sources in the Basin. Air toxics programs applicable to sources in the AQMD include:

- The federal National Emission Standards for Hazardous Air Pollutants (NESHAP) program, under which the EPA promulgates standards for specific source categories of air toxics;
- The state AB 2588 Air Toxics "Hot Spots" Program, which requires certain facilities to report their toxic emissions, notify exposed persons about significant health risks, and implement risk reduction plans;
- The state AB 1807 Toxic Air Contaminant Identification and Control Program, under which the state identifies toxic air contaminants and promulgates air toxic control measures for specific source categories; and
- Rule 1401 - New Source Review of Carcinogenic Air Contaminants, which limits increases in carcinogenic air contaminants from new, modified and relocated sources.

Since RECLAIM was adopted in October 1993, the AQMD has continued to implement these programs as well as adopt and implement new air toxic control measures pursuant to state and federal requirements. Toxic regulations promulgated since October 1993 include:

- Rule 1402 - Control of Toxic Air Contaminants from Existing Sources, which requires certain facilities with significant health risks to implement risk reduction plans, adopted pursuant to AB 2588 as amended by SB 1731;
- Rule 1407 - Control of Emissions of Arsenic, Cadmium and Nickel from Non-Ferrous Metal Melting Operations, adopted pursuant to the AB 1807 program; and
- Twelve new federal NESHAPs.

These regulations will further ensure that RECLAIM does not result in adverse air toxic health impacts. Rule 1402 in particular will ensure that any RECLAIM facilities which are found to pose a significant health risk will be required to reduce the risk.

The AQMD will continue to monitor and assess toxic risk reduction as part of future annual and three-year audits.

## CHAPTER 9

### OTHER PROGRAM ACTIVITIES

#### Summary

*In order to further improve the effectiveness of RECLAIM, AQMD staff has conducted a variety of other activities. These activities include: an extensive public outreach effort involving workshops, seminars, open forums and written guidance materials for RECLAIM participants; amendments to Rules 2011 and 2012 to ease the burden of monitoring and reporting requirements on major sources; other Regulation XX amendments to address specific concerns identified by RECLAIM participants and EPA; rule development activities to expand the RECLAIM trading market into mobile and area sources, and to develop the concept of a universal trading credit; the development of a VOC RECLAIM program; NOx emission factor reviews; a SO<sub>2</sub>/SO<sub>x</sub> monitoring feasibility evaluation; and a control technology assessment for specific source categories of concern.*

#### Other Program Activities

In addition to the tasks directly associated with implementation and enforcement of the program, staff has conducted a variety of other activities to support RECLAIM and improve its effectiveness. These activities include:

- An extensive public outreach effort;
- Expansion of the credit trading market;
- The development of a RECLAIM program for VOCs;
- Evaluation of NO<sub>x</sub> emission factors for process units and SO<sub>x</sub> monitoring feasibility, in response to Board direction;
- Control technology reviews for specific source categories; and
- Other RECLAIM rule amendments.

Each of these activities is discussed below.

#### Public Outreach

Since the adoption of RECLAIM, AQMD staff has held numerous public workshops, training seminars, open forums and other meetings with RECLAIM facilities to facilitate

the implementation of the program. This public outreach program has been effective in explaining and clarifying rule requirements for facilities, and providing feedback to AQMD staff on facility concerns. Table 9-1 lists public outreach events conducted by AQMD staff. AQMD staff has also made a concerted effort to meet with individual facilities when the representatives have been unable to attend public meetings and seminars, and to address their specific concerns.

Staff has also produced 12 Rule Interpretations and Implementation Guidance documents to increase flexibility and clarify program requirements in response to specific concerns. Appendix D provides a list of these documents. Issues addressed by these documents include early use of CEMS, provisional CEMS approval, missing data procedures for large sources, and conversion of ERCs to RTCs. These documents have been distributed to RECLAIM participants.

AQMD staff will continue to hold seminars, forums and other outreach events and address implementation issues on an ongoing basis as the RECLAIM program progresses.

Table 9-1  
RECLAIM Public Outreach Events

Date	Event	Number of Attendees
December 15, 1993	General Rule & MRR Requirements Seminar, Cycle 1	75
December 21, 1993	RTC Seminar	75
January 25, 1994	CEMS Seminar for Cycle 1 Facilities	75
March 10, 1994	RECLAIM Implementation Consultation Meeting with Refineries	30
June 3, 1994	Rules 2011 and 2012 Amendment Workshop	60
June 27, 1994	General Rule & MRR Requirements Seminar, Cycle 1 & 2	100+
July 28, 1994	ACEMS Pilot Program Workshop	40
November 10, 1994	Rule 2002 Amendment Workshop	10
May 18, 1995	1st Implementation Forum	100+
June 7, 1995	Rules 2011 and 2012 Amendment Workshop	100+
June 15, 1995	RTC Forum	70
July 11, 1995	Rule 2002 Amendment Workshop	20
July 18, 1995	Rules 2011 and 2012 Amendment Workshop	100+
July 27, 1995	2nd Implementation Forum	100+
September 5, 1995	Regulation XX Amendment Workshop	35
October 18, 1995	ACEMS Status Meeting	30
December 13, 1995	3rd Implementation Forum	50
Ongoing	Over 1,000 individual facility meetings	

### Other Rule Amendments

As in any newly adopted program, unforeseen or unique operations not addressed in the RECLAIM rules have been brought to staff's attention. Staff has worked with RECLAIM facilities to provide rule interpretations or implementation guidance which allow RECLAIM sources to meet program requirements in the most practical manner. In some situations, however, staff cannot make interpretations from the existing rule language which adequately address the situation at hand. Amendments to the RECLAIM rules were proposed, and subsequently approved by the Governing Board, which address the situations or concerns raised by industry in such cases.

Regulation XX has been amended by the Governing Board four times since RECLAIM's adoption on October 15, 1993. The amendments which pertain to the NOx and SOx monitoring, reporting and recordkeeping protocols are also discussed in the Compliance chapter of the report. The amendments pertaining to the Control Technology Assessments are discussed in a later section of this chapter. The amendments are:

- **September 1994 Amendments:** The NOx and SOx Protocols (Appendix A to Rule 2011 and Appendix A to Rule 2012) were amended on September 9, 1994. These amendments allow RECLAIM facilities to calculate major source missing data from historical data based upon EPA-promulgated procedures. This enables facilities subject to both RECLAIM and EPA's Title IV (Acid Rain) program to use a common missing data procedure under both programs if certain CEMS testing requirements are met. Additionally, the amendments incorporate an option for facilities to use a bias adjustment factor if the CEMS does not pass the Bias Test. This will allow facilities to reduce the number of tests conducted.
- **March 1995 Amendments:** The protocols for Rules 2011 and 2012 were amended on March 10, 1995 to ease the reporting requirements for major sources which were unable to meet the certification deadline for CEMS. This amendment allowed Cycle 1 major sources which did not have approved CEMS to continue using the interim period methodology to calculate mass emissions during the period January 1, 1995 to June 30, 1995. This amendment also corrected an inadvertent omission of the missing data procedures for major SOx sources and made the procedures for major SOx sources and major NOx sources consistent.
- **September 1995 Amendments:** On September 8, 1995, the Governing Board amended Rules 2011 and 2012. These amendments helped to ease the burden of RECLAIM's monitoring and reporting requirements as they pertain to major sources. Specifically, the amendments:
  - ◆ Provide for the reclassification of a major NOx source to a large NOx source or a major SOx source to a SOx process unit, if a facility can be deemed "Super Compliant." The term Super Compliant denotes a facility with current emissions that are below their adjusted allocation for compliance year 2003 or a facility which can reduce their current emissions by the installation of air pollution control equipment to below their adjusted allocation for compliance year 2003. Three facilities -- two asphalt batch plants and a manufacturer of

roofing granules -- have received provisional approval as Super Compliant facilities.

- ◆ Expand the acceptable valid data range of a CEMS from 20 to 95 percent of the FSS range to 10 to 95 percent of the FSS range. This will also apply to O<sub>2</sub> analyzers. The NOx and SOx Protocols as initially adopted required the use of Missing Data Procedures anytime a CEMS is reading concentrations below 20 percent of FSS range. Since the RECLAIM program focuses on the measurement and reporting of actual emissions and the use of Missing Data Procedures does not necessarily yield the measurement or reporting of actual emissions, it is imperative that a RECLAIM CEMS can accurately measure emissions at both low and high concentrations. To accommodate the capturing of low emissions, the protocols were amended to increase the valid range of acceptable CEMS data to 10 to 95 percent of FSS range.
- ◆ Include procedures under which a CEMS has the "lowest vendor guaranteed" FSS range below ten percent can report actual measure values, rather than resorting to Missing Data Procedures. The amended procedures address the fact that some CEMS technology has advanced to the point that it can accurately read low concentrations below ten percent of lowest vendor guaranteed FSS range. The procedures also provide a technological incentive to other CEMS manufacturers to improve their instruments' accuracy at low concentrations.
- ◆ Amend the Missing Data Procedures to allow facilities with major sources that cannot certify CEMS using standard equipment to continue using, under specified conditions, the interim period emissions calculation methodology until December 31, 1995 or when the CEMS is finally certified, whichever is earlier, in lieu of using the Missing Data Procedures. This calculation procedure is retroactive to July 1, 1995. Also, amend the Missing Data Procedures to allow facilities with major sources that cannot certify CEMS because: there is an inordinate cost burden associated with flow monitoring as specified under (B)(11); and they cannot apply the Reference Methods as specified in Rules 2011(h)(1) and 2012 (j)(1) and Appendix A, to continue using the interim period emissions calculation methodology up until June 30, 1996 or when the CEMS is finally certified, whichever is earlier, in lieu of using the Missing Data Procedures. This calculation procedure is retroactive to July 1, 1995.
- ◆ Change the relative accuracy requirements for stack gas volumetric flow measurement systems from ten percent to 15 percent. This change is consistent with the EPA's Acid Rain Program relative accuracy requirements.
- **December 1995 Amendments:** Further amendments to Regulation XX were adopted on December 7, 1995. In addition to the amendments adopted pursuant to the control technology review discussed below, these amendments addressed concerns identified by EPA as issues for the program to receive SIP approval. The

amendments adopted to address SIP issues included: definitions, variances, NSR, Executive Order discretion, test methods, and EPA's Economic Incentive Program showings. One SIP issue involving visibility protection analysis and federal land manager notice for major modifications at major stationary sources, was continued until the March 1996 Board meeting. In addition, rule amendments adding exemptions for ski resorts and San Clemente Island were adopted.

AQMD staff will continue to assess the effectiveness of the RECLAIM rules and propose further refinements as appropriate on an ongoing basis.

**Trading Market Expansion**

The RECLAIM program was adopted with the vision that it would expand to achieve emission reductions across a spectrum of sources by allowing trading of emission units for quantifiable reductions from mobile, area and other stationary sources within the Basin. Significant progress has been made in achieving this market expansion:

- **Universal Trading Credits:** In response to a request from the Governing Board, AQMD staff has prepared a discussion paper on the concept of a universal trading credit market. Staff is seeking public input on the paper and will return to the Board with formal recommendations and an action plan identifying rule amendments and other actions necessary to implement this concept.
- **Mobile Source Credits:** In September 1995, the Board adopted Rule 1612 - Credits for Clean On-Road Vehicles, and Rule 1620 - Credits for Clean Off-Road Mobile Equipment. These rules establish voluntary programs for generating credits which can be converted to RTICs or used as an alternative means of compliance with certain other AQMD programs. Proposed Rule 1623 - Credits for Lawn, Garden and Utility Equipment, is in development and tentatively scheduled for adoption in April 1996.
- **Area Source Credits:** Under the proposed area source credits program, voluntary emission reductions from small, "area-wide" sources could be used to generate credits which could be converted to RTICs or used in other AQMD programs. A Steering Committee has been formed to assist in the development of the area source credits program. The proposal developed with the assistance of this committee will be workshopped and a proposed rule is tentatively scheduled for adoption in late 1996.

## VOC RECLAIM

The AQMD is developing a VOC RECLAIM program which will provide facilities with VOC emissions with the same flexibility as NOX and SOX RECLAIM facilities. The RECLAIM program as currently envisioned would apply to about 1,200 facilities. The structure of the VOC RECLAIM program will be similar to the NOX and SOX RECLAIM program.

The VOC RECLAIM program is in the final stages of development. Staff is currently working with interested parties to resolve remaining issues concerning allocations, rate of

**NOx Emission Factors for Process Units**

In October 1993, the Board directed staff to update the Rule 2002 NOx emission factors or rates for process units. To accomplish this Board direction, AQMD staff contacted with the Center for Emissions Research and Analysis (CERA) to develop a protocol for measuring NOx emissions and perform source tests on a wide variety of equipment including boilers, internal combustion engines, furnaces, ovens and heaters. CERA completed testing and analysis in January 1995 and has presented its final report to the AQMD. Staff is currently analyzing the test data to determine whether any changes to the Rule 2002 emission factors are appropriate.

**SO<sub>2</sub>/SO<sub>x</sub> Feasibility Study**

Rule 2011 requires the AQMD to develop unit specific protocols for the determination of sulfur dioxide (SO<sub>2</sub>) and sulfur trioxide (SO<sub>3</sub>) at refinery fluid catalytic cracking units (FCCUs). When the RECLAIM rules were adopted, the Board directed staff to ascertain the feasibility of measuring SO<sub>2</sub> on a continuous basis or determine the applicability of utilizing SO<sub>2</sub> as a surrogate for measuring SO<sub>2</sub> for FCCUs.

The AQMD and the Western States Petroleum Association (WSPA) entered into a collaborative effort to develop and validate test methodology to discriminate between SO<sub>2</sub> and SO<sub>3</sub>. Under contract to WSPA, an independent testing firm, Almega Corp., proposed a modification to the manual method for determining SO<sub>x</sub> to distinguish SO<sub>2</sub> from SO<sub>3</sub> in FCCU stack emissions in the presence of ammonia. Preliminary laboratory studies and limited field source testing at two refineries were conducted to evaluate the feasibility of the proposed method. These tests demonstrated the feasibility of the method, and further testing was proposed to WSPA to demonstrate that SO<sub>2</sub> could be quantified and validate the test method.

In lieu of conducting these further tests and incurring added costs, WSPA proposed a lesser (non-significant) modification of the manual method for determining SO<sub>x</sub>. This proposal was based on the revision to the RECLAIM monitoring protocols that allowed the use of a bias adjustment factor whereas before none could be used. They proposed that the manual method be modified to quantify all gaseous (between 180 - 210 degrees F) sulfates be reported as the total of SO<sub>2</sub> and SO<sub>3</sub>, and used as a certification procedure for FCCU CEMS. The contribution of the SO<sub>3</sub>, if statistically significant from the bias test in the RECLAIM monitoring protocols, would then be accounted for by the use of a bias factor. The feasibility testing and the two-refineries indicated that the contribution of SO<sub>3</sub> to total SO<sub>x</sub> is relatively small, and within the +/- 20% tolerance of the monitoring protocols. Staff agreed to the use of the lesser modification to AQMD Method 6.1 (Determination of Sulfuric Acid and Sulfur Oxides from Stationary Sources) in lieu of AQMD Method 100.1 (Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling) to measure SO<sub>x</sub> during the certification of SO<sub>x</sub> CEMS.



**Control Technology Assessment**

RECLAIM requires participating facilities to reduce emissions from current levels to levels equivalent to those specified in the 1991 AQMP for the years 2000 and 2003. At the time of adoption, some industries had concerns about the amount of reductions proposed in the AQMP. Therefore Rule 2015 required an evaluation of the ending emission factors for six source categories: glass melting furnaces; gray cement kilns; steel slab reheating, flat rolled product annealing and flat rolled product galvanizing furnaces; metal melting furnaces; hot mix asphalt operations; and petroleum coke calcining.

The technology review for petroleum coke calcining was completed and approved in March 1995. The technology reviews for the remaining five source categories were subsequently completed and staff proposed two revisions to Rule 2002 emission factors based on the results. These revisions were included in proposed rule amendments presented to the Board on December 7, 1995. Staff proposed that the ending emission factor for gray cement kilns be amended from 0.98 to 2.73 pounds of NO<sub>x</sub> per ton of clinker, and the ending emission factor for container glass furnaces be amended from 0.24 to 1.2 pounds of NO<sub>x</sub> per ton of glass pulled. The glass furnace emission factor revisions were adopted at the December 7, 1995 Board meeting. Consideration of the gray cement kiln emission factors was continued to the March 1996 Board meeting in order to address CEQA issues.

## CHAPTER 10

### RECOMMENDATIONS

The audit results indicate that the implementation of RECLAIM during the first compliance year was highly successful. It is recommended that AQMD staff:

- Continue to develop area and mobile source credits programs to ensure an adequate future supply of cost-effective emission reductions credits;
- Continue to investigate the feasibility of linking AQMD's mobile and stationary source credits in order to provide additional compliance flexibility;
- Conduct a study to determine the feasibility of extending the market incentive concept to other criteria pollutants such as carbon monoxide (CO) and particulate matter (PM<sub>10</sub>); and
- Continue to monitor and assess the seasonal and geographic patterns of emissions from RECLAIM facilities as additional data becomes available in the future and make any necessary adjustments if information indicates that RECLAIM has created adverse air quality or public health impacts.

## APPENDIX A

## RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of sources as of November 1995 is provided below.

Facility ID	Cycle	Facility Name	Market
10305	2	AAA GLASS CORP	NOx
73636	1	ABLESTIK LABORATORIES	NOx
23752	2	AEROCRAFT HEAT TREATING CO INC	NOx
42676	2	AES PLACERITA INC	NOx
5898	1	ALL AMERICAN ASPHALT	NOx
3704	2	ALL AMERICAN ASPHALT, UNIT NO.01	NOx
800003	2	ALLIED SIGNAL INC	NOx
21280	1	ALPHA BETA COMPANY, FOOD 4 LESS	NOx
21837	2	ALPHA RESINS CORP	NOx
17840	2	ALPHA THERAPEUTIC CORP	NOx
800339	2	ALTA DENA CERTIFIED DIARY INC.	NOx
12247	1	ALUMAX MILL PRODUCTS INC.	NOx
17418	1	ALUMINUM COMPANY OF AMERICA	NOx
42333	1	AMERICAN NATIONAL CAN COMPANY	NOx/SOx
52517	1	AMERICAN NATIONAL CAN COMPANY	NOx
45527	2	AMERICAN RACING EQUIPMENT INC	NOx
8394	2	ANAHEIM FOUNDRY INC.	SOx
61970	2	ANAHEIM MILLS CORP	NOx
18984	2	ANCHOR GLASS CONTAINER CORP	NOx/SOx
21598	2	ANGELICA HEALTHCARE SERVICES GROUP INC	NOx
10141	2	ANGELICA HEALTHCARE SERVICES GROUP INC	NOx
74424	2	ANGELICA HEALTHCARE SERVICES GROUP INC	NOx
18642	1	ANHEUSER-BUSCH INC.(LA BREWERY)	NOx/SOx
800012	2	ARCO	NOx/SOx
47232	1	ARCO CQC KILN	NOx/SOx
85874	1	ARCO OIL & GAS COMPANY	NOx
12155	1	ARMSTRONG WORLD INDUSTRIES, INC.	NOx
800342	2	ARTESIA DYEING, FINISHING & PRINTING INC	NOx
18737	2	ATKINSON BRICK CO	NOx
10094	2	ATLAS CARPET MILLS INC	NOx
800328	1	AVERY DENNISON, FASSON BASE MATERIALS	NOx
17400	1	AVERY FASSON-MPD	NOx
800016	2	BAKER COMMODITIES INC	NOx
57722	1	BALL-INCON GLASS PACKAGING CORP.	NOx
800205	2	BANK OF AMERICA	NOx

Facility ID	Cycle	Facility Name	Market
59888	1	BARMET ALUMINUM CORP.	NOx
800232	2	BEATRICE/HUNT-WESSON FOODS	NOx/SOx
40034	1	BENTLEY MILLS INC.	NOx
5181	2	BLUE DIAMOND MATERIALS, DIV SULLY-MILLER	NOx
14445	2	BORAL RESOURCES INC, FONTANA PLANT	NOx
602	1	BORAL RESOURCES INC., CORONA PLANT	NOx
19380	1	BORAL RESOURCES, INC.-SUN VALLEY PLANT	NOx
19563	2	BP CHEMICALS (HITCO) INC, FIBERS & MATERIALS	NOx
19212	2	BP CHEMICALS (HITCO) INC, FIBERS & MATERIALS	NOx
800329	1	BREA CANON OIL COMPANY	NOx
10340	1	BREA CANON OIL COMPANY, INC.	NOx
92019	2	BREA CANON OIL COMPANY-ALBERT LEVINSON	NOx
8714	2	BREA CITY	NOx
98189	2	BREITBURN ENERGY CORPORATION	NOx
2443	2	CAL INDUSTRIAL PROCESSING CO	NOx
8791	2	CAL-PACIFIC DYEING & FINISHING CORP	NOx
22807	2	CALIFORNIA MILK PRODUCERS	NOx
800181	2	CALIFORNIA PORTLAND CEMENT CO	NOx/SOx
800344	1	CALIFORNIA STATE, AIR NATL.GUARD	NOx
48268	1	CALIFORNIA STEEL INDUSTRIES, INC.	NOx
104013	2	CALRESOURCES LLC	NOx
104015	2	CALRESOURCES LLC	NOx
104017	1	CALRESOURCES LLC	NOx
87945	2	CANADA MALTING CO LTD,GREAT WESTERN MALT	NOx/SOx
9141	1	CANNERS STEAM COMPANY, INC.	NOx/SOx
22911	2	CARLTON FORGE WORKS	NOx
94079	1	CARSON COGENERATION CO.,CALIF LMTD PARTN	NOx
25016	2	CASTAIC CLAY MFG CO., INC	NOx
104018	2	CBPO OF AMERICA, INC	NOx
11034	2	CENTRAL PLANTS INC	NOx
11197	2	CENTRAL PLANTS INC	NOx
9063	1	CENTRAL PLANTS INC.	NOx
16575	1	CENTRAL PLANTS INC.	NOx
9217	1	CENTRAL PLANTS, INC.	NOx
40784	1	CENTURY LAMINATORS, INC.	NOx
75479	1	CES ENERGY ALBERHILL LTD	NOx
67818	1	CES ENERGY CORONA, LTD.	NOx
800273	2	CHEMOIL REF CORP	NOx
4451	1	CHERRY TEXTRON	NOx
800030	2	CHEVRON U.S.A. INC	NOx/SOx
800337	2	CHEVRON U.S.A.,INC.	NOx
15381	2	CHEVRON USA INC	NOx
95212	1	CHROMA SYSTEMS PARTNERS	NOx
51835	1	CIBA-GEIGY, COMPOSITE MATERIAL	NOx
24199	2	CLEAN STEEL INC	NOx
16978	2	CLOUGHERTY PACKING CO,FARMER JOHN MEATS	NOx
55349	2	COLOR AMERICA TEXTILE PROCESSING INC	NOx
53080	1	COLORTEX DYEING & FINISHING, INC.	NOx
89677	2	COLUMBIA PACIFIC ALUMINUM CORPORATION	NOx
11780	2	CONSOLIDATED FILM INDUSTRIES	NOx

