RECLAIM TRANSITION PLAN

Draft Version 2.0

South Coast AQMD

December 2020

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List of Acronyms

APEP	Annual Permit Emissions Program
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
BTU	British Thermal Unit
CARB	California Air Resources Board
CEMS	Continuous Emissions Monitoring System(s)
EGF	Electricity Generating Facility
ERC	Emission Reduction Credit
MM	Million
MRR	Monitoring, Reporting, and Recordkeeping
NOx	Oxides of Nitrogen
NSR	New Source Review
PM10	Particular Matter 10
PM2.5	Particular Matter 2.5
RECLAIM	REgional CLean Air Incentives Market
RTC	RECLAIM Trading Credit
South Coast AQMD	South Coast Air Quality Management District
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SOx	Oxides of Sulfur
U.S. EPA	United Stated Environmental Protection Agency
VOC	Volatile Organic Compound

Preface

The South Coast Air Quality Management District (South Coast AQMD) Governing Board adopted the REgional CLean Air Incentives Market (RECLAIM) program on October 15, 1993. When RECLAIM was adopted, a total of 394 facilities were identified as the initial "universe" of sources. The RECLAIM program represented a significant departure from traditional command-and-control regulations. The RECLAIM program is a market-based program where each facility received RECLAIM Trading Credits (RTCs) that were equivalent to their initial allocation of emissions. Under RECLAIM, each facility's allocation decreases over time, and amendments to the RECLAIM program further reduced each facility's allocation. Facilities in the RECLAIM program are required to meet a mass emissions target and demonstrate that their mass emissions are less than or equal to the amount of RTC holdings. Facilities in the RECLAIM program had the flexibility to meet their emission target by purchasing RTCs or implementing emission reduction projects such as installation of pollution controls, process changes, or equipment replacement.

When the RECLAIM program was adopted, it was thought that facilities that could make cost-effective emission reductions, would install air pollution controls, and sell their RTCs to facilities where installation of pollution controls were not as cost-effective. Over time, however, some large RECLAIM facilities shutdown, providing a windfall of RTCs in the market allowing some facilities to delay installation of Best Available Retrofit Control Technology (BARCT). Based on South Coast AQMD's permit database, well over half of the equipment at RECLAIM facilities is currently not at BARCT. Much of this equipment resides at some of the largest NOx emitting facilities in the Basin.

In response to the growing concern that a number of pieces of equipment in RECLAIM are not at BARCT, the December 2015 amendment was adopted to achieve programmatic NOx RECLAIM Trading Credit (RTC) reductions of 12 tons per day from compliance years 2016 through 2022 and the October 2016 amendment addressed RTCs from facility shutdowns. In addition, the 2016 Air Quality Management Plan (AQMP) included a control measure, CMB-05, to achieve an additional five tons per day of NOx emissions as soon as practicable, but no later than 2025 and to transition RECLAIM to a command-and-control regulatory structure. Recent legislation, AB-617, accelerated South Coast AQMD efforts by requiring that air districts establish BARCT schedules no later than January 1, 2019, and implement BARCT no later than December 31, 2023 for facilities in the state greenhouse gas cap-and-trade program.

The transition of facilities in RECLAIM to a command-and-control regulatory structure is a complex process with a number of policy issues that are being addressed. In March 2018, Version 1.0 of the RECLAIM Transition Plan was released. Over the past three years, there has been progress in adopting and amending landing rules for equipment in RECLAIM, changes in the overall transition process, and more discussions with U.S. EPA and CARB on the transition approach and New Source Review. Version 2.0 of the RECLAIM Transition Plan provides a status update on rulemaking and South Coast AQMD staff's current thinking about the overall transition and New Source Review. As the working group process with stakeholders progresses and discussions with the U.S. EPA and CARB progress regarding the RECLAIM transition and New Source Review, it is expected that there will be another revision to the RECLAIM Transition Plan as this is intended to be a living document and will be updated throughout the transition process.

Chapter 1:
Background and Overview

Introduction

The purpose of the RECLAIM Transition Plan is to summarize the transition process of the NOx RECLAIM program to a command-and-control regulatory structure. Transitioning RECLAIM facilities to command-and-control will require substantial rulemaking efforts to ensure that as facilities exit RECLAIM, there are corresponding command-and-control rules for their equipment. This is the second draft of the RECLAIM Transition Plan, and it is expected that this document will be updated throughout the transition process.