Facility ID	Cycle	Facility Name	Market
22373	1	CONTAINER CORPORATION OF AMERICA	NOx
37385	2	CONTINENTAL BAKING COMPANY INC	NOx
68042	2	CORONA ENERGY PARTNERS, LTD	NOx
14082	2	CPC INTERNATIONAL INC, BEST FOODS DIV	NOx
13179	1	CRESCENT CRANES INC.	NOx
65384	1	CRITERION CATALYST COMPANY L.P.	NOx
83278	1	CROWN BEVERAGE PACKAGING INC.	NOx
18848	1	CROWN CITY PLATING COMPANY	NOx
3950	1	CROWN CORK & SEAL COMPANY, INC.	NOx
15982	2	CUSTOM ALLOY SALES INC	NOx
63180	1	DARLING-DELAWARE COMPANY, INC.	NOx
3721	2	DART CONTAINER CORP OF CALIFORNIA	NOx
7411	2	DAVIS WIRE CORP	NOx
47771	1	DELEO CLAY TILE COMPANY	NOx
800037	2	DEMENNO/KERDOON	NOx
5288	2	DIESEL RECON CO	NOx
800180	1	DISNEYLAND RESORT	NOx
99588	2	DOMTAR GYPSUM	NOx/SOx
10055	2	DOMTAR GYPSUM INC	NOx
103818	1	DOSKOCIL SPECIALTY BRANDS FOOD	NOx
800038	2	DOUGLAS AIRCRAFT CO	NOx
800039	2	DOUGLAS AIRCRAFT CO, TORR FAC	NOx
800284	2	EDGINGTON OIL COMPANY	NOx/SOx
10873	1	ELSINORE READY-MIX COMPANY, INC.	NOx
11103	1	ENTENMANN'S INC./OROWEAT FOODS	NOx
17783	2	EPE TECHNOLOGIES, INC	NOx
8439	2	EXXON CO, USA	NOx
22803	1	EXXON COMPANY USA; CASTAIC JUNCTION	NOx
22047	1	FANSTEEL/CALIFORNIA DROP FORGE	NOx
61209	1	FILTROL CORPORATION	NOx
61210	1	FILTROL CORPORATION	NOx
800047	2	FLETCHER OIL & REF CO	NOx/SOx
11718	1	FONTANA PAPER MILLS INC.	NOx
75373	2	FPB COGEN INC	NOx
348	1	FRITO-LAY INC.	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
60842	2	GAF BUILDING MATERIALS CORPORATION	NOx/SOx
6814	1	GAINNEY CERAMICS INC.	NOx
79015	2	GEO PETROLEUM INC	NOx
11018	2	GEORGIA-PACIFIC CORP	NOx
44551	1	GNB INCORPORATED	NOx
800184	2	GOLDEN WEST REFINING CO	NOx/SOx
101039	2	GRANITE CONSTRUCTION	NOx
8684	1	GRANNY GOOSE FOODS INC, BELL BRAND FI DIV	NOx
40188	2	GUARDIAN INDUSTRIES INC	NOx/SOx
57304	2	HARBOR COGENERATION CO	NOx
800295	1	HENKEL CORP., EMERY GROUP	NOx

This facility is a member of the RECLAIM universe but did not participate in RECLAIM during the first compliance year due to pending legal action involving the lack of valid permits.

Facility ID	Cycle	Facility Name	Market
15184	1	HIGGINS BRICK COMPANY	NOx
800088	1	HITCO	NOx
2812	2	HOLLIDAY ROCK CO INC	NOx
800089	2	HUGHES AIRCRAFT CO	NOx
800343	2	HUGHES AIRCRAFT CO, ED SG	NOx
800087	1	HUGHES SPACE & COMM.CO.-HUGHES AIRCRAFT	NOx
800070	1	HUNTWAY REFINING COMPANY	NOx
12224	2	IDEAL DYEING & FINISHING CO., INC	NOx
100291	2	IMCO RECYCLING OF CALIFORNIA	NOx
7179	2	INDUSTRIAL ASPHALT	NOx
20787	2	INDUSTRIAL ASPHALT	NOx
21395	2	INDUSTRIAL ASPHALT	NOx
22184	2	INDUSTRIAL ASPHALT	NOx
10815	2	INDUSTRIAL ASPHALT/HUNTMIX INC GEN PRTNR	NOx
800240	2	INLAND CONTAINER CORP	NOx
5830	1	INTERMETRO INDUSTRIES CORP.	NOx
23589	2	INTL EXTRUSION CORP	NOx
54183	2	INTL PERMALITE INC	NOx
42577	2	IPT ENERGY MANAGEMENT CORP	NOx
18885	2	KAL KAN FOODS INC	NOx
11881	1	KETEMA INC., ALUMINUM EXTRN DIV.	NOx
11142	2	KEYSOR-CENTURY CORP	NOx
21887	2	KIMBERLY-CLARK CORP	NOx/SOx
1744	2	KIRK HILL RUBBER CO	NOx
57329	2	KWIKSET CORP	NOx
800335	2	LA CITY, DEPT OF AIRPORTS	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
800183	2	LA CITY, DWP; VALLEY STM PLANT	NOx
61882	1	LA CITY, HARBOR DEPT.	NOx
40030	1	LA DYE & PRINT WORKS INC.	NOx
51949	1	LA DYE & PRINT WORKS INC.	NOx
41582	1	LA DYE & PRINT WORKS, INC.	NOx
800078	2	LEVER BROS CO	NOx
12812	2	LIBBEY GLASS, INC	NOx
83102	2	LIGHT METALS INC	NOx
31048	2	LISTON BRICK COMPANY OF CORONA	NOx
101578	2	LOMITA GAS CO	NOx
95524	2	LOMITA GASOLINE COMPANY INC	NOx
14220	2	LORBER INDUSTRIES OF CALIFORNIA	NOx
58822	2	LOS ANGELES COLD STORAGE CO	NOx
7931	1	LOS ANGELES PAPER BOX & BOARD MILLS	NOx
73780	2	LUCKY CONTAINER INC	NOx
13978	1	LUCKY STORES INC.	NOx
800080	2	LUNDAY-THAGARD OIL CO	NOx
103672	1	MACQUIRE THOMAS PARTNERS	NOx
14049	2	MARUCHAN INC	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
83444	2	MCGAW INC	NOx

Facility ID	Cycle	Facility Name	Market
2825	1	MCP FOODS INC.	NOx
101843	1	MCWHORTER TECHNOLOGIES INC.	NOx
100844	2	MEDALLION CALIF. PROPERTIES	NOx
7120	1	METAL CONTAINER CORP. OF CALIFORNIA	NOx
14855	1	MILLER BREWING COMPANY	NOx
800088	2	MINNESOTA MINING & MFG CO	NOx
12372	1	MISSION CLAY PRODUCTS	NOx
25058	2	MOBIL OIL CORP. WEST COAST PIPELINES DIV	NOx
800084	1	MOBIL OIL CORP., NEWHALL STATION	NOx
17344	1	MOBIL OIL CORP., WEST COAST PIPELINES DIV	NOx
800089	1	MOBIL OIL CORPORATION	NOx/SOx
16274	2	NABISCO BRANDS INC	NOx
12428	2	NATIONAL GYPSUM CO	NOx
40483	2	NELCO PROD. INC	NOx
16531	2	NEVILLE CHEM CO	NOx
800089	1	NI IND INC, NORRIS DIV (VERNON) NO. 1	NOx
82022	2	NORRIS PLUMBING FIXTURES, MANSFIELD PLUMB	NOx
800187	2	NORTHROP CORP	NOx
82887	2	NORTHROP CORP., B-2 DIV	NOx
18284	1	NORTHROP CORP., AIRCRAFT DIV.	NOx
50813	2	O'BRIEN CALIF COGEN LTD	NOx
89248	2	OLD COUNTRY MILLWORK INC	NOx
47781	1	OLS ENERGY-CHINO C/O ENERGY INITIATIVES	NOx
54187	1	ONSITE ENERGY	NOx
83626	1	ONSITE ENERGY	NOx
73888	2	OREGON STEEL MILLS-FONTANA DIV., INC.	NOx
7427	1	OWENS-BROCKWAY GLASS CONTAINER	NOx/SOx
78397	1	OWENS-BROCKWAY GLASS CONTAINER INC.	NOx/SOx
35302	2	OWENS-CORNING FIBERGLAS CORP	NOx
57035	1	OWL ROCK PRODUCTS	NOx
23542	1	P. W. GILLIBRAND COMPANY, P.W.GILLIBRAND	NOx/SOx
20584	2	PACIFIC CLAY PRODUCTS	NOx
17853	1	PACIFIC CLAY PRODUCTS INC.	NOx
45746	2	PACIFIC COAST BLDG PRODS INC, PABCO PAPER	NOx/SOx
80531	2	PACIFIC FABRIC FINISHING	NOx
2948	1	PACIFIC FORGE, INC.	NOx
24887	2	PACIFIC TUBE CO	NOx
800208	2	PAPER PAK PROD. INC	NOx
800183	1	PARAMOUNT PETROLEUM CORPORATION	NOx/SOx
18988	2	PARKER HANNIFIN AEROSPACE CORP	NOx
20889	2	PERCEPTION LAMINATES	NOx
9729	1	PGP INDUSTRIES, INC.	NOx
800103	1	POWERLINE OIL COMPANY	NOx/SOx
75411	1	PRECISION SPECIALTY METALS INC.(PSM)	NOx
136	2	PRESS FORGE CO	NOx
22808	2	PRICE PFISTER INC	NOx
55221	2	PROGRESSIVE CUSTOM WHEEL	NOx
102989	2	QUEEN CARPET CORP., TUFTEX CARPET DIVISION	NOx
8547	1	QUEMETCO INC.	NOx/SOx
19187	2	R J NOBLE COMPANY	NOx

Facility ID	Cycle	Facility Name	Market
3585	2	R. R. DONNELLEY & SONS CO, LA MFG DIV	NOx
20804	2	RALPHS GROCERY CO	NOx
88228	2	RED LION HOTEL /ORANGE COUNTY AIRPORT	NOx
15544	2	REICHHOLD CHEMICALS INC	NOx
800109	1	REYNOLDS METALS COMPANY	NOx
800131	1	RHONE-POULENC BASIC CHEMICALS COMPANY	NOx/SOx
61722	2	RICOH ELECTRONICS INC	NOx
800182	1	RIVERSIDE CEMENT COMPANY	NOx/SOx
88812	2	RMS FOUNDATION INC	NOx
800210	2	ROCKWELL INTERNATIONAL	NOx
14738	2	ROCKWELL INTERNATIONAL, ISC DIV	NOx
800259	1	ROCKWELL INTERNATIONAL, ROCKETDYNE DIV.	NOx
800110	2	ROCKWELL INTL	NOx
800111	2	ROCKWELL INTL CORP	NOx
800113	2	ROHR IND INC	NOx
18455	2	ROYALTY CARPET MILLS INC	NOx
93073	1	SABA PETROLEUM INC.	NOx
4242	2	SAN DIEGO GAS & ELECTRIC	NOx
101489	1	SANOFI BIO-INDUSTRIES	NOx
55238	2	SANTA MONICA BAY HOTEL ASSOCIATES LTD	NOx
8505	2	SANWA FOODS INC	NOx
15504	2	SCHLOSSER FORGE CO	NOx
23907	2	SCHULLER INTERNATIONAL INC	NOx
59547	2	SHARYN STEAM INC	NOx
800115	2	SHELL CHEM CORP (EIS USE)	NOx/SOx
98057	2	SHELL WESTERN E&P, INC	NOx
18839	1	SHULTZ STEEL COMPANY, GORDON W. SHULTZ DBA	NOx
54402	2	SIERRA ALUMINUM COMPANY	NOx
85843	2	SIERRA ALUMINUM COMPANY	NOx
101977	1	SIGNAL HILL PETROLEUM	NOx
800204	2	SIMPSON PAPER CO	NOx
82727	2	SMURFIT NEWSPRINT CORPORATION	NOx
43201	1	SNOW SUMMIT SKI CORP.	NOx
15872	2	SO CAL EDISON CO	NOx
800123	2	SO CAL EDISON CO	NOx
800124	2	SO CAL EDISON CO	NOx
800128	2	SO CAL EDISON CO	NOx
800125	1	SO.CAL.EDISON CO,ALAMITOS GENERATING STN	NOx
9114	1	SOMITEX PRINTS OF CALIFORNIA	NOx
14871	2	SONOCO PRODUCTS CO	NOx
1028	1	SOUTHERN CALIFORNIA EDISON COMPANY	NOx
4477	1	SOUTHERN CALIFORNIA EDISON COMPANY	NOx
14052	1	SOUTHERN CALIFORNIA EDISON COMPANY	NOx
18783	1	SOUTHERN CALIFORNIA EDISON COMPANY	NOx
800224	1	SOUTHERN CALIFORNIA EDISON COMPANY	NOx
5973	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx
8582	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx
11119	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx
14828	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx
800127	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx

Facility ID	Cycle	Facility Name	Market
800128	1	SOUTHERN CALIFORNIA GAS COMPANY	NOx
800338	2	SPECIALTY PAPER MILLS INC.	NOx
23449	2	STANDARD CONCRETE PROD, INC, MOBILE SAND	NOx
861	1	STAR-KIST FOODS INC.(CAN MAKING PLANT)	NOx
1834	2	STEELCASE INC, WESTERN DIV	NOx
83753	1	STOCKER RESOURCES INC.	NOx
105318	2	SULLY-MILLER	NOx
34055	2	SULLY-MILLER CONTRACTING CO,BLUE DIAMOND	NOx
55711	1	SUNLAW COGENERATION PARTNERS I	NOx
55714	1	SUNLAW COGENERATION PARTNERS I	NOx
2083	1	SUPERIOR INDUSTRIES INTERNATIONAL	NOx
14472	2	SUPRACOTE INC	NOx
7940	2	SWEETHEART CUP CO INC	NOx
3988	1	TABC INC.	NOx
18931	2	TAMCO	NOx
58427	1	TANDEM INDUSTRIES	NOx
14944	1	TECHALLOY COMPANY, INC.	NOx/SOx
800222	1	TEXACO REFINING & MARKETING INC.	NOx/SOx
800223	1	TEXACO REFINING & MARKETING INC.	NOx/SOx
11435	2	THE PQ CORP	NOx/SOx
97081	1	THE TERMO COMPANY	NOx
7053	1	THERMO ELECTRON CORP., CAL-DORAN	NOx
800330	1	THUMS LONG BEACH COMPANY	NOx
800325	2	TIDELANDS OIL PRODUCTION CO	NOx
88117	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
88118	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
88122	2	TIDELANDS OIL PRODUCTION COMPANY ETAL.	NOx
43438	1	TIMCO	NOx
800213	2	TIMES MIRROR CO	NOx
55759	1	TISSURAMA INDUSTRIES INC.	NOx
800192	2	TRANS WORLD AIRLINES INC	NOx
55865	2	TRANSAMERICAN PLASTICS CORP	NOx
10057	2	TREASURE CRAFT	NOx
11674	1	TRI-ALLOY INC.	NOx
800218	1	TRW INC.	NOx
800219	2	TRW INC.	NOx
800263	2	U.S. GOVT, DEPT OF NAVY	NOx/SOx
800028	1	ULTRAMAR INC.	NOx/SOx
7416	1	UNION CARBIDE CORP., LINDE DIVISION	NOx
42830	1	UNION CARBIDE INDUSTRIAL GASES	NOx
800144	2	UNION OIL CO OF CAL	NOx/SOx
1838	2	UNION OIL CO OF CALIFORNIA	NOx
88849	2	UNION OIL CO OF CALIFORNIA	NOx
87571	1	UNION OIL CO.OF CALIFORNIA, UNOCAL DBA	NOx
800319	1	UNION OIL COMPANY	NOx/SOx
12395	2	UNION OIL OF CAL, OIL & GAS DIV; LINCOLN	NOx
80342	2	UNITED STATES CAN CO	NOx
1073	1	UNITED STATES TILE COMPANY	NOx
48500	2	UNOCAL OIL CO OF CAL, OIL & GAS DIV	NOx
800149	2	US BORAX & CHEM CORP	NOx

Facility ID	Cycle	Facility Name	Market
800153	2	US GOVT, NAVY DEPT LB SHIPYARD	NOx
8281	2	US GOVT, MARINE CORPS AIR STATION, EL TORO	NOx/SOx
800150	1	US GOVT., AF DEPT, MARCH AFB	NOx
800154	1	US GOVT., MARINE CORPS AIR STATION	NOx
12185	2	US GYPSUM CO	NOx/SOx
18695	1	US GYPSUM COMPANY	NOx
73022	2	USAIR INC	NOx
61589	2	VANGUARD ENERGY SYS	NOx
54723	2	VANGUARD ENERGY SYSTEMS	NOx
14502	2	VERNON CITY, LIGHT & POWER DEPT	NOx
14485	2	VISTA METALS CORPORATION	NOx
93346	1	WAYMIRE DRUM CO., INC.	NOx
50088	1	WEST COAST RENDERING COMPANY	NOx
42775	1	WEST NEWPORT OIL COMPANY	NOx/SOx
40102	2	WESTERN DYE HOUSE INC	NOx
16173	1	WESTERN DYEING & FINISHING CORP.	NOx
17958	1	WESTERN METAL DECORATING COMPANY	NOx
45953	1	WESTERN WHEELS CORPORATION	NOx
1882	2	WEYERHAEUSER PAPER CO	NOx
51620	1	WHEELABRATOR NORWALK ENERGY COMPANY	NOx

## APPENDIX B

## FACILITY INCLUSIONS AND EXCLUSIONS

As discussed in Chapter 1, certain facilities have been included or excluded from the RECLAIM universe since the program was adopted on October 15, 1993. The facility inclusions and exclusions are listed below.

## Facility Inclusions:

ID	Cycle	Name	Market	Reason
19583	2	B.P. Chemicals	NOx	Opt-in at facility request
104018	2	CBPO of America	NOx	New facility over 4 ton included at facility request
800184	2	Golden West	NOx/SOx	Inspector/Engineer determined to be over 4 ton
101039	2	Granite Construction	NOx	New Facility over 4 ton included at facility request
50813	2	O'Brien Cogen	NOx	Inspector/Engineer determined to be over 4 ton
89248	2	Old Country Millwork	NOx	Inspector/Engineer determined to be over 4 ton
93073	1	Saba Petroleum Inc.	NOx	Inspector/Engineer determined to be over 4 ton
55239	2	Santa Monica Bay Hotel	NOx	Inspector/Engineer determined to be over 4 ton
15872	2	SCE	NOx	Opt-in at facility request
58547	2	Sharyn Steam	NOx	Inspector/Engineer determined to be over 4 ton
800114	2	Shell Oil Co.	NOx/SOx	Inspector/Engineer determined to be over 4 ton
18235	2	Shell Western E&P	NOx	Opt-in at facility request
99057	2	Shell Western E&P	NOx	OCS - authority granted to AQMD
97081	1	The Temco Co.	NOx	Inspector/Engineer determined to be over 4 ton
98948	2	UNOCAL	NOx	OCS - authority granted to AQMD
93346	1	Waymire Drum Co., Inc.	NOx	Inspector/Engineer determined to be over 4 ton

## Facility Exclusions:

ID	Cycle	Name	Market	Reason
6603	1	Alpase Inc	NOx	out of business before RECLAIM
35102	2	American Golf Corp.	NOx	landfill gas control-exempt municipality
15506	2	Ameron Concrete Pipe Group	NOx	Installation of APC equipment before RECLAIM
63603	2	Anahelm Hilton & Towers	NOx	Installation of APC equipment before RECLAIM
59765	2	ARATEX Services Inc.	NOx	EFB data error less than 4 ton/yr
11988	2	B.F. Goodrich	NOx	EFB data error less than 4 ton/yr
79844	2	Breitbart Energy Corp.	NOx	electrification
24323	2	Burbank City	NOx	exempt municipality
49584	2	C.L. Pharis Sand & Gravel	NOx	exclusively various location equipment

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ID	Cycle	Name	Market	Reason
12577	2	Central Plants Inc	NOx	out of business before RECLAIM
22271	2	Chevron USA	NOx	out of business before RECLAIM
67877	1	Community Linen Rental Services	NOx	out of business before RECLAIM
34149	1	Crosby & Overton Inc	NOx	exclusively various location equipment
57788	2	Cyclean Inc.	SOx	Installation of APC equipment before RECLAIM
7612	2	Dan Copp Crushing Corp.	NOx	exclusively various location equipment
800041	1	Dow Chemical	NOx	Installation of APC equipment before RECLAIM
41784	2	First Interstate Bank	NOx	EFB data error less than 4 ton/yr
70857	2	Foundation Pile Inc	NOx	exclusively various location equipment
5788	2	GAF Building Materials Corp.	NOx	EFB data error less than 4 ton/yr
24957	1	Glendale City	NOx	exempt municipality
1615	1	Great Western Foam Products Co	NOx	EFB data error less than 4 ton/yr
75893	2	Hanjin Intl Corp	NOx	EFB data error less than 4 ton/yr
800174	2	Harley-Kelly Co	NOx	EFB data error less than 4 ton/yr
12183	2	Hill's Pet Nutrition, Inc.	NOx	EFB data error less than 4 ton/yr
17018	2	Hughes Missile Systems Co	NOx	Installation of APC equipment before RECLAIM
25882	2	Irish Construction	NOx	exclusively various location equipment
47116	1	Koch Carbon Inc	NOx	exclusively various location equipment
49916	2	Lockheed Corporation, Inc	NOx	EFB data error less than 4 ton/yr
15794	2	Nissin Foods (USA.) Inc.	NOx	Installation of APC equipment before RECLAIM
800151	2	Noton AFB	NOx/SOx	out of business before RECLAIM
23362	2	O.H. Kruse Grain & Milling	NOx	Installation of APC equipment before RECLAIM
882	2	Owens Corning Fiberglass Corp.	NOx	consolidation of facility ID with 35302
71725	2	Owl Crane and Rigging Co	NOx	exclusively various location equipment
50300	2	Parallel Products	NOx	Installation of APC equipment before RECLAIM
55371	2	Parsons Main Inc.	NOx	operated by LA county prisons-exempt municipality
800188	2	Pasadena City	NOx	exempt municipality
24242	1	Pilkington Aerospace	NOx	EFB data error less than 4 ton/yr
3724	1	Polycled Laminates	NOx	Installation of APC equipment before RECLAIM
3824	2	Ralphs Grocery Company	NOx	Installation of APC equipment before RECLAIM
9441	2	Rezac Corp, Galtman Ind DBA	NOx	EFB data error less than 4 ton/yr
22318	2	RHS Carpet Mill Inc	NOx	out of business before RECLAIM
55380	2	Santee Dairies Inc.	NOx	Installation of APC equipment before RECLAIM
59147	1	SLS & N Inc, DBA Peck Rd Grav	NOx	exclusively various location equipment
68181	1	So Cal Pump and Well Service Inc	NOx	exclusively various location equipment
80325	2	Solid Treatment Systems, Inc.	NOx	equipment permanently removed
7814	1	Star Milling Co	NOx	EFB data error less than 4 ton/yr
51827	2	Stone Container Corp.	NOx	Installation of APC equipment before RECLAIM
58841	2	Stone Container Corp.	NOx	Installation of APC equipment before RECLAIM
4786	1	Texaco Exploration and Production	NOx	equipment permanently removed
9410	1	Texaco Exploration and Production	NOx	equipment permanently removed

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ID	Cycle	Name	Market	Reason
63249	2	The Vons Company	NOx	Installation of APC equipment before RECLAIM
800143	2	Union Chemical Co	NOx/SOx	consolidation of facility ID with 800144
28381	1	Upland City	NOx	exclusively various location equipment
12082	2	W.L. Chapman Co	NOx	EFB data error less than 4 ton/yr

## APPENDIX C

## RECLAIM FACILITIES CEASING OPERATION

AQMD staff is aware of eleven RECLAIM facilities that have permanently ceased all operations and gone out of business since the RECLAIM program was adopted on October 15, 1993. These facilities are listed below. AQMD staff attempted to obtain the reason for each closure, but was not able to contact the facility operators in one case. The reasons for shutdown cited below are based on AQMD staff's best available information.

<b>Facility ID</b>	18984
<b>Facility Name</b>	Anchor Glass Container Corp.
<b>City and County</b>	Huntington Park, Los Angeles County
<b>SIC</b>	3221
<b>Pollutant(s)</b>	NOx and SOx
<b>1994 Allocation</b>	NOx: 595,268 lb., plus 35,880 lb. from ERC conversions SOx: 195,092 lb., plus 56,420 lb. from ERC conversions

**Reason for Shutdown:** The facility shut down for economic reasons. Operation of the plant was no longer profitable due to declining demand for glass containers and competition.

<b>Facility ID</b>	5181
<b>Facility Name</b>	Blue Diamond Materials
<b>City and County</b>	Orange, Orange County
<b>SIC</b>	2951
<b>Pollutant(s)</b>	NOx
<b>1994 Allocation</b>	11,626 lb.

**Reason for Shutdown:** This plant was shut down for economic reasons. This plant was less efficient than another nearby plant operated by the same company, and the quarry supplying this plant was almost mined out. Additionally, there was an opportunity to develop the land for another use.

**Facility ID** 8439  
**Facility Name** Exxon Co., USA  
**City and County** Long Beach, Los Angeles County  
**SIC** 1389  
**Pollutant(s)** NOx  
**1994 Allocation** 42,398 lb.

**Reason for Shutdown:** The facility closed for economic reasons. This facility is an oil production facility. The oil reserve at this location was depleted beyond an economical level to continue production.

**Facility ID** 22603  
**Facility Name** Exxon, Castaic Junction Oil Field  
**City and County** Saugus, Los Angeles County  
**SIC** 1389  
**Pollutant(s)** NOx  
**1994 Allocation** 55,358 lb.

**Reason for Shutdown:** : The facility closed for economic reasons. This facility is an oil production facility. The oil reserve at this location was depleted beyond an economical level to continue production.

**Facility ID** 11961  
**Facility Name** Ketema Inc., Aluminum Extraction Division  
**City and County** Los Angeles, Los Angeles County  
**SIC** 3341  
**Pollutant(s)** NOx  
**1994 Allocation** 15,036 lb.

**Reason for Shutdown:** Staff was unable to contact company representatives. Reason for shutdown is unknown.

**Facility ID** 800078  
**Facility Name** Lever Bros.  
**City and County** Los Angeles, Los Angeles County  
**SIC** 2841  
**Pollutant(s)** NOx  
**1994 Allocation** 123,244 lb.

**Reason for Shutdown:** The facility closed for economic reasons. This plant produced soap. Operation costs and outside competition made it not profitable to operate the plant.

**Facility ID** 6012  
**Facility Name** McDonnell Douglas Helicopter Co.  
**City and County** Culver City, Los Angeles County  
**SIC** 3721  
**Pollutant(s)** NOx  
**1994 Allocation** 26,070 lb.

**Reason for Shutdown:** The company consolidated operations with a plant in Arizona.

**Facility ID** 73899  
**Facility Name** Oregon Steel Mills  
**City and County** Fontana, Riverside County  
**SIC** 3312  
**Pollutant(s)** NOx  
**1994 Allocation** 449,758 lb.

**Reason for Shutdown:** The facility closed for economic reasons. According to a company press release, the high operating costs of the plant combined with depressed pricing in the international large diameter pipe market and the lack of domestic pipeline activity led to the closure decision. The production will be taken over by a newly built plant in Oregon.

**Facility ID** 79397  
**Facility Name** Owens-Brockway  
**City and County** Pomona, Los Angeles County  
**SIC**  
**Pollutant(s)** NOx/SOx  
**1994 Allocation** NOx: 394,836 lb.  
 SOx: 116,560 lb.

**Reason for Shutdown:** According to a facility press-release, the plant was closed because it was no longer profitable to operate the plant due to declining business and high state processing fees for recycled beverage containers.

**Facility ID** 101578  
**Facility Name** Signal Hill Petroleum  
**City and County** Signal Hill, Los Angeles County  
**SIC** 9999  
**Pollutant(s)** NOx  
**1994 Allocation** 421,738 lb.

**Reason for Shutdown:** The facility is an oil field which closed due to economic reasons.



**Facility ID** 15173  
**Facility Name** Western Dyeing & Finishing  
**City and County** Rancho Dominguez, Los Angeles County  
**SIC** 2260  
**Pollutant(s)** NOx  
**1994 Allocation** 22,617 lb.

**Reason for Shutdown:** The facility operator attributed the plant closure to economic reasons (50%) and the cost of complying with RECLAIM (50%).

## APPENDIX D

### RULE INTERPRETATION AND IMPLEMENTATION GUIDANCE DOCUMENTS

AQMD staff has produced certain Rule Interpretation and Implementation Guidance Documents to clarify program requirements in response to specific concerns expressed by RECLAIM participants. These documents are available from the AQMD RECLAIM Administration Team and include:

#### Rule Interpretations:

Exclusive Use of Timers	October 27, 1994
Missing Data - Large Sources	October 27, 1994
Non-Operated Equipment	January 5, 1995
Conversion of ERCs to RTCs	March 30, 1995
Alternative Monitoring and Reporting Systems	May 9, 1995
Reformulated Gasoline (RFG) Projects and RECLAIM Allocations	September 12, 1995

#### Implementation Guidance Documents:

Equipment Reconfiguration	October 3, 1995
Natural Gas Flow Correction to Standard Conditions	October 3, 1995
Physical Identification of Monitoring and Reporting Equipment	October 3, 1995
Early Use of CEMS	October 10, 1995
EIapse Time Meters and Internal Combustion Engines	October 10, 1995
Provisional CEMS Approval	January 3, 1995

## APPENDIX E

**REPORT TO THE GOVERNING BOARD  
ON COMPLIANCE OF RECLAIM WITH  
FEDERAL NSR REQUIREMENTS**

South Coast  
AIR QUALITY MANAGEMENT DISTRICT  
21865 E. Copley Drive, Diamond Bar, CA 91765-4182 (909) 396-2000

AGENDA # 22

May 12, 1995

South Coast Air Quality  
Management District Board

**Report to the Governing Board on Compliance of RECLAIM  
with Federal New Source Review Requirements**

The federal New Source Review (NSR) program, Title 42 U.S.C. Section 7511a(e), requires major stationary sources in extreme nonattainment areas to mitigate their emissions increases by providing emissions offsets at a 1.5 to 1 ratio when the offsets are obtained from external sources, or a 1.3 to 1 ratio when the offsets are generated internally at the facility. South Coast Air Quality Management District (AQMD) Rule 2005 - New Source Review for RECLAIM establishes pre-construction review requirements for construction of new RECLAIM facilities and for modifications to existing RECLAIM facilities in order to ensure continued progress towards attainment of National Ambient Air Quality Standards without restricting economic growth. Subdivision (j) of Rule 2005 requires the Executive Officer to annually report to the Governing Board on the effectiveness of RECLAIM NSR in meeting federal NSR requirements for the preceding year.

This report summarizes AQMD's success in meeting the federal NSR requirements for 1994. In order to provide RECLAIM facilities with maximum flexibility, as well as to simplify the RECLAIM Trading Credit (RTC) transaction system, Rule 2005 establishes an NSR offset ratio of 1 to 1 for RECLAIM pollutants. AQMD intends to comply with federal NSR offset requirements by demonstrating programmatic equivalency in that the total year end reported mass emissions from RECLAIM facilities are well below the facilities' combined emissions allocations at the start of the compliance year. All RECLAIM facilities are subject to a mass cap based on actual mass emissions and all facility emission reductions are calculated from that actual mass emissions baseline. Therefore, all reductions in the RECLAIM mass cap

\* Rule 2005(j) currently specifies that the Executive Officer provide this report to the Governing Board in May of each year. However, staff intends to propose an amendment which will reschedule it as part of RECLAIM's annual audit as required by Rule 2015(b)(1). The first annual audit will be presented to the Governing Board January 1996.

qualify as real, enforceable and quantifiable offsets under traditional federal NSR. Moreover, RECLAIM is a closed system in which total mass emissions are limited in order to be consistent with the reasonable further progress requirements in Section 182(b)(1) and (c)(2) of the federal Clean Air Act (42 U.S.C. Section 7511a(b)(1) and (c)(2)). This approach is consistent with an EPA statement on RECLAIM that "it can approve a program that does not require individual sources to secure offsets in the ratios mandated by Sec. 182(e) of the federal Clean Air Act [42 U.S.C. Section 7511a(e)] so long as the South Coast [AQMD] ensures that an equivalent total of creditable emission reductions are secured from other reduction strategies." (Letter from William G. Rosenberg, Ass't. Administrator for Air and Radiation, Feb. 28, 1992).

Staff has determined that, in 1994, the unemitted, expired, and retired RTCs exceeded the increases in Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) emissions from new or modified sources by the ratios of 155 to 1 and 56 to 1, respectively. Tables I and II show permitting and NSR activity related to RECLAIM NOx and SOx sources in 1994.

During 1994, four tons of NOx RTCs from external sources were provided to offset emissions increases due to operation of a new RECLAIM facility. In addition, 62 tons of NOx RTCs and 37 tons of SOx RTCs from RECLAIM facilities' Allocations were held to offset internal increases in emissions due to modifications at 60 existing RECLAIM facilities.

Table I: RECLAIM Permitting Activity Summary

	NOx	SOx
Total Applications Approved for RECLAIM Equipment	116	30
Emissions Increases from New Facilities (tons/year)	4	0
Cycle 1 (tons/year)	0	0
Cycle 2 (tons/year)	4	0
Emissions Increases from Modification to Existing RECLAIM Facilities (tons/year)	62	37
Cycle 1 (tons/year)	36	37
Cycle 2 (tons/year)	26	0
Total Emissions Increases (tons/year)	66	37

Total reported NOx and SOx emissions for 1994 included emissions increases from the operation of new and modified facilities, which represented 66 percent and 73 percent of total 1994 NOx and SOx Allocations, respectively. A total of 10,183 tons of unemitted, expired, and retired NOx RTCs was 155 times greater than the corresponding NOx emissions increases in 1994. Similarly, the total 2,047 tons of unused SOx RTCs was 56 times greater than the emissions increases. In other words, total creditable emissions decreases were much greater than total NSR emissions increases in 1994. Therefore, the offset ratios of 155 to 1 (NOx) and 56 to 1 (SOx)

demonstrate that the RECLAIM program exceeds the offset ratio requirements of federal NSR.

Table II: RECLAIM NSR Equivalence Analysis (in tons per year)

Activity	NOx	SOx
1994 Cycle 1 Allocations	20,757	4,983
1994 Cycle 2 Allocations (prorated for two quarters)	9,066	2,560
Total 1994 Allocations	29,823	7,543
1994 Cycle 1 Reported Emissions	13,398	3,589
1994 Cycle 2 Reported Emissions <sup>1</sup> (two quarters)	6,242	1,907
Total 1994 Reported Emissions	19,640	5,496
1994 Unused RTCs <sup>2</sup>	10,183	2,047
Emissions Increases from New Facilities	4	0
Emissions Increases from Existing Facilities	62	37
Total Emissions Increases	66	37
Decreases due to Modifications	211	2
Programmatic Offset Ratio <sup>3</sup>	155 to 1	56 to 1

<sup>1</sup> Cycle 2 reported emissions are subject to revision.  
<sup>2</sup> 1994 Unused RTCs = Total 1994 Allocation - Total 1994 Reported Emissions  
<sup>3</sup> Programmatic Offset Ratio = 1 + (1994 Unused RTCs/Total Increase) to 1

This analysis indicates that an adequate supply of RTCs was available to offset NOx and SOx emissions increases at RECLAIM facilities during 1994. Further, RECLAIM programatically provided offsets for all NOx and SOx emissions increases at offset ratios of 155 to 1 and 56 to 1, respectively. Therefore, RECLAIM successfully complied with federal NSR requirements in 1994.

THEREFORE, IT IS RECOMMENDED THAT YOUR BOARD

--Receive and file this report.

Respectfully,



James M. Lents, Ph.D.  
 Executive Officer

PL:CM:MH

## APPENDIX F

## JOB IMPACTS ATTRIBUTED TO RECLAIM

Job impacts, including both job gains and job losses, attributed by RECLAIM facilities to the RECLAIM program are summarized below. Data is not available pertaining to job gains attributed to RECLAIM by Cycle 1 facilities.

This information was compiled from APEP reports and contacts with facility operators. The APEP reports for Cycle 2 facilities requested the facility operators to include assessments of job increases and decreases which occurred during the compliance year and of the extent to which any increase or decrease in the number of jobs is attributable to the RECLAIM program. Each of the four Cycle 2 facilities which indicated job loss due to RECLAIM were contacted by AQMD staff in order to obtain more detailed information regarding the facilities' particular circumstances.

The Cycle 1 APEP reports included overall job loss and gain information, but did not request facilities to assess RECLAIM's impact on job changes. Therefore AQMD staff contacted each facility which reported a decrease in the number of jobs in order to determine if the decrease was attributable to the RECLAIM program.

In addition, in some cases AQMD engineers and inspectors familiar with the facilities reporting RECLAIM-related job loss also contributed their experience and expertise to the assessment of RECLAIM's impact on the job market, as summarized for each facility below.

Facility ID	013179
Facility Name	Crescent Cranes Inc
City and County	Torrance, Los Angeles County
SIC	5084
Pollutant(s)	NOx
Cycle	1
Job Gain	0
Job Loss	4 (4 attributed to RECLAIM)
Comments:	The facility operator indicated that the job loss resulted from a combination of automation and reduced production in order to comply with the facility's allocation, yet attributed all four lost jobs to RECLAIM.

Facility ID	016639
Facility Name	Shultz Steel Co
City and County	South Gate, Los Angeles County
SIC	3462
Pollutant(s)	NOx
Cycle	1
Job Gain	0
Job Loss	19 (4 attributed to RECLAIM)
Comments:	Job loss is due to the movement of aerospace industry out of California. Facility operator believes that the departure of aerospace industry is partially due to environmental regulation, of which RECLAIM is a part.

Facility ID	057722
Facility Name	Ball Glass Container Corporation
City and County	El Monte, Los Angeles County
SIC	3221
Pollutant(s)	NOx
Cycle	1
Job Gain	0
Job Loss	7 (7 attributed to RECLAIM)
Comments:	Facility attributes all seven employees lost to RECLAIM, specifically due to the cost of installing an oxygenated fuel-fired furnace. However, it is highly likely that the facility also would have installed such a furnace under command and control regulations--Control Measure #90P-C-7 from the 1991 Air Quality Management Plan targeted this equipment category for NOx reductions of approximately 95%.

**Facility ID** 800066  
**Facility Name** HITCO  
**City and County** Gardena, Los Angeles County  
**SIC** 3479  
**Pollutant(s)** NOx  
**Cycle** 1  
**Job Gain** 0  
**Job Loss** 55 (22 attributed to RECLAIM)  
**Comments:** According to the operator, the facility shut down a process line which was not bringing any growth to the company. The shutdown helps to keep the facility's emissions below their allocation. Additional job loss was attributed to the economy.

**Facility ID** 800099  
**Facility Name** Norris Industries  
**City and County** Vernon, Los Angeles County  
**SIC** 35  
**Pollutant(s)** NOx  
**Cycle** 1  
**Job Gain** 3  
**Job Loss** 52 (10 attributed to RECLAIM)  
**Comments:** The facility attributes the job losses to a combination of the economy, loss of contracts, and stringent air, water, and hazardous waste regulations

**Facility ID** 007411  
**Facility Name** Davis Wire Corp  
**City and County** Irwindale, Los Angeles County  
**SIC** 3315  
**Pollutant(s)** NOx  
**Cycle** 2  
**Job Gain** 1 attributed to RECLAIM  
**Job Loss** 0  
**Comments:** One job gained due to RECLAIM. No additional details available.

**Facility ID** 015504  
**Facility Name** Schlosser Forge Co  
**City and County** Rancho Cucamonga, San Bernardino County  
**SIC** 3462  
**Pollutant(s)** NOx  
**Cycle** 2  
**Job Gain** 0  
**Job Loss** 1 (1 attributed to RECLAIM)  
**Comments:** One non-manufacturing job lost. No additional details available.

**Facility ID** 023589  
**Facility Name** International Extrusion Corp  
**City and County** Alhambra, Los Angeles California  
**SIC** 3354  
**Pollutant(s)** NOx  
**Cycle** 2  
**Job Gain** 0  
**Job Loss** 8 (8 attributed to RECLAIM)  
**Comments:** The facility operator assumed that the cost of RTCs would be prohibitively high, and therefore in January 1994, the facility elected to reduce natural gas consumption by reducing production. This resulted in the layoff of 8 employees. Also, the layoffs reduced operating costs, which helped the facility's competitiveness.

**Facility ID** 102969  
**Facility Name** Queen Carpet Corp  
**City and County** Santa Fe Springs, Los Angeles County  
**SIC** 2272  
**Pollutant(s)** NOx  
**Cycle** 2  
**Job Gain** 113 (1 attributed to RECLAIM)  
**Job Loss** 20 (0 attributed to RECLAIM)  
**Comments:** The facility experienced a net gain of ninety-three jobs, of which one is attributed to RECLAIM. No additional details available.

**Facility ID** 800047  
**Facility Name** Fletcher Oil & Refining Co  
**City and County** Carson, Los Angeles County  
**SIC** 2911  
**Pollutant(s)** SOx, NOx  
**Cycle** 2  
**Job Gain** 0  
**Job Loss** 8 (8 attributed to RECLAIM)  
**Comments:** This facility closed before RECLAIM was adopted. The facility attributed the job losses to a shutdown intended to avoid the cost of CEMS installation of the facility's single major source. However, an AQMD engineer familiar with the facility observed that the major source is already equipped with a CEMS which could be brought into compliance with RECLAIM requirements without being too costly. Additionally, the economy has adversely impacted the facility.

**Facility ID** 800208  
**Facility Name** Paper Pak Products  
**City and County** La Verne, Los Angeles County  
**SIC** 2823  
**Pollutant(s)** NOx  
**Cycle** 2  
**Job Gain** 0  
**Job Loss** 25 (6 attributed to RECLAIM)  
**Comments:** The facility attributes six lost jobs to the approximately \$250,000 spent on CEMS. However, the facility representative pointed out that they did not factor in the "gains" associated with RECLAIM, as compared with the requirements to which the facility would be subject in the absence of RECLAIM.

## APPENDIX G

### QUARTERLY EMISSION MAPS

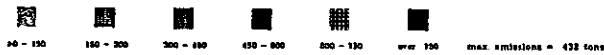
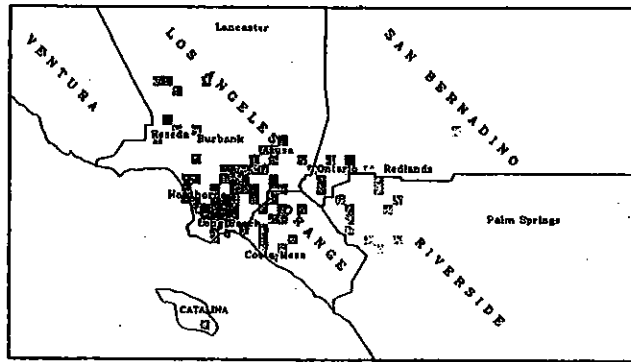
As discussed in Chapter 8, this appendix provides the quarterly maps of NOx and SOx emissions from RECLAIM facilities for each quarter from January 1994 through June 1995.