Background

The South Coast Air Quality Management District (South Coast AQMD) Governing Board (Board) adopted the 2016 AQMP on March 3, 2017, which includes control measure CMB-05 (Further NOx Reductions from RECLAIM Assessment). The adopting Resolution directed staff to modify control measure CMB-05 to achieve the five tons per day NOx emission reduction as soon as practicable, but no later than 2025, in addition to transitioning the program to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT) as soon as practicable. At the March 2017 Board Meeting, staff was asked to return in 60 days to the Board to report on feasible target dates for sunsetting the RECLAIM program. The five tons per day of NOx emission reduction is in addition to the 12 tons per day RTC reduction approved by the Board in 2015.

Report to Board Regarding Sunsetting the RECLAIM Program

At the May 5, 2017 Board Meeting, staff provided an overview of the challenges for transitioning RECLAIM to a command-and-control regulatory structure, highlighting the complexity of the program, which currently consists of 258 facilities that include over 2,500 individual pieces of equipment. Adding to the challenge are the many issues that need to be addressed through the transition process, such as New Source Review (NSR), permitting, rule development, monitoring, reporting, and recordkeeping, BARCT determinations, environmental and economic impact assessments, as well as a variety of other policy decisions. Staff provided a general overview of the transition approach, which included potential early, mid-term, and longer-term recommendations and action items. Staff committed to developing a RECLAIM Transition Plan and commencing efforts to initiate the rulemaking process with the first phase of rules targeted for completion in 2018. Lastly, the Board directed staff to report to the Stationary Source Committee quarterly on the progress of the transition process, and to also provide a monthly update on staff's work with the U.S. EPA regarding the transition and NSR issues.

AB-617

California State Assembly Bill 617 (AB-617), which addresses non-vehicular air pollution (criteria pollutants and toxic air contaminants), was signed by the Governor on July 26, 2017. It is companion legislation to Assembly Bill 398, which was also approved, and extends California's cap-and-trade program for reducing greenhouse gas emissions. RECLAIM facilities that are in the state greenhouse gas cap-and-trade program are subject to the requirements of AB-617. Among the requirements of this bill is an expedited schedule for implementing BARCT at those facilities. Air Districts are to develop, by January 1, 2019, an expedited schedule for the implementation of

BARCT no later than December 31, 2023. The highest priority is to be given to older, higher polluting units that will need to install retrofit controls. A list of cap-and-trade facilities that are also in RECLAIM can be found in Appendix B.

Public Process

Throughout the transition process, staff is collaborating with all stakeholders. There are a number of Working Group Meetings as well as individual meetings that staff has held and will continue to hold to discuss key policy issues and collaborate with all stakeholders. Working Group Meetings are open to the public and provide an opportunity for stakeholders to participate in the transition process. Presentation materials for Working Group Meetings are available on the South Coast AQMD's website at: http://www.aqmd.gov/home/rules-compliance/rules/proposed-rules. The following provides a summary of the various Working Group Meetings for the RECLAIM transition.

RECLAIM and Regulation XIII Working Group Meetings

Throughout the transition process, staff has conducted and continues to conduct monthly meetings with the RECLAIM Working Group. The RECLAIM Working Group Meetings are held on the second Thursday of the month at 10 a.m. with Regulation XIII Working Group Meetings immediately following at the South Coast AQMD Headquarters in Diamond Bar. Since March 2020 due to COVID-19, all Working Group Meetings have been held virtually through video- and teleconferencing. The RECLAIM Working Group consists of a wide variety of stakeholders which includes facility representatives, consultants, industry organizations, other agencies, and environmental and community groups. The RECLAIM Working Group Meetings cover topics that are generally applicable to all RECLAIM facilities and to the overall transition process. Amendments to rules under Regulation XX – RECLAIM are also discussed in the RECLAIM Working Group Meetings. In addition, staff will provide a summary of rule-specific Working Group Meetings at the RECLAIM Working Group to keep all stakeholders informed on the various rule development efforts.

In September 2019, staff separated Regulation XIII topics from RECLAIM and began conducting separate Regulation XIII Working Group Meetings. The Regulation XIII Working Group was established because New Source Review issues were going beyond the RECLAIM transition such as changes to offsetting for major source modifications and development of a Large Source Bank for NOx and other pollutants. Similar to the RECLAIM Working Group, the Regulation XIII Working Group includes all stakeholders. Meetings cover post-RECLAIM New Source Review issues, including addressing the future supply and demand of offsets, quantification of offsets, Open Market, Internal Bank, and the proposed Large Source Bank, and other New Source Review issues. Since all amendments in Regulation XIII will need to be reviewed and approved by CARB and U.S. EPA to be incorporated in the State Implementation Plan, many of the discussions in the Regulation XIII Working Group Meetings surround CARB and U.S. EPA comments and input on staff proposals.