It should be noted that, in accordance with the compliance schedule of RECLAIM, the first two quarters of 1994 include Cycle 1 facility emissions only. The subsequent maps include both Cycle 1 and Cycle 2 facilities.

These maps are preliminary and subject to revision pending additional quality assurance review.

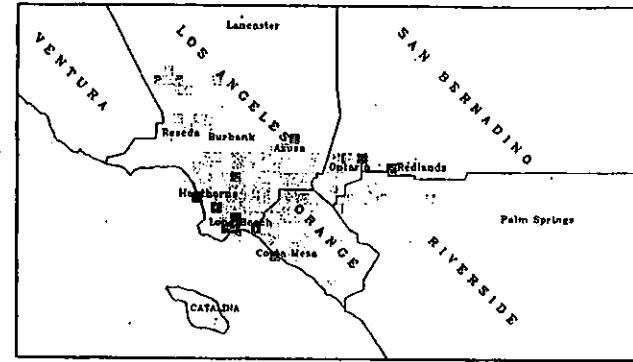
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 1/94 To 3/94



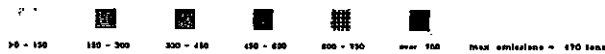
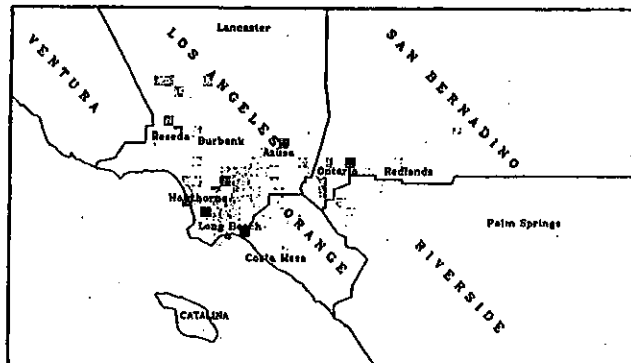
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 7/94 To 9/94



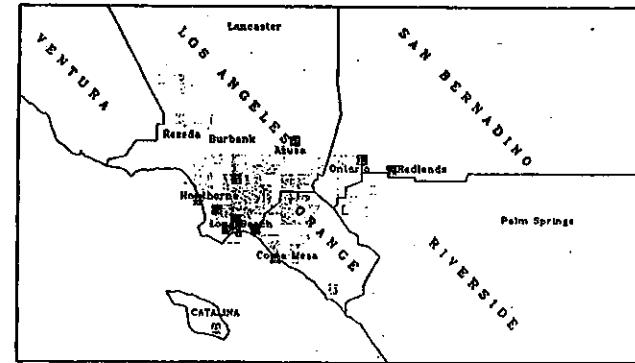
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 4/94 To 6/94



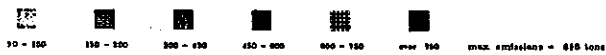
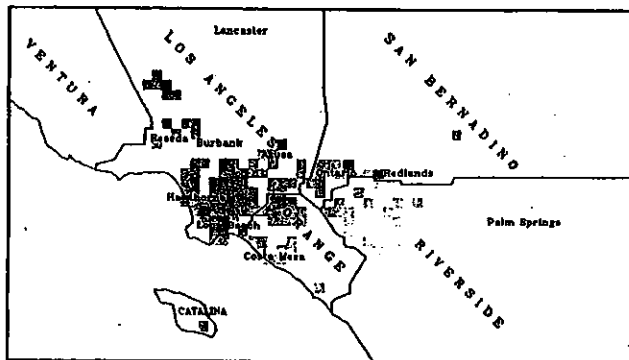
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 10/94 To 12/94



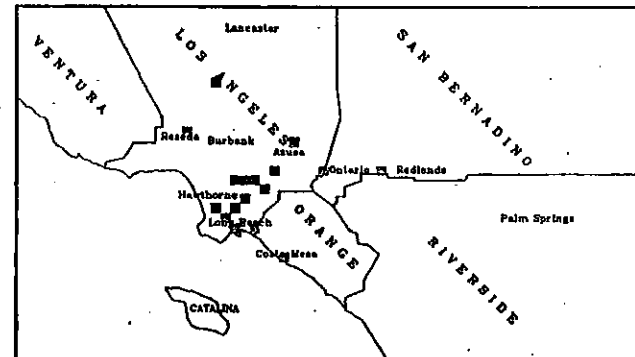
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 1/95 To 3/95



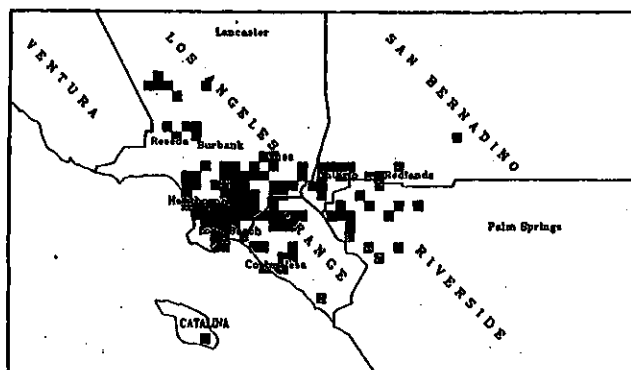
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 1/94 To 3/94



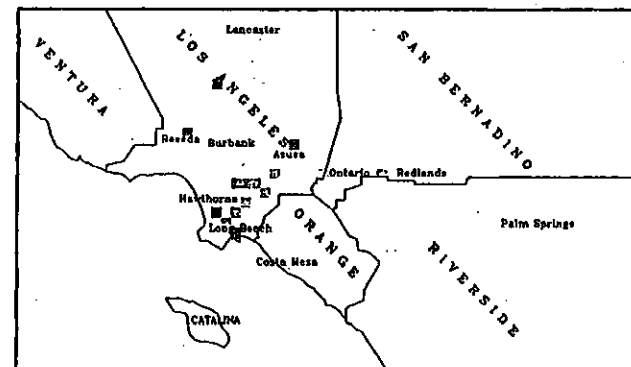
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 4/95 To 6/95



### RECLAIM Facilities

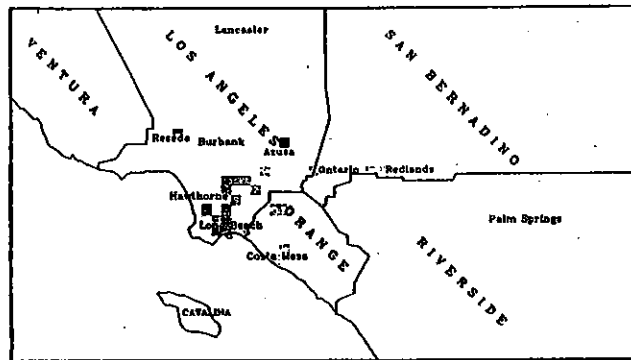
Certified SOx Emissions (Tons) From 4/94 To 6/94





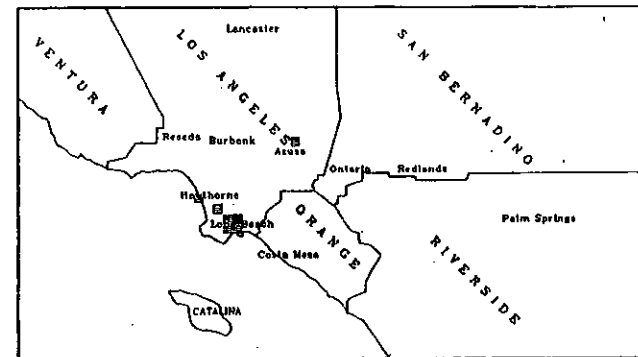
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 7/94 To 9/94



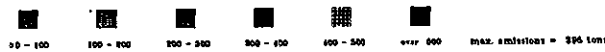
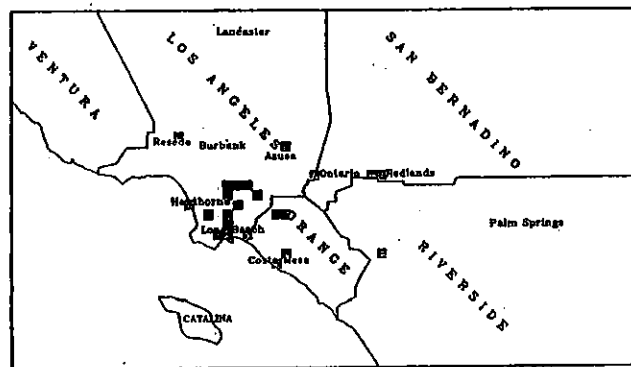
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 1/95 To 3/95



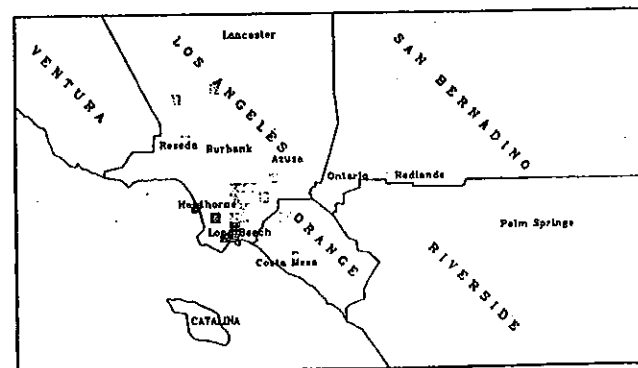
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 10/94 To 12/94



### RECLAIM Facilities

Certified SOx Emissions (Tons) From 4/95 To 6/95



## APPENDIX H

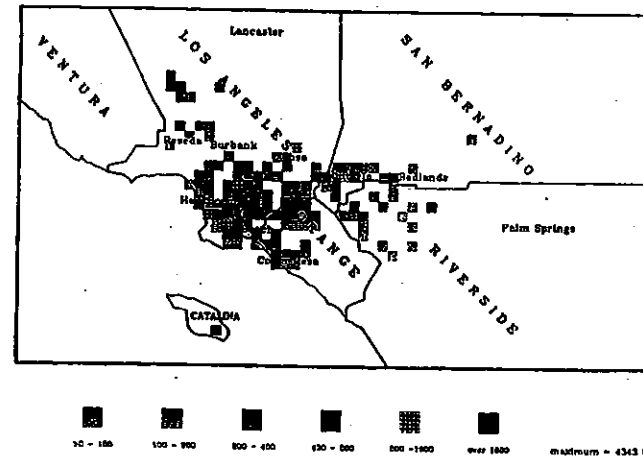
### ANNUAL EMISSION AND ALLOCATION MAPS

As discussed in Chapter 8, this appendix contains maps of the geographic distributions of initial allocations and certified emissions from RECLAIM facilities for the first compliance year for both NOx and SOx. The certified emissions maps combine emissions data for both Cycles 1 and 2.

These maps show that in each geographic sector, reported emissions from RECLAIM facilities were in the same or a lower range than the allocated emissions for the first compliance year. The maps do not appear to show any distinct geographic shift in emissions. The AQMD will continue to assess the geographic pattern of emissions as additional data becomes available.

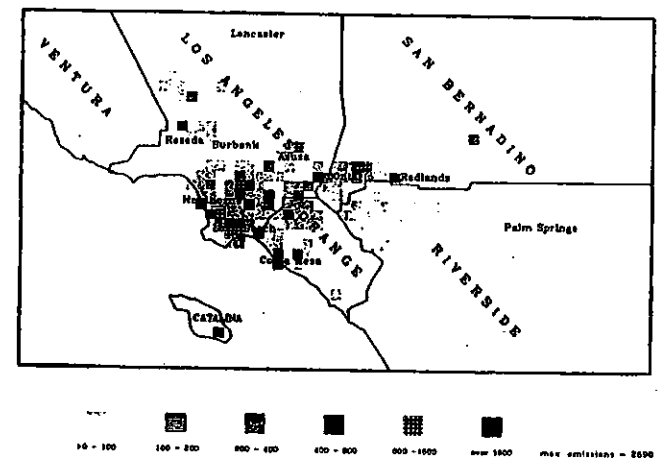
### INITIAL ALLOCATIONS

1994 NOx RTC



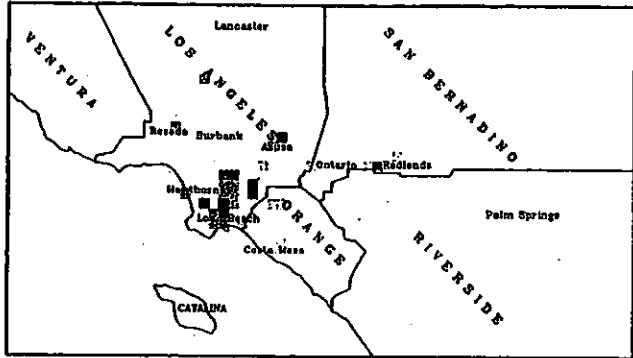
### RECLAIM Facilities

Certified NOx Emissions -- First Compliance Year



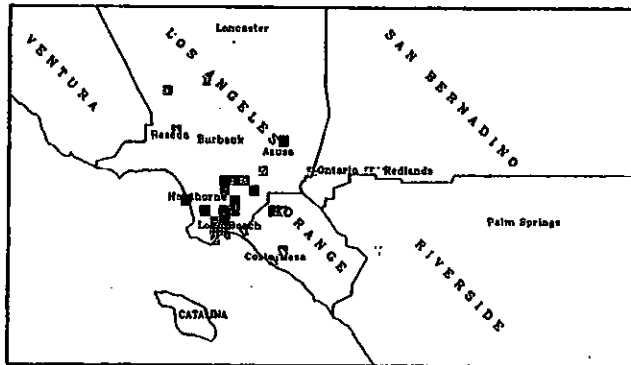
**INITIAL ALLOCATIONS**

1994 SOx RTC



**RECLAIM Facilities**

Certified SOx Emissions -- First Compliance Year



**APPENDIX I**

**RECLAIM RTC TRADING SUMMARY REPORT**



# RECLAIM

## RTC TRADING SUMMARY REPORT

REPORTING PERIOD: From: January 1, 1994 To: November 3, 1995

439 RTC Trading Transactions Recorded

381 NO<sub>x</sub> Transactions

58 SO<sub>x</sub> Transactions

### CONTENTS:

- Summary of Trading Volumes
- RTC Trading Activities
- Average Daily NO<sub>x</sub> RTC Trading Prices (Cycle 1 & Cycle 2)
- NO<sub>x</sub> RTC Unit Prices (Cycle 1 & Cycle 2)
- Average Daily SO<sub>x</sub> RTC Trading Prices (Cycle 1 & Cycle 2)
- SO<sub>x</sub> RTC Unit Prices (Cycle 1 & Cycle 2)

If you have any questions, please call Pang Mueller at x2433.

**SUMMARY OF TRADING VOLUME**

TRADE PERIOD	TOTAL 1/1/94 TO 11/3/95	1995 1/1/95 TO 11/3/95	PRIOR YEAR (S) 1/1/94 TO 12/31/94
NUMBER OF TRADING REGISTRATIONS:	439	388	51
NOX::	381	336	45
SOX:	58	52	6
QUANTITY OF RTGS TRADED	171,631,424	155,673,850	15,957,574
NOX(LB):	29,837,614	29,255,873	581,741
SOX(LB):	45,309,879	40,890,066	4,419,813
QUANTITY OF RTGS TRADED WITH VALUE > \$0.00	2,793,200	2,783,400	9,800
NOX(LB):	126,321,545	114,783,784	11,537,761
SOX(LB):	27,044,414	26,472,473	571,941
QUANTITY OF RTGS TRADED WITH VALUE = \$0.00			
NOX(LB):			
SOX(LB):			

**RTC TRADING ACTIVITIES FOR RECLAIM**

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	BUYER	SELLER	NO. OF CONTRACTS	QUANTITY (BBL)	DATE	PLANT	LOCATION	TOTAL PRICE	USE	GENERATION	CURR. COST
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	494,137	2	1996	Coasta	0.00	3	1	A
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	4,094	2	1996	Coasta	0.00	3	1	A
11-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	NOX	300	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	42,683	1	1995	Inland	0.00	1	0	A
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS & NSR USE ONLY)	NOX	907,261	2	1996	Coasta	0.00	3	1	A
11-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	NOX	67,142	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	407,501	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON; ALAMITOS GEN STA(EIS US	SO CAL EDISON CO (EIS USE)	NOX	166,723	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	282,389	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS USE)	NOX	235,842	1	1995	Coasta	0.00	1	0	B
11-02-95	SO CAL EDISON CO (EIS USE)	PACIFIC STOCK EXCHANGE	NOX	6,197,615	1	1995-1998	Coasta	0.00	3	0	B
11-02-95	SO CAL EDISON CO (EIS & NSR USE ONLY)	SO CAL EDISON CO (EIS USE)	NOX	332,029	1	1995	Coasta	0.00	1	0	B
11-01-95	SWEETHEART CUP CO INC	PACIFIC STOCK EXCHANGE	NOX	18,480	1/2	1995-1997	Coasta	2,469.17	1	0	B
11-01-95	THE SERVICE SOURCE	PACIFIC STOCK EXCHANGE	NOX	142,500	1/2	1995-1998	Coasta	9,393.00	3	0	B
11-01-95	PRAAIR INC	PACIFIC STOCK EXCHANGE	NOX	243,625	1	1995	Coasta	3,311.03	1	0	B
10-31-95	SOUTH COAST SPECIAL FACILITY ID	MINNESOTA MINING & MFG CO (EIS USE)	NOX	117,824	2	1996-2003	Inland	0.00	5	1	A
10-23-95	PACIFIC STOCK EXCHANGE	POWERINE OIL CO (EIS USE)	NOX	663,830	1	1998-1999	Coasta	0.00	3	4	A
10-23-95	SULLY-MILLER CONTRACTING CO	BORAL RESOURCES INC, IRVINE PLANT	NOX	109,683	2	1996-2011	Coasta	0.00	7	6	A
10-20-95	SO CAL GAS CO	SO CAL GAS CO	NOX	50,000	1	1995	Coasta	0.00	3	3	A
10-20-95	GARY BIRD	SUNLAW COGENERATION PARTNERS I	NOX	22	1	1995	Coasta	3.52	6	2	A
10-13-95	PACIFIC STOCK EXCHANGE	POWERINE OIL CO (EIS USE)	SOX	3,344,450	1	1995-2010	Coasta	0.00	3	4	A
10-12-95	PACIFIC STOCK EXCHANGE	POWERINE OIL CO (EIS USE)	NOX	2,129,500	1	1995-1998	Coasta	0.00	3	4	A
10-12-95	PACIFIC STOCK EXCHANGE	CALRESOURCES LLC	NOX	6,700,000	1	1996-2010	Coasta	0.00	3	3	A
10-10-95	PACIFIC STOCK EXCHANGE	TABC INC	NOX	15,000	1	1995	Coasta	0.00	3	3	A
10-10-95	PACIFIC STOCK EXCHANGE	SO CAL GAS CO (EIS USE)	NOX	300,000	1	1995-2000	Coasta	0.00	3	3	A
10-10-95	PACIFIC STOCK EXCHANGE	SO CAL GAS CO	NOX	300,000	1	1995-2000	Coasta	0.00	3	3	A
10-10-95	PACIFIC STOCK EXCHANGE	UNION OIL CO OF CAL (NSR USE ONLY)	NOX	700,000	2	1997-1998	Coasta	0.00	3	1	A
10-10-95	PACIFIC STOCK EXCHANGE	CANTOR FITZGERALD BROKERAGE, L.P.	SOX	139,297	2	1997-2011	Coasta	0.00	3	0	B
10-10-95	PACIFIC STOCK EXCHANGE	SO CAL EDISON CO (EIS USE)	NOX	3,000,000	1	1995	Coasta	0.00	3	0	B
10-09-95	PACIFIC STOCK EXCHANGE	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOX	3,200,000	1	1996-1998	Coasta	0.00	3	1	A
10-09-95	PACIFIC STOCK EXCHANGE	WEST NEWPORT OIL CO	SOX	11,751,876	1	1995-2010	Coasta	0.00	3	3	A
10-09-95	PACIFIC STOCK EXCHANGE	WEST NEWPORT OIL CO	NOX	1,552,030	1	1995-2010	Coasta	0.00	3	3	A
10-09-95	PACIFIC STOCK EXCHANGE	UNION OIL CO OF CAL (NSR USE ONLY)	NOX	600,000	2	1996-1998	Coasta	0.00	3	1	A
10-09-95	PACIFIC STOCK EXCHANGE	FLETCHER OIL & REF CO (EIS USE)	NOX	285,000	2	1996-1997	Coasta	0.00	3	4	A
10-09-95	PACIFIC STOCK EXCHANGE	CHERRY TEXTRON	NOX	4,200	1	1995	Coasta	0.00	3	3	A
09-28-95	SO CAL EDISON CO	SO CAL EDISON CO	NOX	840	1	1995	Inland	0.00	1	1	A
09-22-95	HITCO, (EIS USE)	HITCO, (EIS USE)	NOX	7,976	2	2000-2004	Coasta	0.00	1	7	B
09-15-95	OMNIBUS ENVIRONMENTAL SERVICES, INC.	MEDALLION CALIFORNIA PROPERTIES C	NOX	10,138	2	1995	Coasta	10.00	5	3	A
09-15-95	SOUTH COAST SPECIAL FACILITY ID	CHEMOIL REF CORP (NSR USE ONLY)	NOX	10,000	2	1995-1996	Coasta	0.00	5	3	A
09-08-95	AVERY DENNISON	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	18,413	1	1995	Coasta	1,638.94	1	0	B
09-08-95	BOB HILOVSKY & ASSOCIATES	BORAL RESOURCES INC, FONTANA PLAN	NOX	6,000	2	1995	Inland	0.00	5	3	A
09-07-95	LA CITY, DWP SCATTERGOOD GENERATING	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	5,393,317	1/2	1999-2011	Coasta	3,878,370.82	1	0	B
09-07-95	CANTOR FITZGERALD BROKERAGE, L.P.	GMAD	NOX	19,339	2	2001-2003	Coasta	0.00	3	0	C
09-07-95	SO CAL EDISON CO (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	2,400,477	1	1995-1997	Coasta	0.00	3	0	B
09-07-95	SHOLTZ & ASSOCIATES, LLC	MINNESOTA MINING & MFG CO (EIS USE)	NOX	28,000	2	1995	Coasta/Inland	0.00	6	3	A
09-07-95	SULLY-MILLER CONTRACTING CO	CHRISTINE GRANDSTAFF	NOX	1,500	2	1995	Coasta	1.50	1	0	C

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DATE	BUYER	SELLER	NO. OF CONTRACTS	UNIT PRICE	AMOUNT	DATE	ORIGINATING FIRM	COASTAL	INLAND	COASTAL/INLAND
08-31-95	SERRA-PACIFIC ENVIRONMENTAL, INC.	UNOCAL OIL CO OF CALIF. OIL & GAS DIV	NOX	63,619	1995	2	Coastal			0.00
08-31-95	SERRA-PACIFIC ENVIRONMENTAL, INC.	UNOCAL OIL CO OF CALIFORNIA	NOX	19,305	1995	2	Coastal			0.00
08-31-95	OMNIBUS ENVIRONMENTAL SERVICES, INC.	UNION OIL CO OF CALIFORNIA, UNOCAL	NOX	20,574	1995	2	Coastal			0.00
08-31-95	ARCO PRODUCTS CO	LA CITY, DEPT. OF AIRPORT (EIS USE ONLY)	NOX	40,000	1995	2	Coastal			150.00
08-31-95	ARTESIA KNITS INC	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	600,000	1996-1997	2	Coastal			0.00
08-31-95	CANTOR FITZGERALD BROKERAGE, L.P.	PACIFIC STOCK EXCHANGE	NOX	17,000	1995	2	Coastal			1.70
08-31-95	SHULTZ STEEL CO	ENERGY SERVICES CO	NOX	24,960	1995	2	Coastal/Inland			0.00
08-31-95	ENERGY SERVICES CO	LUNDAY-THAGARD OIL CO (EIS USE)	NOX	9,520	1995	2	Coastal			0.00
08-31-95	US GYPSUM CO	CHRISTINE GRANDSTAFF	NOX	10,000	1995	2	Coastal			10.00
08-31-95	CHRISTINE GRANDSTAFF	BLUE DIAMOND MATERIALS, DIV SULLY	NOX	6,200	1995	2	Coastal			0.00
08-31-95	CHRISTINE GRANDSTAFF	CALIFORNIA PORTLAND CEMENT CO (NS)	NOX	1,372,232	1995	2	Inland			0.00
08-31-95	CHRISTINE GRANDSTAFF	BORAL RESOURCES INC, IRVINE PLANT	NOX	10,500	1995	2	Coastal			0.00
08-31-95	CHRISTINE GRANDSTAFF	SULLY-MILLER CONTRACTING CO, BLUE	NOX	10,800	1995	2	Coastal			0.00
08-31-95	CHRISTINE GRANDSTAFF	CALIFORNIA PORTLAND CEMENT CO (NS)	SOX	236,289	1995	2	Inland			0.00
08-31-95	CHRISTINE GRANDSTAFF	TRANS WORLD AIRLINES INC	NOX	44,124	1995	2	Coastal			0.00
08-31-95	CANADA MALTING CO LTD, GREAT WESTER	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	662	1995	2	Coastal			0.03
08-31-95	PROGRESSIVE CUSTOM WHEELS	ENERGY SERVICES CO	NOX	8,300	1995	2	Inland			0.00
08-31-95	ENERGY SERVICES CO	CALRESOURCES LLC	NOX	20,000	1995	2	Inland			0.00
08-31-95	CARLTON FORCE WORKS	ENERGY SERVICES CO	NOX	11,000	1995	2	Coastal			400.00
08-31-95	PRESS FORCE CO	ENERGY SERVICES CO	NOX	4,140	1995	2	Coastal			275.00
08-31-95	CHRISTINE GRANDSTAFF	FLETCHER OIL & REF CO (EIS USE)	NOX	303,111	1995	2	Coastal			103.50
08-30-95	LIGHT METALS INC	CHRISTINE GRANDSTAFF	NOX	600	1995	2	Inland			0.60
08-30-95	ENERGY SERVICES CO	LUNDAY-THAGARD OIL CO (EIS USE)	NOX	22,000	1995	2	Coastal			0.00
08-30-95	CANTOR FITZGERALD BROKERAGE, L.P.	FRB COGEN PARTNERS, L.P.	NOX	31,969	1995	2	Coastal			0.00
08-30-95	CHRISTINE GRANDSTAFF	PAPER PAK PROD. INC (EIS USE)	NOX	32,000	1995	2	Inland			0.00
08-30-95	CHRISTINE GRANDSTAFF	HOLIDAY ROCK CO INC	NOX	12,400	1995	2	Coastal/Inland			0.00
08-30-95	SIGNAL HILL PETROLEUM INC	SIGNAL HILL PETROLEUM INC	NOX	44,000	1995	2	Coastal			0.00
08-30-95	ENERGY SERVICES CO	VISTA METALS CORPORATION	NOX	15,000	1995	2	Inland			0.00
08-30-95	SHOLTZ & ASSOCIATES, LLC	THE SERVICE SOURCE	NOX	1,000,000	1995	2	Coastal			0.00
08-30-95	CALRESOURCES LLC	PACIFIC STOCK EXCHANGE	NOX	30,000	1995	2	Coastal			0.00
08-30-95	CHRISTINE GRANDSTAFF	FLETCHER OIL & REF CO (EIS USE)	SOX	212,817	1995	2	Coastal			0.00
08-29-95	MOBIL OIL CORP (EIS USE)	THE SERVICE SOURCE	NOX	478,000	1995	2	Coastal			348.94
08-29-95	SCHLOSSER FORCE CO	THE SERVICE SOURCE	NOX	1,224	1995	2	Coastal			12.24
08-29-95	SHOLTZ & ASSOCIATES, LLC	KAT KAN FOODS INC	NOX	3,100	1995	2	Coastal			0.00
08-29-95	THE PQ CORP	DOMTAR GYPSUM INC	SOX	348	1995	2	Coastal			1.04
08-29-95	HUGHES AIRCRAFT CO (EIS USE)	CHRISTINE GRANDSTAFF	NOX	6,000	1995	2	Coastal			0.00
08-29-95	CHRISTINE GRANDSTAFF	THE PQ CORP	NOX	31,102	1995	2	Coastal			1,000
08-29-95	SHOLTZ & ASSOCIATES, LLC	SHELL OIL CO (EIS USE)	SOX	1,265,829	1995	2	Coastal			0.00
08-29-95	SHOLTZ & ASSOCIATES, LLC	SHELL OIL CO (EIS USE)	NOX	1,525,572	1995	2	Coastal			0.00
08-29-95	NATIONAL HEALTHY AIR LICENSE EXCHAN	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	2,872,255	1995	2	Coastal/Inland			143.61
08-29-95	GUARDIAN INDUSTRIES CORP.	CHRISTINE GRANDSTAFF	SOX	303	1995	2	Coastal			0.91
08-29-95	CUSTOM ALLOY SALES INC	CHRISTINE GRANDSTAFF	NOX	766	1995	2	Coastal			0.77
08-29-95	LIGHT METALS INC	CHRISTINE GRANDSTAFF	NOX	2,873	1995	2	Inland			2.87
08-29-95	ARCO PRODUCTS CO	POWERFINE OIL CO (EIS USE)	SOX	1,672,237	1995-2010	1	Coastal			649,998.52
08-29-95	UNOCAL REFINERY & MARKETING CORP	PACIFIC STOCK EXCHANGE	NOX	285,000	1995	2	Coastal			0.00

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08-28-95	JEANNETTE V. OREL	SO CAL EDISON CO (EIS USE)	NOX	2,000		1	1995	Coasta		30.00	6				B
08-28-95	UNOCAL REFINERY & MARKETING CORP	UNION OIL CO OF CAL (NSR USE ONLY)	NOX	455,375		2	1995	Coasta		0.00	1				B
08-28-95	UNION OIL CO OF CAL (NSR USE ONLY)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	3,200,000		2	1996-1999	Coasta		0.00	1				B
08-28-95	SO CAL GAS CO (EIS USE)	CENTRAL PLANTS INC	NOX	4,830		2	1995	Coasta		0.00	1				B
08-28-95	SO CAL GAS CO (EIS USE)	CENTRAL PLANTS INC	NOX	11,524		2	1995	Coasta		0.00	1				B
08-28-95	GEOROI-A-PACIFIC CORP	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	3,500		2	1995	Coasta		0.18	1				B
08-28-95	BILL O'BRIEN	EDGINGTON OIL COMPANY	NOX	10,900		2	1995	Coasta		0.00	4				B
08-28-95	BILL O'BRIEN	EDGINGTON OIL COMPANY	NOX	10,400		2	1995	Coasta		0.00	3				B
08-28-95	CHRISTINE GRANDSTAFF	BREA CANYON OIL COMPANY-ALBERTLE	NOX	22,064		2	1995	Coasta		0.00	4				B
08-28-95	CHEVRON U.S.A. INC (EIS USE)	PACIFIC STOCK EXCHANGE	NOX	6,658		2	1995	Coasta		0.00	1				B
08-28-95	CHEVRON U.S.A. INC (EIS USE)	PACIFIC STOCK EXCHANGE	NOX	131,836		2	1995	Coasta		0.00	1				B
08-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP VALLEY GENERATING ST	NOX	499,378		2	1995	Coasta		0.00	3				B
08-28-95	BOB HILOVSKY & ASSOCIATES	SIERRA ALUMINUM COMPANY	NOX	3,500		2	1995	Inland		0.00	5				A
08-28-95	CHRISTINE GRANDSTAFF	DOMTAR GYPSUM INC	NOX	24,700		2	1995	Coasta		0.00	4				A
08-28-95	CHRISTOPHER ASSAD	PACIFIC STOCK EXCHANGE	NOX	22,000		2	1995	Coasta		6.60	6				B
08-28-95	CHRISTOPHER ASSAD	PACIFIC STOCK EXCHANGE	NOX	44,710		1/2	1995-2000	Coasta/Inland		94.60	46				B
08-28-95	CHRISTINE GRANDSTAFF	R J NOBLE COMPANY	NOX	7,100		2	1995	Coasta		0.00	4				A
08-28-95	CHRISTINE GRANDSTAFF	DOMTAR GYPSUM INC	NOX	15,652		2	1995	Coasta		0.00	4				A
08-28-95	CHRISTINE GRANDSTAFF	BANK OF AMER/CORPORATE REAL ESTA	NOX	68,044		2	1995	Coasta		0.00	3				A
08-28-95	LISTON BRICK COMPANY OF CORONA	SIERRA ALUMINUM COMPANY	NOX	2,000		2	1995	Inland		0.00	1				A
08-28-95	CLOUGHERTY PACKING CO, FARMER JOHN	INDUSTRIAL ASPHALT JV/P, HUNTMIX IN	NOX	3,170		2	1995	Coasta		31.70	1				B
08-28-95	RICOH ELECTRONICS INC	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	179,958		2	1995	Coasta		1.08	6				B
08-28-95	NATIONAL HEALTHY AIR LICENSE EXCHAN	INTL EXTRUSION CORP	NOX	9,162		2	1995	Inland		0.00	5				A
08-28-95	AMERICAN LUNG ASSOCIATION	HARBOR COGENERATION CO	NOX	64,587		2	1995	Coasta		0.00	3				A
08-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	THE SERVICE SOURCE	NOX	900		2	1995	Coasta		9.00	1				B
08-28-95	DAVIS WIRE CORP	INDUSTRIAL ASPHALT JV/P, HUNTMIX IN	NOX	2,872		2	1995	Coasta		0.00	4				A
08-28-95	CHRISTINE GRANDSTAFF	LA CITY, DWP VALLEY GENERATING ST	NOX	34,950		2	1995-1996	Coasta		4,804.99	1				B
08-28-95	TRANS-AMERICAN PLASTICS CORP	SIERRA ALUMINUM COMPANY	NOX	3,000		2	1995	Inland		0.00	1				A
08-28-95	CHRISTINE GRANDSTAFF	INDUSTRIAL ASPHALT	NOX	22,163		2	1995	Coasta		0.00	4				C
08-28-95	CHRISTINE GRANDSTAFF	INDUSTRIAL ASPHALT	NOX	2,296		2	1995	Coasta		0.00	4				A
08-28-95	CHRISTINE GRANDSTAFF	INDUSTRIAL ASPHALT	NOX	4,831		2	1995	Inland		0.00	4				A
08-28-95	BOB HILOVSKY & ASSOCIATES	BHP COATED STEEL CORP	NOX	22,000		2	1995	Inland		0.00	5				A
08-28-95	ONTARIO COGENERATION INC	PACIFIC CLAY PRODUCTS	NOX	8,000		2	1995	Inland		80.00	3				A
08-28-95	SO CAL EDISON CO (EIS USE)	PACIFIC STOCK EXCHANGE	NOX	684,990		1	1995-1997	Coasta		0.00	3				B
08-28-95	UNION STATES CAN CO	SO CAL EDISON CO (EIS USE)	NOX	4,000		1	1995	Coasta		100.00	1				B
08-28-95	NORTROP GRUMMAN CORP (EIS USE)	NORTROP GRUMMAN CORP, AIRCRAFT	NOX	3,100		2	1995	Coasta		0.00	1				B
08-28-95	MARUCHAN INC	THE SERVICE SOURCE	NOX	100		2	1995	Coasta		1.00	1				A
08-28-95	FILITROL CORP	POWERLINE OIL CO (EIS USE)	NOX	140,000		1	1997-2003	Coasta		70,000.00	1				B
08-21-95	R. R. DONNELLEY & SONS CO, LA MFG DIV	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	3,628		2	1995	Coasta		0.18	1				A
08-18-95	JORGENSEN ENVIRONMENTAL, INC.	GAF BUILDING MATERIALS CORPORATI	NOX	147,306		2	1995	Inland		0.00	6				A
08-18-95	JORGENSEN ENVIRONMENTAL, INC.	GAF BUILDING MATERIALS CORPORATI	NOX	93,146		2	1995	Inland		0.00	6				A
08-18-95	BMCA INSULATION PRODUCTS, INC	GAF BUILDING MATERIALS CORPORATI	NOX	5,500		2	1995	Inland		0.00	1				A
08-18-95	US BOKAY INC (EIS USE)	THE SERVICE SOURCE	NOX	4,000		2	1995	Coasta		40.00	1				B
08-18-95	GUARDIAN INDUSTRIES CORP.	US GYPSUM CO	NOX	47,000		2	1995	Coasta		141.00	1				B
08-18-95	PACIFIC CLAY PRODUCTS INC	PACIFIC CLAY PRODUCTS	NOX	10,000		2	1995	Inland		0.00	1				A



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08-18-95	POWERLINE OIL CO (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	1,371,880	1	1995-1998	Coastal	0.00	1
08-16-95	HITCO, (EIS USE)	BP CHEMICALS (HITCO) INC, FIBERS & M	NOX	37,073	2	1997-2011	Coastal	0.00	1
08-16-95	HITCO, (EIS USE)	BP CHEMICALS (HITCO) INC, FIBERS & M	NOX	54,458	2	1997-2011	Coastal	0.00	1
08-16-95	CES ENERGY CORONA, LTD.	PACIFIC CLAY PRODUCTS	NOX	1,100	2	1995	Inland	0.00	1
08-16-95	CES ENERGY ALBERHILL, LTD	PACIFIC CLAY PRODUCTS	NOX	2,400	2	1995	Inland	0.00	1
08-16-95	CHRISTINE GRANDSTAFF	PACIFIC CLAY PRODUCTS	NOX	4,260	2	1995	Inland	0.00	1
08-16-95	CHRISTINE GRANDSTAFF	ATKINSON BRICK CO	NOX	13,812	2	1995	Coastal	0.00	4
08-16-95	CANTOR FITZGERALD BROKERAGE, L.P.	POWERLINE OIL CO (EIS USE)	NOX	2,577,600	1	1995-2010	Coastal	0.00	3
08-15-95	ANCHOR GLASS CONTAINER CORP	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	79,218	2	1995	Coastal	0.00	1
08-15-95	ANCHOR GLASS CONTAINER CORP	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	358,109	2	1995	Coastal	0.00	1
08-15-95	JORGENSEN ENVIRONMENTAL, INC.	FRUIT GROWERS SUPPLY CO	NOX	19,000	2	1995	Inland	0.00	6
08-15-95	CHRISTINE GRANDSTAFF	ROHR, INC	NOX	14,000	2	1995	Inland	0.00	4
08-11-95	AMERICAN LUNG ASSOCIATION	SIMPSON PAPER CO (EIS ONLY)	NOX	40,000	2	1995	Inland	0.00	6
08-11-95	LA CITY, DWP HARBOR GENERATING STATION	LA CITY, DWP HAYNES GENERATING ST	NOX	150,000	1	1995	Coastal	0.00	1
08-10-95	CHRISTINE GRANDSTAFF	QUEEN CARPET CORP, TUFTEX CARPET	NOX	7,500	2	1995	Coastal	0.00	4
08-10-95	SCEC	VERNON CITY, LIGHT & POWER DEPT	NOX	190,000	2	1995	Coastal	0.00	3
08-10-95	SANOI BROAD INDUSTRIES, ANAHEIM CITRUS	ANAHEIM CITRUS PRODUCTS CO	NOX	239,957	1	1995-2010	Coastal	0.00	7
08-10-95	SHOLTZ & ASSOCIATES, LLC	ANAHEIM CITRUS PRODUCTS CO	NOX	33,139	2	1995	Coastal	0.00	6
08-09-95	ALPHA/OWENS-CORNING, L.L.C.	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	800	2	1995	Inland	0.04	1
08-09-95	CANTOR FITZGERALD BROKERAGE, L.P.	NATIONAL GYPSUM CO	NOX	33,500	2	1995	Coastal	0.00	3
08-09-95	INDUSTRIAL ASPHALT JV/PT HUNTMIX INC	INDUSTRIAL ASPHALT	NOX	1,497	2	1995	Coastal	0.00	1
08-08-95	CANTOR FITZGERALD BROKERAGE, L.P.	POWERLINE OIL CO (EIS USE)	NOX	3,316,400	1	1995-2010	Coastal	0.00	3
08-08-95	CANTOR FITZGERALD BROKERAGE, L.P.	UNION OIL CO OF CAL (NSR USE ONLY)	NOX	3,200,000	2	1995-1999	Coastal	0.00	3
08-08-95	LIBBEY GLASS, INC	PACIFIC STOCK EXCHANGE	NOX	9,370	2	1995	Inland	0.09	1
08-02-95	SPECIALTY PAPER MILLS INC	PACIFIC STOCK EXCHANGE	NOX	1,430	2	1995	Coastal	0.15	1
08-02-95	KAL KAN FOODS INC	PACIFIC STOCK EXCHANGE	NOX	4,500	2	1995	Coastal	0.45	1
08-02-95	LORBER INDUSTRIES OF CALIFORNIA	PACIFIC STOCK EXCHANGE	NOX	14,800	1/2	1995-1996	Coastal	859.48	1
08-02-95	MATCHMASTER DYING & FINISHING INC	PACIFIC STOCK EXCHANGE	NOX	3,200	2	1995	Coastal	0.32	1
08-02-95	CANTOR FITZGERALD BROKERAGE, L.P.	UNION OIL CO OF CAL (NSR USE ONLY)	NOX	869,007	2	1995	Coastal	0.00	3
08-02-95	UNION OIL CO OF CAL (NSR USE ONLY)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	6,820,708	2	1995-2011	Coastal	3,650,009.74	1
08-02-95	CALIFORNIA MILK PRODUCERS	SIMPSON PAPER CO (EIS ONLY)	NOX	5,000	2	1995	Inland	250.00	1
08-01-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON; ALAMITOS GEN STAEIS	NOX	3,570,596	1	1995	Coastal	0.00	3
08-01-95	SO CAL EDISON; ALAMITOS GEN STAEIS US	SO CAL EDISON CO	NOX	3,890	2	1995	Coastal	0.00	1
08-01-95	SO CAL EDISON; ALAMITOS GEN STAEIS US	SO CAL EDISON CO (EIS & NSR USE ONLY)	NOX	48,406	2	1995	Coastal	0.00	1
08-01-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS & NSR USE ONLY)	NOX	13,658	2	1995	Coastal	0.00	1
08-01-95	SO CAL EDISON CO	SO CAL EDISON CO (EIS & NSR USE ONLY)	NOX	43,822	2	1995	Coastal	0.00	1
08-01-95	SO CAL EDISON; ALAMITOS GEN STAEIS US	SO CAL EDISON CO (EIS USE)	NOX	16,099	2	1995	Coastal	0.00	1
08-01-95	SO CAL GAS CO (EIS USE)	PACIFIC STOCK EXCHANGE	NOX	11,000	1	1999-2000	Coastal	10,289.70	1
07-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	GMAD	NOX	226,189	2	1996-2011	Coastal	0.00	3
07-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	GMAD	NOX	283,985	2	1996-2011	Coastal	0.00	3
07-27-95	PACIFIC ECONOMIC RESEARCH CO.	PACIFIC STOCK EXCHANGE	NOX	16,000	1	2000-2001	Coastal	16,778.40	0
07-27-95	WESTERN WHEEL CORP	PACIFIC STOCK EXCHANGE	NOX	25,000	1/2	1995	Coastal	88.50	1
07-27-95	UNOCAL REFINERY & MARKETING CORP	PACIFIC STOCK EXCHANGE	NOX	200,000	2	1995	Coastal	60.00	1
07-27-95	THE SERVICE SOURCE	PACIFIC STOCK EXCHANGE	NOX	1,500,000	2	1995	Coastal	150.00	0
07-27-95	THE SERVICE SOURCE	PACIFIC STOCK EXCHANGE	NOX	209,000	2	1995	Coastal	62.70	0
07-25-95	CANTOR FITZGERALD BROKERAGE, L.P.	OIS ENERGY-CHINO C/O ENERGY INITIA	NOX	30,000	1	1995-1996	Inland	0.00	3