Rule-Specific Working Group Meetings

In addition, to the RECLAIM and Regulation XIII Working Groups, staff is also conducting rule-specific Working Group Meetings. The rule-specific Working Group Meetings will focus on establishing BARCT emission limits, timing for implementation of BARCT, and monitoring, recordkeeping, and reporting requirements (MRR). In addition to RECLAIM facilities, the rule-

specific Working Group Meetings may also include non-RECLAIM facilities as amendments may affect both RECLAIM and non-RECLAIM facilities. Rule-specific Working Group Meetings are focused on the proposed rule or its amendments and are generally held every four to six weeks.

Sub-Topic Working Group Meetings

Version 1.0 of the RECLAIM Transition Plan discussed the concept of sub-topic Working Group Meetings, however, these types of meetings have not been initiated. Staff is continuing to use the typical "rule" Working Group format to discuss New Source Review (NSR) and monitoring requirements for continuous emissions monitoring systems (CEMS).

Agency and Individual Stakeholder Meetings

Throughout the process, staff has been collaborating with U.S. EPA, CARB, and other stakeholders to discuss key issues that are specific to that particular organization. Staff has been meeting every several weeks with U.S. EPA and CARB to discuss NSR and RTC accounting issues that are critical to the transition process. Staff has had three in-person meetings with U.S. EPA in San Francisco to discuss the RECLAIM transition and New Source Review on March 14, 2019, August 15, 2019, and March 5, 2020. Due to concerns about COVID-19, the March 5, 2020 "in-person" meeting was conducted virtually through video conference. Staff encourages individual facilities to meet with staff so any issues that are unique to their operation that are germane to the transition are understood.

Version 2.0 of the RECLAIM Transition Plan

Throughout the transition process, staff is working with stakeholders to identify key issues. As key issues are identified, they are discussed at Working Group Meetings and in the RECLAIM Transition Plan. A discussion of strategic planning regarding how these issues are being addressed and the recommendations, if any, are discussed in the RECLAIM Transition Plan. This version of the RECLAIM Transition Plan has been organized into 9 chapters.

- Chapter 1: Background and Overview
- Chapter 2: Rule Development for Landing Rules
- Chapter 3: BARCT Determination Process
- Chapter 4: Overview of New Source Review
- Chapter 5: Ensuring Availability of Offsets Post-RECLAIM
- Chapter 6: Generation of Offsets
- Chapter 7: NSR Issues Related to the RECLAIM Transition
- Chapter 8: Transition Process
- Chapter 9: Permitting

Chapter 2:
Rule Development for Landing Rules

Background

One of the key elements for the RECLAIM transition, is to establish (Best Available Retrofit Control Technology) NOx emission limits for equipment in RECLAIM that will be incorporated in either source- or industry-specific landing rules for RECLAIM facilities. Since Version 1.0 of the RECLAIM Transition Plan, eight rules have been adopted or amended.

Overview of Rulemaking Approach

Staff has identified three main categories of landing rules needed for the transition to command-and-control: (1) Source-Specific Command-and-Control Rules; (2) Industry-Specific Command-and-Control Rules; and (3) Monitoring, Reporting, and Recordkeeping Rules. Within these three categories and one rule that has implementation dates for RECLAIM and former RECLAIM facilities there are 19 rules that will need to be adopted or amended.

Source-Specific Command-and-Control Rules

Source-specific command-and-controls rules generally apply to a specific category of equipment or processes such as engines, boilers, heaters, turbines, etc. and can apply to a variety of industries that use the equipment. For source-specific rules that apply to a broad category of equipment and industries, specific provisions within the source-specific rule can be incorporated to address specific situations and applications of the equipment. In general, source-specific rules include a purpose, applicability, definitions, emission limits, source testing requirements, monitoring, reporting, and recordkeeping provisions, and exemptions. Emission limits generally represent a Best Available Retrofit Control Technology (BARCT) emission level that can be expressed as an exhaust concentration limit, such as 10 parts per million (ppm) of NOx, or an emission rate, such as pounds of NOx per hour or pounds of NOx per unit of throughput. A discussion of the BARCT determination process is discussed under "BARCT Determination Process." Based on the different RECLAIM equipment, staff has identified nine source-specific landing rules that need to be adopted or amended as part of the RECLAIM transition.

- Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines
- Rule 1118.1 – Control of Emissions from Non-Refinery Flares
- Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines
- Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
- Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters
- Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters
- Rule 1147 – NOx Reductions from Miscellaneous Sources
- Rule 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens
- Rule 1159.1 – Control of NOx Emissions from Nitric Acid Units

The rule development process includes Working Group Meetings, Public Workshops, California Environmental Quality Act (CEQA) analysis, and a Public Hearing (See Public Process). Through the rulemaking process staff works with the rule Working Group, which includes all stakeholders, to discuss the BARCT analysis, proposed BARCT emission limits, implementation schedule, cost-effectiveness, monitoring, reporting and recordkeeping requirements, exemptions, and other details of the proposed or proposed amended rule.

Table 2-1 provides a general summary of the applicable equipment addressed in each source-specific rule and the rulemaking status. To date, six source-specific rules have been adopted or amended and the remaining three source-specific rules have proposed public hearing dates in 2021. Staff has concluded that diesel back-up engines that are regulated under Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines would not require BARCT since RECLAIM facilities are not exempt from Rule 1470.

Table 2-1
Rulemaking Status of Source-Specific Landing Rules

Rule	Applicability	Rulemaking Status
Rule 1110.2	Stationary and portable engines > 50 brake horsepower	Amended November 1, 2019
Rule 1118.1	Non-refinery flares	Adopted January 4, 2019
Rule 1134	Stationary gas turbines ≥ 0.3 megawatt (excludes gas turbines and electric generating facilities, refineries, landfills, and publicly owned treatment works)	Amended April 5, 2019
Rule 1146	Boilers, steam generators and process heaters ≥ 5 MM Btu/hour	Amended December 7, 2018
Rule 1146.1	Boilers, steam generators, and process heaters that are > 2 MM Btu/hour and < 5 MM Btu/hour	Amended December 7, 2018
Rule 1146.2	Large water heaters and small boilers and process heaters ≤ 2 MM Btu/hour	Amended December 7, 2018
Rule 1147	Miscellaneous combustion sources	October 2021
Rule 1153.1	Emissions of Oxides of Nitrogen from Commercial Food Ovens	Fourth Quarter 2021
Rule 1159.1	Nitric acid units	November 2021

Since U.S. EPA is suggesting that RECLAIM facilities will not transition out of RECLAIM until all landing rules, Regulation XX, and Regulation XIII are amended and approved by U.S. EPA, RECLAIM facilities will need to comply with provisions in command-and-control rules while in RECLAIM. For example, RECLAIM facilities are required to meet NOx emission limits for Rule 1146 while in RECLAIM and upon transitioning out of RECLAIM.

Industry-Specific Command-and-Control Rules

Industry-specific rules focus on a specific industry and include most NOx emitting equipment at the affected facilities. The industry-specific rules also include the implementation schedule for the equipment, taking into account that these facilities have multiple pieces of equipment that are required to meet the NOx BARCT emission limits. Industry-specific rules are suited for industries that have similar equipment profiles or issues that are unique to that specific industry and will be difficult to address in separate source-specific rules. For industry categories such as refineries,

staff is exploring an implementation approach that will achieve the greatest emission reductions first, while recognizing the large number of emission reduction projects needed to meet the proposed NOx emission limits and the capital investment associated with implementing these emission reduction projects. In situations where an industry-specific rule includes equipment regulated under a source-specific rule, the industry-specific rule may reference the NOx limit in the applicable source-specific rule.

Based on RECLAIM equipment, staff has identified five industry-specific landing rules that will need to be adopted or amended as part of the RECLAIM transition.

- Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations
- Rule 1117 – Emissions from Container Glass Melting and Sodium Silicate Furnaces
- Rule 1135 - Emissions of Oxides of Nitrogen from Electricity Generating Facilities
- Rule 1147.1 – NOx Reductions for Equipment at Aggregate Facilities
- Rule 1147.2 – NOx Reductions from Metal Melting and Heating Furnaces

Table 2-2 provides a general summary of the industry and applicable equipment addressed in each industry-specific rule and the rulemaking status. To date, two industry-specific rules have been amended and the remaining three industry-specific rules have proposed public hearing dates in 2021.