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DATE	BUYER	SELLER	QTY	UNIT	PRICE	AMOUNT	COST	PROFIT	STATUS
07-25-95	CANTOR FITZGERALD BROKERAGE, L.P.	ROCKWELL INTL CORP (EIS USE)	NOX		13,066		0.00		A
07-25-95	CANTOR FITZGERALD BROKERAGE, L.P.	MOBIL OIL CORP (EIS USE)	SOX		300,000		0.00		A
07-25-95	DANIEL E. MONETTE	TABC INC	NOX		23,015		0.00		A
07-25-95	ANGELICA HEALTHCARE SERVICE GROUP I	ANGELICA HEALTHCARE SERVICES GRO	NOX		125		0.00		A
07-21-95	CANTOR FITZGERALD BROKERAGE, L.P.	ANCHOR GLASS CONTAINER CORP	NOX		6,582,708		0.00		C
07-20-95	CANTOR FITZGERALD BROKERAGE, L.P.	ANCHOR GLASS CONTAINER CORP	SOX		3,566,297		0.00		A
07-20-95	CANTOR FITZGERALD BROKERAGE, L.P.	BREITBURN ENERGY CORP	NOX		56,000		0.00		A
07-18-95	CANTOR FITZGERALD BROKERAGE, L.P.	ANAHEIM FOUNDRY INC	SOX		124,297		0.00		A
07-18-95	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL EDISON ALAMITOS GEN STAGEIS	NOX		1,118,000		0.00		A
07-18-95	CANTOR FITZGERALD BROKERAGE, L.P.	ROCKWELL INTERNATIONAL, ISC DIV	NOX		4,000		0.00		A
07-18-95	CANTOR FITZGERALD BROKERAGE, L.P.	UNION OIL CO OF CAL (NSR USE ONLY)	NOX		50,000		0.00		A
07-18-95	CANTOR FITZGERALD BROKERAGE, L.P.	INLAND CONTAINER CORP	NOX		281,750		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	CHEMOIL REF CORP (NSR USE ONLY)	NOX		32,207		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	WESTERN DYING & FINISHING CORP	NOX		133,653		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	TIDELANDS OIL PRODUCTION CO	NOX		194,754		0.00		A
07-12-95	GUARDIAN INDUSTRIES CORP.	BREA CANYON OIL CO INC	NOX		120,000		840.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	TIDELANDS OIL PRODUCTION COMPANY	NOX		59,471		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	TIDELANDS OIL PRODUCTION COMPANY	NOX		192,883		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	TIDELANDS OIL PRODUCTION COMPANY	NOX		53,500		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	SAN DIEGO GAS & ELECTRIC	NOX		359,406		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	LONITA GASOLINE CO INC	NOX		70,500		0.00		A
07-12-95	CANTOR FITZGERALD BROKERAGE, L.P.	THE PQ CORP	NOX		280,000		3.72		A
07-11-95	SHARYN STEAM INC	INLAND CONTAINER CORP	NOX		7,447		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	SO CAL GAS CO (EIS USE)	NOX		200,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	CHEVRON U.S.A. INC (EIS USE)	SOX		576,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	CHEVRON U.S.A. INC (EIS USE)	NOX		2,142,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	CAL RESOURCES LLC	NOX		2,000,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	CAL RESOURCES LLC 104014	NOX		1,981,341		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	RED LION HOTEL /ORANGE COUNTY AIR	NOX		54,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	LIBBEY GLASS, INC	NOX		50,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	MOBIL OIL CORP (EIS USE)	SOX		300,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	UNION OIL CO OF CAL (NSR USE ONLY)	NOX		400,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	SO CAL EDISON; ALAMITOS GEN STAGEIS	NOX		765,000		0.00		A
07-07-95	PACIFIC STOCK EXCHANGE	PACIFIC COAST BLDG PRODS INC,PABCO	SOX		11,000		0.00		A
06-29-95	DOMTAR GYPSUM INC	DOMTAR GYPSUM INC	SOX		173,954		0.00		A
06-29-95	SO CAL GAS CO (EIS USE)	CENTRAL PLANTS INC	NOX		22,000		0.00		A
06-29-95	SO CAL GAS CO (EIS USE)	CENTRAL PLANTS INC	NOX		58,000		0.00		A
06-29-95	NORTHROP GRUMMAN CORP, AIRCRAFT DI	NORTHROP GRUMMAN CORP (EIS USE)	NOX		20,000		1.00		A
06-29-95	BMCA INSULATION PRODUCTS, INC	INTL PERMALITE INC	NOX		516,657		0.00		A
06-28-95	DOMTAR GYPSUM INC	DOMTAR GYPSUM INC	NOX		347,707		0.00		A
06-09-95	US GYPSUM CO	THE PQ CORP	NOX		57,200		0.00		A
06-08-95	CEPO OF AMERICA, INC	ANCHOR GLASS CONTAINER CORP	NOX		18,441		7,376.40		A
06-06-95	ENERGY SERVICES CO	NORRIS IND (EIS USE)	NOX		21,963		0.00		A
06-06-95	CALIFORNIA STEEL INDUSTRIES INC	ORIGON STEEL MILLS-PONTANA DIV, 1	NOX		3,772,584		0.00		A
06-01-95	DOUGLAS AIRCRAFT CO (EIS USE)	DOUGLAS AIRCRAFT CO, TORR FAC (EIS	NOX		263,161		0.00		A
05-23-95	BARMET ALUMINUM CORP	CAL RESOURCES LLC	NOX		74,400		43,350.00		A

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DATE	BUYER	SELLER	QUANTITY	UNIT PRICE	TOTAL	ACCOUNT	STATUS	TYPE	LOCATION	DATE	BUYER	SELLER	QUANTITY	UNIT PRICE	TOTAL	ACCOUNT	STATUS	TYPE	LOCATION
05-22-95	U.S. GOVT. DEPT OF NAVY	DOSKOCH, SPECIALTY BRANDS CO	8,000	8.00	8,000.00	Coasta	1995	2	Coasta	1995	8,000.00	1	3	A					
05-16-95	CHRISTOPHER ASSAD	SHOLTZ & ASSOCIATES, LLC	10,000	10.00	10,000.00	Coasta	1996-1997	2	Coasta	1997	0.00	1	1	B					
05-16-95	TABC INC	SHOLTZ & ASSOCIATES, LLC	2,213,156	0.00	0.00	Coasta	1995-2010	1	Coasta	2010	0.00	1	6	A					
05-16-95	SIGNAL HILL PETROLEUM INC	AMRIGAS PROPANE L.P.	108,824	0.00	0.00	Inland	1995-2010	1	Inland	2010	0.00	1	6	A					
05-22-95	DOSKOCH, SPECIALTY BRANDS CO	DOSKOCH, SPECIALTY BRANDS COMPAN	8,000	8.00	8,000.00	Coasta	1995	2	Coasta	1995	8,000.00	1	3	A					
05-09-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	400,000	0.00	0.00	Coasta	1995	2	Coasta	1995	0.00	1	0	B					
05-09-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	100,000	0.00	0.00	Coasta	1995	2	Coasta	1995	0.00	1	0	B					
05-09-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	300,000	0.00	0.00	Coasta	1995	2	Coasta	1995	0.00	1	0	B					
05-09-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	251,000	0.00	0.00	Coasta	1995	2	Coasta	1995	0.00	1	3	A					
05-09-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	450,000	0.00	0.00	Coasta	1995	2	Coasta	1995	0.00	1	0	B					
05-02-95	SO CAL EDISON; ATAMITOS GEN STAEIS US	SO CAL EDISON CO	1,297,913	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	1	0	B					
05-02-95	SO CAL EDISON; ATAMITOS GEN STAEIS US	SO CAL EDISON CO	2,242,809	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	1	1	A					
05-02-95	SO CAL EDISON; ATAMITOS GEN STAEIS US	SO CAL EDISON CO	813,874	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	1	1	A					
05-02-95	MCDONNELL DOUGLAS HELICOPTER CO	KEYSOR-CENTURY CORP	8,000	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	1	6	A					
04-25-95	KEYSOR-CENTURY CORP	R J NOBLE COMPANY	4,000	0.00	0.00	Coasta	1995	2	Coasta	1995	40.00	1	3	A					
04-18-95	PETER VENTURINI	SO CAL EDISON; ATAMITOS GEN STAEIS	3,500	0.00	0.00	Coasta	1995	2	Coasta	1995	35.00	1	1	A					
04-12-95	SHOLTZ & ASSOCIATES, LLC	UNION OIL CO OF CAL (NSR USE ONLY)	2,000	0.00	0.00	Coasta	1995	1	Coasta	1995	11.00	6	2	A					
04-12-95	SHOLTZ & ASSOCIATES, LLC	TABC INC	45,000	0.00	0.00	Coasta	1995-1997	2	Coasta	1997	0.00	3	2	A					
04-12-95	SHOLTZ & ASSOCIATES, LLC	MOBIL OIL CORP (EIS USE)	50	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	3	2	A					
04-12-95	SHOLTZ & ASSOCIATES, LLC	MOBIL OIL CORP (EIS USE)	50	0.00	0.00	Coasta	1995	1	Coasta	1995	0.00	3	2	A					
03-21-95	MCCLEINTOCK, WESTON, BENSHOOF, ROCHE	WEST NEWPORT OIL CO	768,390	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	6	0	B					
03-21-95	MCCLEINTOCK, WESTON, BENSHOOF, ROCHE	WEST NEWPORT OIL CO	365,978	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	6	0	B					
03-10-95	MARKET-BASED SOLUTIONS, INC.	ULTRAMAR INC (NSR USE ONLY)	180,000	0.00	0.00	Coasta	1994	1	Coasta	1994	18.00	1	1	A					
03-06-95	INDUSTRIAL ASPHALT	INTL LIGHT METALS CORP (EIS USE)	12,675	0.00	0.00	Coasta	1995-1997	1	Coasta	1997	0.00	4	5	B					
03-02-95	COALITION FOR CLEAN AIR	SUNLAW COGENERATION PARTNERS I	342,595	0.00	0.00	Coasta	1995-2011	2	Coasta	2011	153,482.56	4	0	C					
03-02-95	CHRISTINE GRANDSTAFF	AMRIGAS PROPANE L.P.	350,000	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	6	2	A					
03-02-95	MOBIL OIL CORP (EIS USE)	CANNERS STEAM CO INC	350,000	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	4	6	A					
03-02-95	CAL RESOURCES LLC	SHELL WESTERN E&P INC, (BREA FIELD)	39,521	0.00	0.00	Coasta	1995-2011	2	Coasta	2011	145.89	1	1	A					
03-02-95	CAL RESOURCES LLC	SHELL WESTERN E&P INC	2,384,370	0.00	0.00	Coasta	1995-2011	1/2	Coasta	2011	3,736,820.00	1	6	A					
03-02-95	DANIEL E. MONETTE	SHELL WESTERN E&P INC	19,148,238	0.00	0.00	Coasta	1994-2010	1	Coasta	2010	44,744,197.00	1	6	A					
03-02-95	SIGNAL HILL PETROLEUM INC	TABC INC	20,380	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	4	3	A					
03-02-95	SUPERIOR INDUSTRIES INTERNATIONAL IN	CHRISTINE GRANDSTAFF	100,000	0.00	0.00	Coasta	1994	1	Coasta	1994	100.00	1	0	C					
03-02-95	SHULTZ STEEL CO	ENERGY SERVICES CO	1,340	0.00	0.00	Coasta	1994	1	Coasta	1994	1.34	1	0	C					
03-02-95	WESTERN WHEEL CORP	ENERGY SERVICES CO	5,278	0.00	0.00	Coasta	1994	1	Coasta	1994	5.28	1	0	C					
03-02-95	ENERGY SERVICES CO	ENERGY SERVICES CO	2,000	0.00	0.00	Coasta	1994	1	Coasta	1994	2.00	1	0	C					
03-02-95	ENERGY SERVICES CO	PACIFIC FORGE INC	5,826	0.00	0.00	Inland	1994	1	Inland	1994	54.22	4	3	A					
03-02-95	ENERGY SERVICES CO	CANNERS STEAM CO INC	5,422	0.00	0.00	Coasta	1994	1	Coasta	1994	54.22	4	3	A					
03-02-95	ENERGY SERVICES CO	TRI-ALLOY INC	2,901	0.00	0.00	Inland	1994	1	Inland	1994	0.00	4	3	A					
03-02-95	ENERGY SERVICES CO	CAL RESOURCES LLC	90,000	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	4	3	A					
03-02-95	ENERGY SERVICES CO	SIERRA RESEARCH INC	21,000	0.00	0.00	Inland	1994	1	Inland	1994	0.00	4	3	A					
03-02-95	ADV. ENV. CNTRL CONSULTING & ENGR. SE	RECOT, INC	74,822	0.00	0.00	Coasta/Inland	1994	1	Coasta/Inland	1994	0.00	6	1	A					
03-02-95	LESLIE P. LYON	ALUMINUM CO OF AMERICA	59,614	0.00	0.00	Coasta	1994	1	Coasta	1994	0.00	6	4	A					

**RTC TRADING ACTIVITIES FOR RECLAIM**

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DATE	BUYER	SELLER	NO. OF CONTRACTS	QUANTITY (G)	STATUS	YEAR	ORIGINATING ZONE	TOTAL PRICE	USE	GENERAL USE	RECLAIM USE	MARKET
03-02-95	COALITION FOR CLEAN AIR	SUNLAW COGENERATION PARTNERS I	NOx	160,000	1	1994	Coastal	0.00	6	2		A
03-02-95	SO CAL EDISON CO	SO CAL EDISON CO	NOx	10,642	1	1994	Coastal	0.00	1	1		A
03-02-95	EXXON CO, USA	EXXON CO USA, CASTAIC JUNCTION OIL	NOx	54,181	1	1994	Coastal	0.00	3	3		A
03-02-95	ARCO CQC KILN	ARCO PRODUCTS CO	NOx	200,000	2	1995	Coastal	200.00	1	2		A
03-02-95	HUGHES AEROSPACE & ELECTRONICS CO	HUGHES AIRCRAFT CO (EIS USE)	NOx	6,235	1	1994	Coastal	0.00	1	4		A
03-02-95	HUGHES AIRCRAFT, EOS	HUGHES AIRCRAFT CO (EIS USE)	NOx	3,424	1	1994	Coastal	0.00	1	4		A
03-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO	NOx	2,589	1	1994	Coastal	0.00	1	1		A
03-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO	NOx	2,898	1	1994	Inland	0.00	1	1		A
03-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	NOx	15,872	2	1995	Coastal	0.00	1	0		B
03-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO	NOx	13,588	1	1994	Coastal	0.00	1	1		A
03-02-95	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO	NOx	6,447	1	1994	Coastal	0.00	1	1		A
03-01-95	NATIONAL OFFSETS	ULTRAMAR INC (NSR USE ONLY)	SOx	240,000	1	1994	Coastal	0.00	3	3		A
03-01-95	NATIONAL OFFSETS	ULTRAMAR INC (NSR USE ONLY)	NOx	170,000	1	1994	Coastal	0.00	3	3		A
03-01-95	CRESCENT CRANES INC	CHRISTINE GRANDSTAFF	NOx	4,000	1	1994	Coastal	4.00	1	0		C
03-01-95	CHRISTINE GRANDSTAFF	POWERINE OIL CO (EIS USE)	SOx	174,000	1	1994	Coastal	0.00	4	2		A
03-01-95	CHRISTINE GRANDSTAFF	POWERINE OIL CO (EIS USE)	NOx	313,000	1	1994	Coastal	0.00	4	2		A
03-01-95	R. ALLEN URBAN	P. W. GILLIBRAND CO	NOx	33,000	1	1994	Coastal	0.00	4	3		A
03-01-95	AMERICAN LUNG ASSOCIATION	OWENS-BROCKWAY GLASS CONTAINER	NOx	36,903	1	1994	Inland	0.00	4	1		A
03-01-95	AMERICAN LUNG ASSOCIATION	OWENS-BROCKWAY GLASS CONTAINER	SOx	14,681	1	1994	Inland	0.00	4	1		A
03-01-95	AMERICAN LUNG ASSOCIATION	OWENS-BROCKWAY GLASS CONTAINER	SOx	70,362	1	1994	Coastal	0.00	4	2		A
03-01-95	AMERICAN LUNG ASSOCIATION	OWENS-BROCKWAY GLASS CONTAINER	NOx	162,505	1	1994	Coastal	0.00	4	2		A
03-01-95	JORGENSEN ENVIRONMENTAL, INC.	SNOW SUMMIT INC	NOx	42,000	1	1994	Inland	0.00	6	3		A
02-28-95	FONTANA PAPER MILLS INC	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	6,804	1	1994-1996	Coastal/Inland	1,289.18	13	0		B
02-28-95	SUNLAW COGENERATION PARTNERS I	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	100,000	1	1994	Coastal	0.00	1	0		B
02-28-95	NATIONAL HEALTHY AIR LICENSE EXCHAN	CANTOR FITZGERALD BROKERAGE, L.P.	SOx	150,000	1	1994	Coastal	0.00	6	0		B
02-28-95	ENTRIX, INC.	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	150,383	1	1994	Coastal	0.00	3	1		A
02-28-95	NATIONAL HEALTHY AIR LICENSE EXCHAN	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	2,670,900	1	1994	Coastal/Inland	0.00	6	0		B
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP SCATTERGOOD GENERATI	NOx	239,694	1	1994	Coastal	0.00	3	2		A
02-28-95	UNION OIL CO OF CAL (NSR USE ONLY)	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	100,000	1	1994	Coastal	0.00	1	0		B
02-28-95	UNION OIL CO OF CAL (NSR USE ONLY)	CANTOR FITZGERALD BROKERAGE, L.P.	SOx	60,000	1	1994	Coastal	0.00	1	0		B
02-28-95	THE TIDES FOUNDATION	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	2,934,000	1	1994	Coastal	14.67	6	0		B
02-28-95	PARAMOUNT PETR CORP (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	330,000	1	1995	Coastal	52,500.00	1	0		B
02-28-95	PARAMOUNT PETR CORP (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	SOx	18,000	2	1995-1996	Coastal	11,466.00	1	0		B
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	UNION OIL CO OF CALIFORNIA (SITE #3)	NOx	41,321	1	1994	Coastal	0.00	3	3		A
02-28-95	NATIONAL HEALTHY AIR LICENSE EXCHAN	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	1,041,321	1	1994	Coastal/Inland	0.00	4	0		B
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	MOBIL OIL CORP (EIS USE)	NOx	179,066	1	1994	Coastal	0.00	3	3		A
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	HIGGINS BRICK CO	NOx	48,947	1	1994	Inland	0.00	4	1		A
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP HARBOR GENEATING STA	NOx	64,598	1	1994	Coastal	1.00	3	2		A
02-28-95	UNOCAL REFINERY & MARKETING CORP	CANTOR FITZGERALD BROKERAGE, L.P.	SOx	40,000	1	1994	Coastal	0.00	3	0		B
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	CENTRAL PLANTS INC	NOx	60,040	1	1994	Coastal	0.00	3	3		A
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	CENTRAL PLANTS INC	NOx	12,476	1	1994	Coastal	0.00	3	3		A
02-28-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP HAYNES GENERATING ST	NOx	605,386	1	1994	Coastal	0.00	3	2		A
02-28-95	UNION OIL CO OF CAL (NSR USE ONLY)	UNOCAL REFINERY & MARKETING CORP	NOx	55,000	1	1994	Coastal	0.00	1	0		B
02-28-95	DIESEL RECON CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	6,000	2	1995	Coastal	6.00	1	0		B
02-28-95	WAYMIRE DRUM CO, INC., S EL MONTE FACI	CANTOR FITZGERALD BROKERAGE, L.P.	NOx	686	1	1994	Coastal	0.69	1	0		B
02-28-95	ARCO PRODUCTS CO	CANTOR FITZGERALD BROKERAGE, L.P.	SOx	108,660	2	1997-2000	Coastal	103,332.70	1	0		B

**RTC TRADING ACTIVITIES FOR RECLAIM**

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	BUYER	SELLER	NO. OF CONTRACTS	QUANTITY (LB)	EXPIRES	YEAR	ORIGIN (COAST/INLAND)	TOTAL PRICE	USE	GENERATION	STATUS
02-28-95	DEMENNO/KERDOON	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	32,000	2	1995-1997	Coasta	5,216.00	1	0	B
02-28-95	LA CITY, DWP SCATTERGOOD GENERATING	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	274,000	2	2000-2003	Coasta	195,066.00	1	0	B
02-28-95	OWENS-CORNING FIBERGLAS CORP	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	12,721	2	1995	Coasta	12.72	1	0	B
02-28-95	BENTLEY MILLS INC	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	175,000	2	1996-1999	Coasta	49,575.00	1	0	B
02-27-95	QUEEN CARPET CORP, TUFTEX CARPET DIV	TUFTEX CARPET MILLS INC, LA MIRADA	NOX	308,788	2	1995-2011	Coasta	0.00	1	6	A
02-27-95	AEROVIRONMENT INC.	LA CITY, HARBOR DEPT	NOX	34,510	1	1994	Coasta	0.00	6	3	A
02-27-95	CHRISTINE GRANDSTAFF	EL SINORE READY-MIX CO INC	NOX	74,070	1	1994	Inland	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	US TILE CO	NOX	81,775	1	1994	Inland	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	PACIFIC CLAY PRODUCTS INC	NOX	9,140	1	1994	Inland	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	MILLER BREWING CO	NOX	50,000	1	1994	Inland	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	PARAMOUNT PETR CORP (EIS USE)	SOX	21,647	1	1994	Coasta	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	PARAMOUNT PETR CORP (EIS USE)	NOX	109,640	1	1994	Coasta	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	POP INDUSTRIES INC	NOX	72,000	1	1994	Coasta	0.00	4	1	A
02-27-95	CHRISTINE GRANDSTAFF	CROWN CORK & SEAL, CROWN BEVERA	NOX	22,105	1	1994	Coasta	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	CROWN CORK & SEAL CO INC	NOX	6,791	1	1994	Coasta	0.00	4	3	A
02-27-95	CHRISTINE GRANDSTAFF	JEFFERSON SMURFIT CORPORATION (U.S	NOX	62,780	1	1994	Coasta	0.00	4	2	A
02-27-95	CHRISTINE GRANDSTAFF	AMERICAN NATIONAL CAN CO	SOX	132,000	1	1994	Coasta	0.00	4	1	A
02-27-95	CHRISTINE GRANDSTAFF	AMERICAN NATIONAL CAN CO	NOX	200,000	1	1994	Coasta	0.00	4	1	A
02-27-95	RODNEY P. STAVERS	WESTERN DYEING & FINISHING CORP	NOX	15,000	1	1994	Coasta	0.00	3	4	A
02-27-95	US GYPSUM CO	CROWN CORK & SEAL CO INC	NOX	1,852	1	1994	Coasta	1.85	1	1	A
02-27-95	CES ENERGY CORONA, LTD.	PACIFIC CLAY PRODUCTS INC	NOX	190	1	1994	Inland	0.19	1	3	A
02-27-95	CES ENERGY ALBERHILL LTD	PACIFIC CLAY PRODUCTS INC	NOX	1,670	1	1994	Inland	1.67	1	3	A
02-27-95	SO CAL GAS CO	SO CAL GAS CO (EIS USE)	NOX	6,583	1	1994	Inland	0.00	1	2	A
02-27-95	TEAM ENVIRONMENTAL SERVICES, INC.	SO CAL GAS CO	NOX	23,603	1	1994	Coasta	0.00	4	2	A
02-27-95	TEAM ENVIRONMENTAL SERVICES, INC.	SO CAL GAS CO (EIS USE)	NOX	326,057	1	1994	Inland	0.00	4	3	A
02-27-95	TEAM ENVIRONMENTAL SERVICES, INC.	SO CAL GAS CO (EIS USE)	NOX	45,645	1	1994	Coasta	0.00	4	3	A
02-27-95	TEAM ENVIRONMENTAL SERVICES, INC.	SO CAL GAS CO	NOX	285,243	1	1994	Coasta	0.00	4	3	B
02-27-95	TEAM ENVIRONMENTAL SERVICES, INC.	SO CAL GAS CO	NOX	86,200	1	1994	Inland	0.00	4	3	A
02-24-95	BREA CANYON OIL CO INC	BREA CANYON OIL CO, ALBERT LEVINS	NOX	3,480	1	1994	Coasta	3.48	1	3	A
02-24-95	BREA CANYON OIL CO INC	JEFFERSON SMURFIT CORPORATION (U.S	NOX	42,780	1	1994	Coasta	42.78	1	1	A
02-21-95	WEST NEWPORT OIL CO	CANTOR FITZGERALD BROKERAGE, L.P.	SOX	768,390	1	1994	Coasta	0.00	4	0	B
02-21-95	WEST NEWPORT OIL CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	365,978	1	1994	Coasta	0.00	4	0	B
02-21-95	SO CAL EDISON CO (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	9,170	1	1994	Coasta	0.00	1	0	B
02-21-95	SO CAL EDISON; ALAMITOS GEN STA(EIS US	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	284,620	1	1994	Coasta	0.00	1	0	B
02-21-95	SO CAL EDISON CO (EIS & NSR USE ONLY)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	320,710	1	1994	Coasta	0.00	1	0	B
02-17-95	CHROMA SYSTEMS PARTNERS	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOX	6,000	1	1994	Coasta	78.00	1	2	A
02-09-95	AMERICAN LUNG ASSOCIATION	SIMPSON PAPER CO (EIS ONLY)	NOX	310,000	2	1995	Inland	0.00	6	1	A
02-07-95	BARMET ALUMINUM CORP	SHELL WESTERN E&P INC	NOX	28,000	1	1995-1996	Coasta	2,177.00	1	3	A
02-07-95	ENERGY SERVICES CO	SHELL WESTERN E&P INC	NOX	1,480,000	1	1994	Coasta	0.00	4	3	A
02-07-95	SHELL WESTERN E&P, INC	SHELL WESTERN E&P INC	NOX	1,471,341	1	1995	Coasta	1,471,341.00	3	3	A
02-06-95	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOX	350,000	1	1995	Coasta	52,500.00	3	2	A
02-06-95	SO CAL EDISON CO (EIS & NSR USE ONLY)	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOX	200,000	1	1994	Coasta	0.00	1	3	A
02-03-95	CANTOR FITZGERALD BROKERAGE, L.P.	ANAHEIM FOUNDRY INC	SOX	20,838	2	1996-1999	Coasta	0.00	3	1	A
02-03-95	CANTOR FITZGERALD BROKERAGE, L.P.	WEST NEWPORT OIL CO	NOX	365,978	1	1994	Coasta	0.00	3	1	B
02-03-95	CANTOR FITZGERALD BROKERAGE, L.P.	WEST NEWPORT OIL CO	SOX	768,390	1	1994	Coasta	0.00	3	1	B
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	WESTERN DYEING & FINISHING CORP	NOX	133,642	1	1995-2010	Coasta	0.00	3	1	A

**RTC TRADING ACTIVITIES FOR RECLAIM**

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	BUYER	SELLER	NOX OR SO <sub>x</sub>	QUANTITY (LB)	CTD	YEAR	ORIGINATING ZONE	TOTAL PRICE	USE	GENERATION	ACCT. SOURCE CODE
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	SAN DIEGO GAS & ELECTRIC	NOx	114,000	2	1995	Inland	0.00	3	3	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	MOBIL OIL CORP (EIS USE)	NOx	400,000	1	1994	Coastal	0.00	3	2	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	LEVER BROS CO (EIS USE)	NOx	739,379	2	1995-2011	Coastal	0.00	3	4	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP SCATTERGOOD GENERATI	NOx	700,000	1	1994-1996	Coastal	0.00	3	2	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP HAYNES GENERATING ST	NOx	1,200,000	1	1994-1996	Coastal	0.00	3	2	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	FILTROL CORP	NOx	32,000	1	1994	Coastal	0.00	3	1	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	ECO PETR INC (EIS USE ONLY)	NOx	30,122	2	1995-2011	Coastal	0.00	3	0	B
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	ECO PETR INC (EIS USE ONLY)	SO <sub>x</sub>	54,015	2	1995-2011	Coastal	0.00	3	0	B
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	HITCO, (EIS USE)	NOx	2,000	1	1994	Coastal	0.00	3	3	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	ARCO PRODUCTS CO	NOx	600,000	2	1996-1997	Coastal	0.00	3	2	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	ANCHOR GLASS CONTAINER CORP	NOx	238,000	2	1995	Coastal	0.00	3	3	A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	ANAHEIM FOUNDRY INC	SO <sub>x</sub>	17,926	2	1995-1996	Coastal	0.00	3	1	A
07-28-94	BENTLEY MILLS INC	ORYX ENERGY CO	NOx	3,143	1	1994-2010	Coastal	1,264.15	1	0	B
07-13-94	ALL AMERICAN ASPHALT	ORYX ENERGY CO	NOx	124,646	2	1995-2011	Coastal	23,850.38	2	0	B
07-13-94	HOLLIDAY ROCK CO INC	ORYX ENERGY CO	NOx	115,958	2	1995-2011	Coastal	21,726.70	2	0	C
07-13-94	SULLY-MILLER CONTRACTING CO, BLUE DI	ORYX ENERGY CO	NOx	123,198	2	1995-2011	Coastal	23,083.24	2	0	C
07-13-94	R J NOBLE COMPANY	ORYX ENERGY CO	NOx	115,958	2	1995-2011	Coastal	21,726.70	2	0	C
07-06-94	BLUE DIAMOND MATERIALS	ORYX ENERGY CO	NOx	131,768	2	1995-2011	Coastal	32,399.63	3	0	C
06-30-94	GRANITE CONSTRUCTION COMPANY	NEWHALL REF CO INC (EIS USE)	NOx	225,888	2	1995-2011	Coastal	75,045.36	2	0	C
06-28-94	ANCHOR GLASS CONTAINER CORP	UNION CARBIDE CORP	NOx	3,446,478	2	1995-2011	Coastal	1,275,196.86	4	0	C
06-03-94	HENRY W. WEDAA	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOx	500	1	1994	Coastal	250.00	6	2	A
03-22-94	AIRECON	SHELL WESTERN E&P INC	NOx	500	1	1994	Coastal	500.00	6	2	A
03-22-94	JAMES M. LENTS, PH.D.	SO CAL EDISON; ALAMITOS GEN STA(EIS	NOx	100	1	1994	Coastal	50.00	6	2	A

Use Code Description:

- 1 Increase Allocation to satisfy annual compliance
- 2 Use under Rule 2005 - New Source Review for RECLAIM
- 3 Increase RTC certificate balance. Don't issue a physical cert.
- 4 Issue a certificate.
- 5 Retire RTCs from market w/o issuance of certificate
- 6 Retire RTCs from market w/issuance of physical certificate
- 7 Facility Acquisition (Change of Ownership)

Generation Code Description:

- 0 Not Applicable
- 1 Process Change
- 2 Addition of Control Equipment
- 3 Production Decrease
- 4 Equipment or Facility Shutdown
- 5 MSERC
- 6 Facility Acquisition (Change of Ownership)
- 7 RTCs for Future Compliance Year

Acct. Source Code Description:

- A - Allocation Account
- B - Certificate Account
- C - Printed Certificate

RTC TRADING ACTIVITIES FOR RECLAIM

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	BUYER	SELLER	TYPE	QUANTITY	PRICE	DATE	ORGANIZATION	PRICE	QUANTITY	PRICE	DATE	ORGANIZATION	PRICE	QUANTITY	PRICE	DATE	ORGANIZATION	PRICE	QUANTITY	PRICE
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	UNION CARBIDE CORP	NOX	1,636,964	2	1995-2011	Coastal	0.00	3				0.00	3				0		C
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	THE TERMO COMPANY	NOX	12,329	1	1994	Coastal	0.00	3				0.00	3				4		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	TEXACO REFINING & MARKETING INC	SOX	20,000	1	1994	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	TEXACO REF & MARKETING INC	NOX	1,000,000	1	1994	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	TEXACO REF & MARKETING INC	SOX	130,000	1	1994	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	STOCKER RESOURCES INC	NOX	350,383	1	1994-1995	Coastal	0.00	3				0.00	3				4		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL EDISON ALAMITOS GEN STAGEIS	NOX	1,270,000	1	1995-1997	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	REYNOLDS METALS CO (EIS USE)	NOX	4,500	1	1994	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	THE PQ CORP	NOX	1,438,000	2	1995-2004	Coastal	0.00	3				0.00	3				3		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	NEWHALL REF CO INC (EIS USE)	SOX	475,332	2	1995-2011	Coastal	0.00	3				0.00	3				1		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP SCATTERGOOD GENERAT	NOX	100,000	1	1997	Coastal	0.00	3				0.00	3				4		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	LA CITY, DWP HAYNES GENERATING ST	NOX	131,200	1	1995-1997	Coastal	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	LIBBEY GLASS, INC	NOX	50,000	2	1995	Inland	0.00	3				0.00	3				2		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	FILTRON CORP	NOX	10,901	1	1994	Coastal	0.00	3				0.00	3				3		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	ARCO PRODUCTS CO	NOX	600,000	2	1996-1997	Coastal	0.00	3				0.00	3				1		A
01-27-95	CANTOR FITZGERALD BROKERAGE, L.P.	ALUMAX MILL PRODUCTS INC	NOX	152,000	1	1994-1996	Inland	0.00	3				0.00	3				2		A
01-19-95	ALL AMERICAN ASPHALT UNIT NO.01	ALL AMERICAN ASPHALT	NOX	6,000	1	1994	Coastal	60.00	1				60.00	1				4		A
01-17-95	NABISCO BRANDS INC	TEXACO EXPLORATION & PRODUCTION	NOX	105,418	2	1995-2011	Coastal	29,517.04	3				29,517.04	3				4		A
12-15-94	TANDEM INDUSTRIES	TIMCO INC	NOX	1,000	1	1994	Inland	320.00	1				320.00	1				3		A
12-09-94	HENKEL CORP. EMERY GROUP	SO CAL EDISON; ALAMITOS GEN STAGEIS	NOX	4,000	1	1994	Coastal	52.00	1				52.00	1				2		A
10-31-94	SO CAL EDISON CO (EIS & NSR USE ONLY)	SO CAL EDISON; ALAMITOS GEN STAGEIS	NOX	200,000	1	1994	Coastal	0.00	1				0.00	1				3		A
10-31-94	SO CAL EDISON CO	SO CAL EDISON; ALAMITOS GEN STAGEIS	NOX	4,000	1	1994	Coastal	0.00	1				0.00	1				3		A
10-31-94	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO	NOX	92,000	1	1994	Coastal	0.00	1				0.00	1				3		A
10-31-94	SO CAL EDISON CO (EIS USE)	SO CAL EDISON CO (EIS USE)	NOX	494,138	2	1995	Coastal	0.00	3				0.00	3				1		A
10-12-94	R. R. DONNELLEY & SONS CO. LA MFG DIV	SO CAL EDISON CO (EIS & NSR USE ONLY)	NOX	1,020,122	2	1995	Coastal	0.00	3				0.00	3				1		A
10-12-94	LEVER BROS CO (EIS USE)	LEVER BROS CO (EIS USE)	NOX	10,000	2	1995-1996	Coastal	2,000.00	3				2,000.00	3				4		A
10-04-94	LA CITY, DWP HARBOR GENERATING STATIO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	10,000	2	1995-1996	Coastal	0.00	3				0.00	3				0		B
10-04-94	LA CITY, DWP HARBOR GENERATING STATIO	LA CITY, DWP HAYNES GENERATING ST	NOX	100,000	1	1994	Coastal	0.00	1				0.00	1				2		A
10-04-94	LA CITY, DWP SCATTERGOOD GENERATING	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	500,000	1	1994	Coastal	0.00	1				0.00	1				0		B
08-23-94	SO CAL GAS CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	170,000	1	1994-1996	Coastal	0.00	3				0.00	3				0		B
08-15-94	ARCO PRODUCTS CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	9,800	2	1996-1997	Coastal	8,130.00	3				8,130.00	3				0		B
08-15-94	WEST NEWPORT OIL CO	CANTOR FITZGERALD BROKERAGE, L.P.	SOX	200,000	1	1994	Coastal	0.00	3				0.00	3				0		B
08-15-94	WESTERN METAL DECORATING CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	6,700	1	1994-1996	Coastal	1,169.90	3				1,169.90	3				0		B
08-15-94	WEST NEWPORT OIL CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	150,000	1	1994	Coastal	0.00	3				0.00	3				0		B
08-15-94	HITCO, (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	7,976	2	2000-2004	Coastal	6,966.69	3				6,966.69	3				0		B
08-15-94	HITCO, (EIS USE)	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	2,000	1	1994	Coastal	0.00	3				0.00	3				0		B
08-15-94	BENTLEY MILLS INC	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	100,000	1	1994-1995	Coastal	8,400.00	3				8,400.00	3				0		B
08-15-94	ARCO PRODUCTS CO	CANTOR FITZGERALD BROKERAGE, L.P.	NOX	600,000	2	1996-1997	Coastal	1,000.00	3				1,000.00	3				0		B
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	WEST NEWPORT OIL CO	SOX	200,000	1	1994	Coastal	0.00	3				0.00	3				2		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	WEST NEWPORT OIL CO	NOX	150,000	1	1994	Coastal	0.00	3				0.00	3				2		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	UNOCAL REFINERY & MARKETING CORP	NOX	100,000	1	1994	Coastal	0.00	3				0.00	3				3		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	UNOCAL REFINERY & MARKETING CORP	NOX	100,000	1	1994	Coastal	0.00	3				0.00	3				3		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	UNOCAL REFINERY & MARKETING CORP	NOX	100,000	1	1994	Coastal	0.00	3				0.00	3				1		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	SUNLAW COGENERATION PARTNERS I	NOX	100,000	1	1994	Coastal	0.00	3				0.00	3				1		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL EDISON ALAMITOS GEN STAGEIS	NOX	1,920,000	1	1994-1995	Coastal	0.00	3				0.00	3				1		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL EDISON CO	NOX	1,700,000	1	1994	Coastal	0.00	3				0.00	3				2		A
07-29-94	CANTOR FITZGERALD BROKERAGE, L.P.	SO CAL GAS CO	NOX	170,000	1	1994-1996	Coastal	0.00	3				0.00	3				2		A





**SOX RTC UNIT PRICE FROM RTC TRADING**

Cycle: 1

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	BUYER	SELLER	ZONE	CY	RTC EXPIRATION YEAR																	
					1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
08-29-1995	ARCO PRODUCTS CO	POWERINE OIL CO (EIS USE)	COASTAL	1	-	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	0.389	-
03-21-1995	MOBIL OIL CORP (EIS USE)	WEST NEWPORT OIL CO	COASTAL	1	0.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-02-1995	MOBIL OIL CORP (EIS USE)	CANNERS STEAM CO INC	COASTAL	1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

# AVERAGE DAILY SOX RTC TRADING PRICE

Cycle: 2

From: 1/1/94

To: 11/3/95

November 30, 1995

RECORDING DATE	DESC	RTC EXPIRATION YEAR																	
		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
08-29-1995	Q	-	651	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-28-1995	Q	-	22,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-24-1995	Q	-	179,958	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-18-1995	Q	-	47,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-27-1995	Q	-	409,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-28-1995	Q	-	8,162	9,838	34,320	36,220	36,220	1,900	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.6370	0.6370	0.8850	0.9750	1.0000	0.7500	-	-	-	-	-	-	-	-	-	-	-
08-15-1994	Q	-	-	5,900	3,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	-	0.7500	0.9500	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:  
 \*DESCRIPTION OF SUBJECT ITEM  
 Q: QUANTITY (LB)  
 P: AVERAGE PRICE (\$/LB)

**AVERAGE DAILY SOX RTC TRADING PRICE**

Cycle: 1

From: 1/1/94

To: 11/3/95

November 30, 1995

RECORDING DATE	DESC	RTC EXPIRATION YEAR																	
		1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
08-29-1995	Q	-	111,992	201,538	179,090	156,643	134,196	111,749	99,139	86,530	73,920	73,920	73,920	73,920	73,920	73,920	73,920	73,920	-
	P	-	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	0.3887	-
03-21-1995	Q	180,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-02-1995	Q	8,358	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	8,596	-
	P	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	-

NOTE:

\*DESCRIPTION OF SUBJECT ITEM

Q: QUANTITY (LB)

P: AVERAGE PRICE (\$/LB)









**AVERAGE DAILY NOX RTC TRADING PRICE**

Cycle: 2

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	TYPE	1990	1991	1992	1993	1994	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
06-09-1995	Q	-	-	450	475	500	525	550	575	2,375	4,150	5,950	5,950	5,950	5,950	5,950	5,950	5,950	5,950
	P	-	-	0.1600	0.2800	0.2900	0.3500	0.7000	0.7300	0.7600	0.9200	1.0000	1.0300	1.0700	1.1100	1.1500	1.1900	1.2400	1.3000
06-08-1995	Q	-	141	10,360	7,940	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.4000	0.4000	0.4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-22-1995	Q	-	8,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	1.0000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-16-1995	Q	-	2,400	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0020	0.0800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04-25-1995	Q	-	7,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-05-1995	Q	-	23,660	23,660	23,660	23,660	23,660	23,660	23,660	21,492	19,243	17,035	17,035	17,035	17,035	17,035	17,035	17,035	17,035
	P	-	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480	0.4480
03-01-1995	Q	-	250,011	56,837	56,836	56,835	56,834	56,833	56,831	56,580	56,329	56,078	56,078	56,078	56,078	56,078	56,078	56,078	56,078
	P	-	0.2008	1.0000	1.0000	2.0000	2.0000	2.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
02-27-1995	Q	-	26,721	37,000	62,000	50,000	50,000	166,000	94,000	10,000	4,000	-	-	-	-	-	-	-	-
	P	-	0.0010	0.1590	0.2750	0.2870	0.3500	0.6950	0.7260	0.7760	0.9230	-	-	-	-	-	-	-	-
01-17-1995	Q	-	7,280	7,280	7,280	7,280	7,280	7,280	7,280	6,601	5,921	5,242	5,242	5,242	5,242	5,242	5,242	5,242	5,242
	P	-	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800	0.2800
10-12-1994	Q	-	5,000	5,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.2000	0.2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-15-1994	Q	-	-	-	-	-	-	820	2,080	1,886	1,692	1,498	-	-	-	-	-	-	-
	P	-	-	-	-	-	-	0.7400	0.7900	0.8500	0.9150	1.0450	-	-	-	-	-	-	-
07-13-1994	Q	-	33,132	33,132	33,132	33,132	33,132	33,132	33,132	30,041	26,947	23,856	23,856	23,856	23,856	23,856	23,856	23,856	23,856
	P	-	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1600	0.1800	0.2000	0.2226	0.2226	0.2226	0.2226	0.2226	0.2226	0.2226	0.2226
07-06-1994	Q	-	9,100	9,100	9,100	9,100	9,100	9,100	9,100	8,251	7,401	6,552	6,552	6,552	6,552	6,552	6,552	6,552	6,552
	P	-	0.2100	0.2100	0.2100	0.2100	0.2100	0.2100	0.2100	0.2300	0.2600	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900
06-30-1994	Q	-	15,600	15,600	15,600	15,600	15,600	15,600	15,600	14,144	12,688	11,232	11,232	11,232	11,232	11,232	11,232	11,232	11,232
	P	-	0.2830	0.2830	0.2830	0.2830	0.2830	0.2830	0.2830	0.3120	0.3480	0.3930	0.3930	0.3930	0.3930	0.3930	0.3930	0.3930	0.3930
06-28-1994	Q	-	238,000	238,000	238,000	238,000	238,000	238,000	238,000	215,866	193,732	171,360	171,360	171,360	171,360	171,360	171,360	171,360	171,360
	P	-	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700	0.3700

**NOTE:**

\*DESCRIPTION OF SUBJECT ITEM

Q: QUANTITY (LB)

P: AVERAGE PRICE (\$/LB)



# AVERAGE DAILY NOX RTC TRADING PRICE

Cycle: 2

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	TYPE	AVERAGE DAILY NOX RTC TRADING PRICE																			
		01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
11-01-1995	Q	-	-	-	8,710	37,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	-	-	0.1856	0.1676	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-07-1995	Q	-	1,500	-	-	-	164,680	29,860	84,600	111,931	79,261	41,592	28,090	28,090	28,090	28,090	28,090	28,090	28,090	28,090	8,090
	P	-	0.0010	-	-	-	0.2460	0.5788	0.6150	0.6150	0.7460	0.8200	0.8430	0.8430	0.8430	0.8430	0.8530	0.8530	0.8530	0.8530	0.8530
08-31-1995	Q	-	102,802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0091	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-30-1995	Q	-	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-29-1995	Q	-	3,355,118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-28-1995	Q	-	44,130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-25-1995	Q	-	3,170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-24-1995	Q	-	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-23-1995	Q	-	12,990	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0065	0.1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-22-1995	Q	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-21-1995	Q	-	3,628	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-18-1995	Q	-	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-09-1995	Q	-	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-08-1995	Q	-	9,370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-02-1995	Q	-	883,957	775,527	686,686	607,365	520,104	432,843	345,582	313,496	281,410	249,086	249,086	249,086	249,086	249,086	249,086	249,086	249,086	249,086	249,086
	P	-	0.0015	0.1571	0.2700	0.2800	0.3500	0.6500	0.7000	0.7500	0.8500	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
07-27-1995	Q	-	1,520,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-11-1995	Q	-	7,447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:  
 \*DESCRIPTION OF SUBJECT ITEM  
 Q: QUANTITY (LB)  
 P: AVERAGE PRICE (\$/LB)