Table 2-2
Rulemaking Status of Industry-Specific Landing Rules

Rule	Applicability	Rulemaking Status
Rule 1109.1	All combustion equipment at refineries and refinery related facilities	June 2021
Rule 1117	All combustion equipment at container glass melting and sodium silicate facilities	Amended June 5, 2020
Rule 1135	All combustion equipment at electricity generating facilities	Amended November 2, 2018
Rule 1147.1	All combustion equipment at aggregate facilities	October 2021
Rule 1147.2	Metal melting and heating furnaces at metal melting, forging, and treating facilities	August 2021

Monitoring, Reporting, and Recordkeeping

Monitoring, Recordkeeping, and Reporting (MRR) requirements are an integral part of the RECLAIM program and are based on a mass emissions reporting approach for calculating annual emissions. Annual emissions from a facility's major sources, large sources, process units, and Rule 219 equipment must comply with the facility's respective annual allocations. Major sources are monitored by continuous emission monitoring systems (CEMS), large sources have the option to be monitored by a continuous process monitoring system (CPMS), and process units and Rule 219 equipment have the option to be monitored manually by a fuel meter and/or timer.

As facilities transition from RECLAIM to command-and-control, a comparison of the MRR requirements between RECLAIM and the applicable command-and-control rule are assessed. Where there is general agreement between RECLAIM and the existing command-and-control MRR requirements, the command-and-control MRR requirements will be used (e.g., Rule 1146). Where there are differences, additional analysis will be needed recognizing that RECLAIM is based on mass emissions and the command-and-control rule is based on the NOx concentration or emission rate, and certain monitoring and reporting requirements may be less stringent under a command-and-control regulatory approach.

Existing command-and-control rules and RECLAIM both have requirements for the installation and operation of CEMS as a means to determine compliance with emission limits. To provide the guidance and specifications for CEMS installation and operation, the South Coast AQMD has established CEMS rules. The current CEMS rule for RECLAIM facilities is Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions. Since compliance under RECLAIM is based on mass emissions, Rule 2012 focuses on mass emission monitoring. As RECLAIM facilities transition to a command-and-control regulatory structure requiring BARCT, MRR requirements will be focused on pollutant concentration limits. Rules 218 – Continuous Emission Monitoring and 218.1 – Continuous Emission Monitoring Performance Standards are the existing monitoring rules for CEMS which focus on monitoring concentration limits for compliance with a specific emission limit. The updated CEMS requirements that will replace Rules 218 and 218.1 are being developed under Rules 218.2 – Continuous Emission Monitoring System: General Provisions and 218.3 – Continuous Emission Monitoring System: Performance Specifications. Proposed Rules 218.2 and 218.3 will include applicability; implementation schedule; monitoring requirements, CEMS certification, quality assurance and quality control; data handling; recordkeeping, reporting, and other requirements for RECLAIM, former RECLAIM, and non-RECLAIM facilities required to have CEMS. Proposed Amended Rules 218 and 218.1, and Proposed Rules 218.2 and 218.3 are schedule for adoption in March 2021.

Command-and-Control Regulatory Approach

Under a command-and-control regulatory approach, facilities will no longer have an allocation of RTCs. In general, a command-and-control regulatory approach is based on establishing a NOx concentration limit or an emission rate limit as compared to the RECLAIM program which was based on mass emissions. Under a command-and-control regulatory approach, throughput limits are established in the South Coast AQMD permit. Since the adoption of RECLAIM, some equipment and processes do not have NOx or SOx permit limits, however, throughput limitations are based on non-RECLAIM pollutants such as PM or CO. Ensuring equipment and processes have permitted limits as they transition to a command-and-control regulatory approach will be one of the permitting challenges as discussed below to avoid unlimited emissions.

Start-Up, Shutdown, and Malfunctions (SSM)

In 2015, U.S. EPA issued an SSM SIP policy which stated that exempting start-up and shutdown and affirmative defense provisions for malfunction periods were not consistent with the federal Clean Air Act (CAA). Based on the 2015 SSM SIP policy, U.S. EPA issued SIP calls to 36 states with SIP provisions that were substantially inadequate in meeting the 2015 SSM SIP policy. Subsequently, the states filed with the D.C. Circuit Court of Appeals petitions for review regarding

the 2015 SSM SIP Action. In 2017, upon U.S. EPA request, the D.C. Circuit postponed oral arguments to allow U.S. EPA to review their SSM policy. Furthermore, U.S. EPA took two regional actions that deviated from their 2015 SSM SIP Policy. After U.S. EPA took these actions and reviewed their policy, they concluded that in certain circumstances, SSM provisions may be permissible in the SIP which is outlined in U.S. EPA's October 9, 2020 Memorandum *Inclusion of Provisions Governing Periods of Startup, Shutdown, and Malfunctions in State Implementation Plans* (2020 SSM SIP Policy). Staff is working with U.S. EPA regarding the SSM measures needed in landing rules. Initial guidance from U.S. EPA is to comply with the 2015 SSM SIP Policy until additional guidance can be provided on the 2020 SSM SIP Policy.