# AVERAGE DAILY NOX RTC TRADING PRICE

Cycle: 1

From: 1/1/94

To: 11/3/95

November 30, 1995

RECORDING DATE	TYPE	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
02-23-1995	Q	46,260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-16-1995	Q	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-06-1995	Q	-	1,483,941	15,400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.9917	0.1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-05-1995	Q	-	350,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
01-19-1995	Q	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-15-1994	Q	1,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.3200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-09-1994	Q	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-15-1994	Q	51,500	52,700	2,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0010	0.1670	0.2870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-28-1994	Q	356	356	356	356	356	356	356	321	290	255	255	255	255	255	255	255	255	255
	P	0.2100	0.2100	0.2100	0.2100	0.2100	0.2100	0.2100	0.2300	0.2600	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900	0.2900
06-03-1994	Q	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.5000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-22-1994	Q	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.9167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:  
 \*DESCRIPTION OF SUBJECT ITEM  
 Q: QUANTITY (LB)  
 P: AVERAGE PRICE (\$/LB)

**AVERAGE DAILY NOX RTC TRADING PRICE**

Cycle: 1

From: 1/1/94

To: 11/3/95

November 30, 1995

DATE	TYPE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE	QTY	PRICE
11-01-1995	Q	-	349,283	6,110	3,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0218	0.1610	0.2245	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-20-1995	Q	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-08-1995	Q	-	18,415	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-07-1995	Q	-	-	-	-	-	501,029	482,958	436,700	390,452	344,203	364,203	364,203	364,203	364,203	364,203	364,203	364,203	364,203
	P	-	-	-	-	-	0.4100	0.5950	0.6150	0.6810	0.7830	0.8320	0.8450	0.8450	0.8490	0.8530	0.8530	0.8530	0.8530
08-28-1995	Q	-	6,000	10	10	10	30	20	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0116	0.3456	0.3980	0.5773	0.7467	0.9493	-	-	-	-	-	-	-	-	-	-	-
08-22-1995	Q	-	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-21-1995	Q	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	-	-	-	-	-	-	-	-
	P	-	-	-	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	-	-	-	-	-	-	-	-
08-02-1995	Q	-	10,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0173	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-01-1995	Q	-	-	-	-	-	1,000	10,000	-	-	-	-	-	-	-	-	-	-	-
	P	-	-	-	-	-	0.7467	0.9493	-	-	-	-	-	-	-	-	-	-	-
07-27-1995	Q	-	5,000	-	-	-	-	8,000	8,000	-	-	-	-	-	-	-	-	-	-
	P	-	0.0173	-	-	-	-	0.9493	1.1480	-	-	-	-	-	-	-	-	-	-
07-12-1995	Q	-	120,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.0070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-25-1995	Q	-	-	-	13,200	16,800	20,400	24,000	-	-	-	-	-	-	-	-	-	-	-
	P	-	-	-	0.2500	0.3750	0.6250	0.8750	-	-	-	-	-	-	-	-	-	-	-
04-17-1995	Q	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	-	0.1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-01-1995	Q	269,857	1,908,741	1,803,084	1,715,627	1,612,770	1,509,913	1,407,056	1,276,039	1,145,023	1,014,006	1,014,006	1,014,006	1,014,006	1,014,006	1,014,006	1,014,006	1,014,006	1,014,006
	P	0.4806	1.0000	1.0000	1.0000	2.0000	2.0000	2.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000	3.0000
02-28-1995	Q	4,450	2,831	3,523	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0010	0.1130	0.2750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-27-1995	Q	2,934,686	350,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0000	0.1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-26-1995	Q	3,712	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	P	0.0010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE:  
 \*DESCRIPTION OF SUBJECT ITEM  
 Q: QUANTITY (LB)  
 P: AVERAGE PRICE (\$/LB)

**Facility ID**  
**Facility Name**  
**City and County**  
**SIC**  
**Pollutant(s)**  
**Cycle**  
**Job Gain**  
**Job Loss**  
**Comments:**

800047  
 Fletcher Oil & Refining Co  
 Carson, Los Angeles County  
 2911  
 SOx, NOx  
 2  
 0

8 (8 attributed to RECLAIM)  
 This facility closed before RECLAIM was adopted. The facility attributed the job losses to a shutdown intended to avoid the cost of CEMS installation of the facility's single major source. However, an AQMD engineer familiar with the facility observed that the major source is already equipped with a CEMS which could be brought into compliance with RECLAIM requirements without being too costly. Additionally, the economy has adversely impacted the facility.

**Facility ID**  
**Facility Name**  
**City and County**  
**SIC**  
**Pollutant(s)**  
**Cycle**  
**Job Gain**  
**Job Loss**  
**Comments:**

800208  
 Paper Pak Products  
 La Verne, Los Angeles County  
 2823  
 NOx  
 2  
 0

25 (6 attributed to RECLAIM)  
 The facility attributes six lost jobs to the approximately \$250,000 spent on CEMS. However, the facility representative pointed out that they did not factor in the "gains" associated with RECLAIM, as compared with the requirements to which the facility would be subject in the absence of RECLAIM.

## APPENDIX G

### QUARTERLY EMISSION MAPS

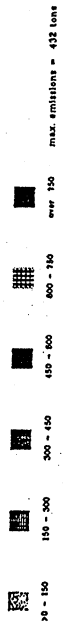
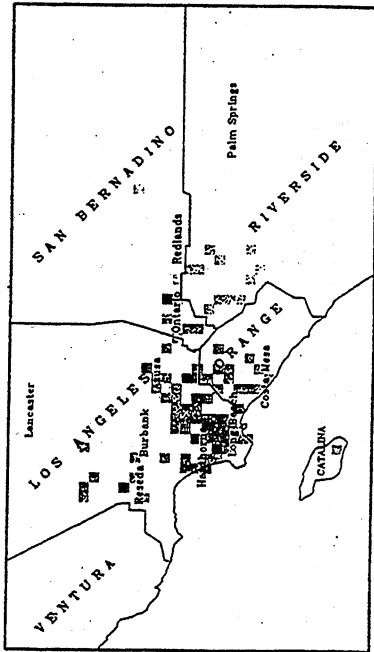
As discussed in Chapter 8, this appendix provides the quarterly maps of NOx and SOx emissions from RECLAIM facilities for each quarter from January 1994 through June 1995.

It should be noted that, in accordance with the compliance schedule of RECLAIM, the first two quarters of 1994 include Cycle 1 facility emissions only. The subsequent maps include both Cycle 1 and Cycle 2 facilities.

These maps are preliminary and subject to revision pending additional quality assurance review.

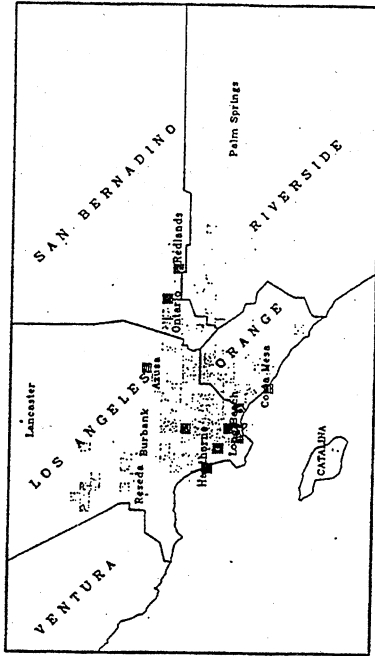
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 1/94 To 3/94



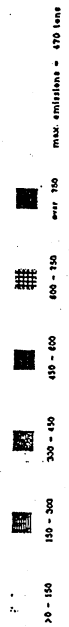
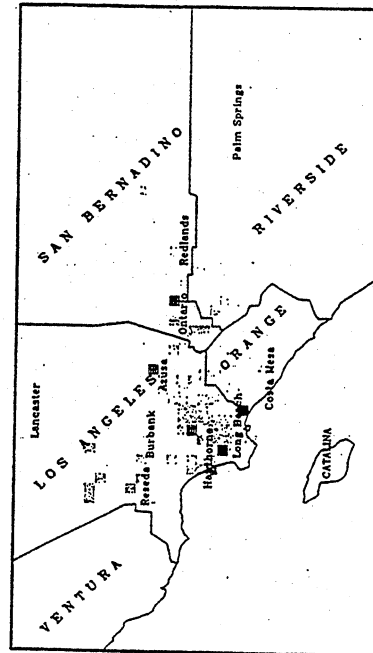
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 7/94 To 9/94



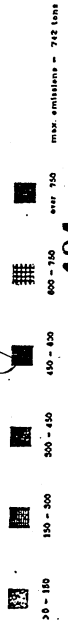
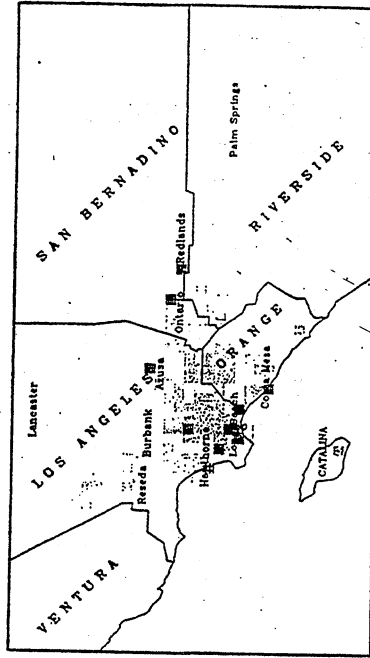
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 4/94 To 6/94



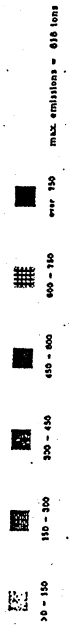
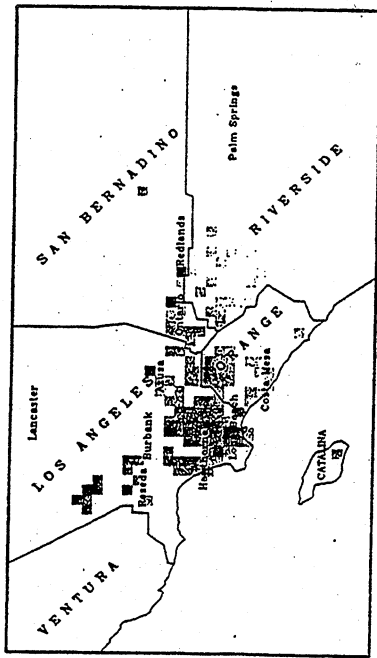
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 10/94 To 12/94



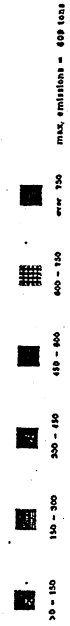
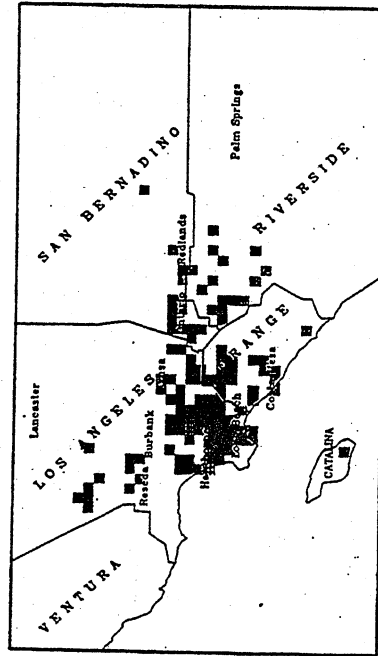
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 1/95 To 3/95



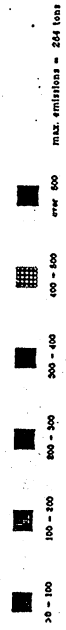
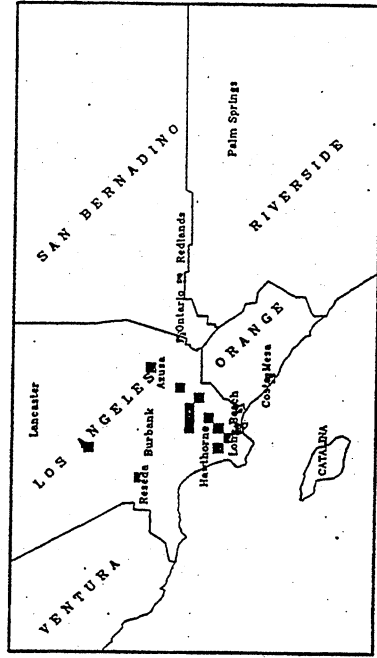
### RECLAIM Facilities

Certified NOx Emissions (Tons) From 4/95 To 6/95



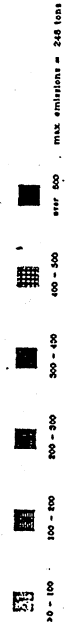
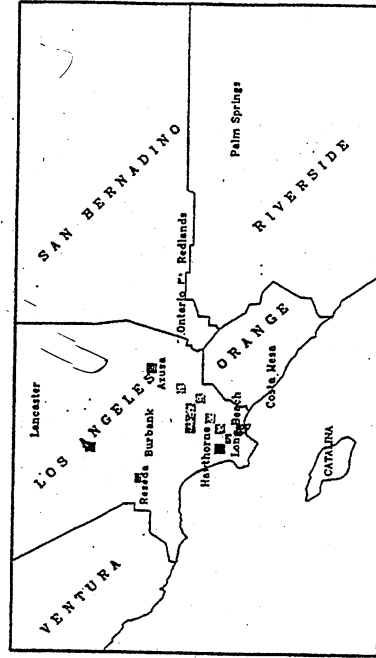
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 1/94 To 3/94



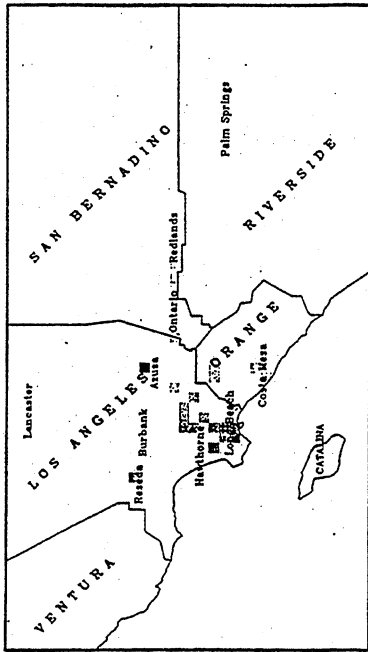
### RECLAIM Facilities

Certified SOx Emissions (Tons) From 4/94 To 6/94



### RECLAIM Facilities

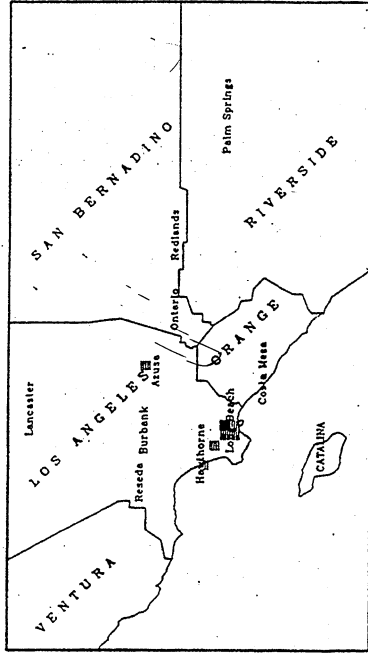
Certified SOx Emissions (Tons) From 7/94 To 9/94



0 - 100 100 - 200 200 - 300 300 - 400 400 - 500 over 500 max. emissions = 421 tons

### RECLAIM Facilities

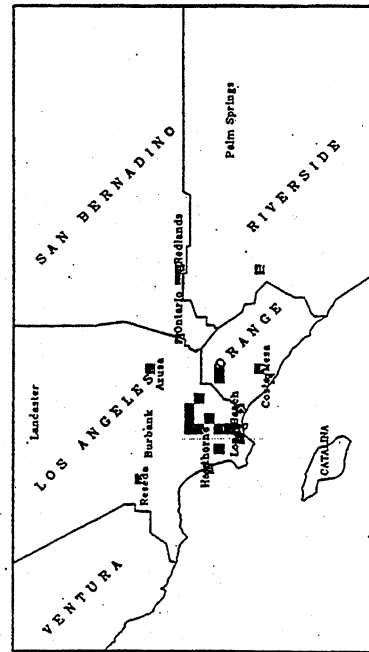
Certified SOx Emissions (Tons) From 1/95 To 3/95



0 - 100 100 - 200 200 - 300 300 - 400 400 - 500 over 500 max. emissions = 372 tons

### RECLAIM Facilities

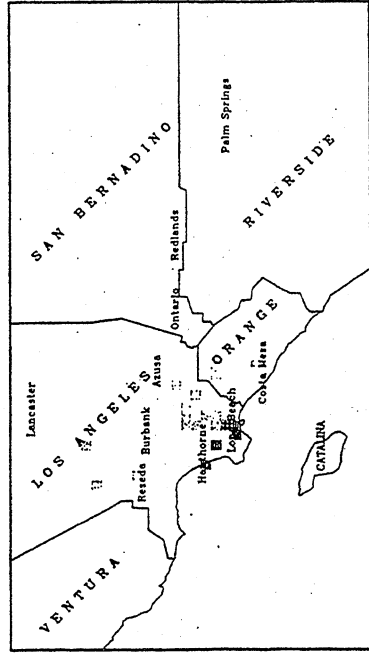
Certified SOx Emissions (Tons) From 10/94 To 12/94



0 - 100 100 - 200 200 - 300 300 - 400 400 - 500 over 500 max. emissions = 394 tons

### RECLAIM Facilities

Certified SOx Emissions (Tons) From 4/95 To 6/95



0 - 100 100 - 200 200 - 300 300 - 400 400 - 500 over 500 max. emissions = 424 tons

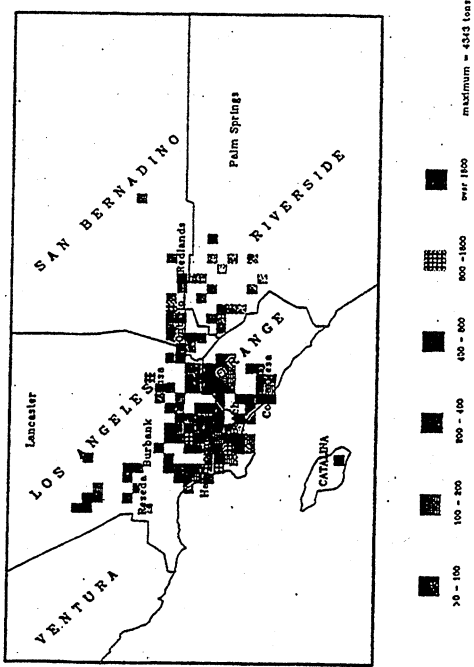
APPENDIX H

ANNUAL EMISSION AND ALLOCATION MAPS

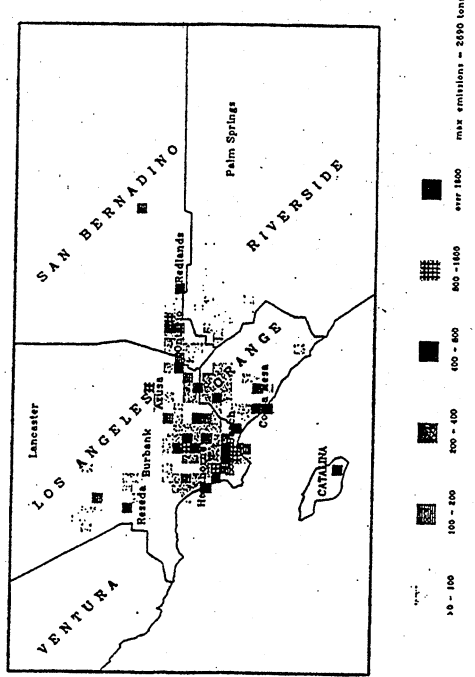
As discussed in Chapter 8, this appendix contains maps of the geographic distributions of initial allocations and certified emissions from RECLAIM facilities for the first compliance year for both NOx and SOx. The certified emissions maps combine emissions data for both Cycles 1 and 2.

These maps show that in each geographic sector, reported emissions from RECLAIM facilities were in the same or a lower range than the allocated emissions for the first compliance year. The maps do not appear to show any distinct geographic shift in emissions. The AQMD will continue to assess the geographic pattern of emissions as additional data becomes available.

INITIAL ALLOCATIONS  
1994 NOx RTC

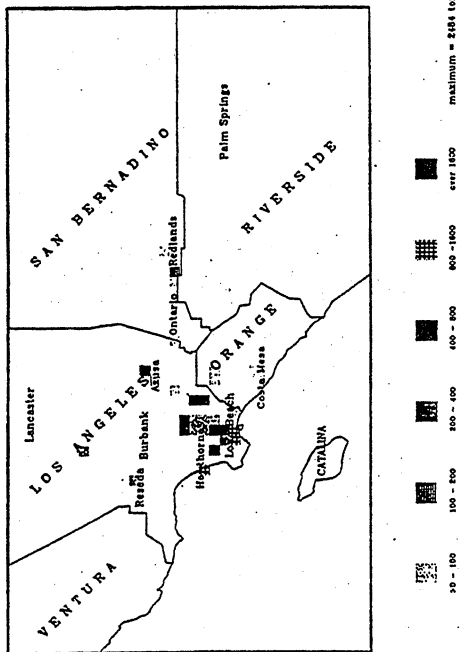


RECLAIM Facilities  
Certified NOx Emissions -- First Compliance Year





INITIAL ALLOCATIONS  
1994 SOx RTC



APPENDIX I  
RECLAIM RTC TRADING SUMMARY REPORT

RECLAIM Facilities

Certified SOx Emissions -- First Compliance Year