U.S. EPA Memorandum on Inclusion of Provisions Governing Periods of Startup, Shutdown, and Malfunctions in State Implementation Plans (2020 SSM SIP Policy)

U.S. EPA issued a memorandum addressing start-up, shutdown, and malfunction (SSM) provisions in State Implementation Plans (SIPs). Through the rule development process, staff has been in communication with U.S. EPA. The revised guidance (https://www.epa.gov/air-quality-implementation-plans/guidance-inclusion-provisions-governing-periods-startup-shutdown) recognizes that a State Implementation Plan (such as a rule) allows exemptions to specific emission limits for SSM events if the requirements collectively protect the National Ambient Air Quality Standards (NAAQS). EPA expects that an in-depth analysis will be necessary to determine that the planning requirements are, when taken collectively, protective of the NAAQS. Additionally, the SSM provision in the rule will be considered, alongside other factors, that demonstrate the ability to attain and maintain the NAAQS. Such considerations include that sources use best practicable air pollution control practices to minimize emissions and that the provision contains limitations for duration and severity.

Implementation Schedules and Emission Reductions

Since the first version of the RECLAIM Transition Plan, eight landing rules have been adopted or amended. Consistent with AB 617, the compliance schedules generally range between January 1, 2023 and January 1, 2024. Longer implementation timeframes were established for units that had unique situations. Key considerations in establishing the implementation schedule include:

- AB 617 requirements with highest priority for implementation for those sources that have not modified emissions-related permit conditions for the greatest period of time;
- South Coast AQMD resources to process permits, review source test protocols and reports, and conduct review of any compliance plans;
- Consideration of the complexity and number of BARCT emission reduction projects with consideration of time for engineering design, permitting, installation, and commissioning of the equipment which includes source testing and other administrative requirements such as California Environmental Quality Act, Federal Title V permitting requirements, public notices, and additional review by EPA, as applicable;
- Resource impacts to the facility including ability to implement multiple emission reduction projects simultaneously, capital resources, turnaround schedules or outlying issues such as equipment size or general scope and breadth of emission reduction projects; and
- Availability of service providers such as installers, source testers, and contractors.

The implementation schedule will be discussed and developed through the rulemaking process for each of the source-specific and industry-specific rules. Stakeholders are encouraged to discuss any unique situations at their facility such as space limitations, turnaround schedules or outlying issues such as equipment size or fuel type that may pose additional challenges. Additional considerations in the implementation schedule may provide opportunities for longer implementation timeframes for facilities that elect to replace rather than retrofit equipment to meet the BARCT requirements, recognizing that replacing a unit may achieve additional emission reductions and in some cases, efficiency gains.

Staff is currently working on the implementation schedule for Proposed Rule 1109.1 for refinery and refinery related operations. Staff is developing a phased implementation approach that will seek more reductions in the first phase. The implementation approach for PR 1109.1 will go beyond January 1, 2024 as many of the petroleum refineries have many complex projects that requiring a combination of burner replacements and installation of selective catalytic reduction (SCR). Each project will have capital expenditures over $10 million, and time is needed to sync projects within the refinery turnaround schedules. Staff believes it is critical to take these considerations into account to provide the time for the refineries to achieve the proposed NOx BARCT limits.

Rule 1100 – Implementation Schedule for NOx Facilities

Rule 1100 – Implementation Schedule for NOx Facilities establishes the implementation schedule and compliance dates for certain source-specific rules that are regulating non-RECLAIM and RECLAIM facilities. Incorporating the implementation schedule in a rule outside of the source-specific rule for RECLAIM facilities is less confusing for non-RECLAIM facilities that are also subject to the same rule. For non-RECLAIM facilities that were already subject to the NOx emission limits in the source-specific rule, a different compliance schedule is established for RECLAIM facilities. To date, Rule 1100 establishes the implementation schedule for RECLAIM and former RECLAIM facilities for the following three rules:

- Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines;
- Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters; and
- Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.

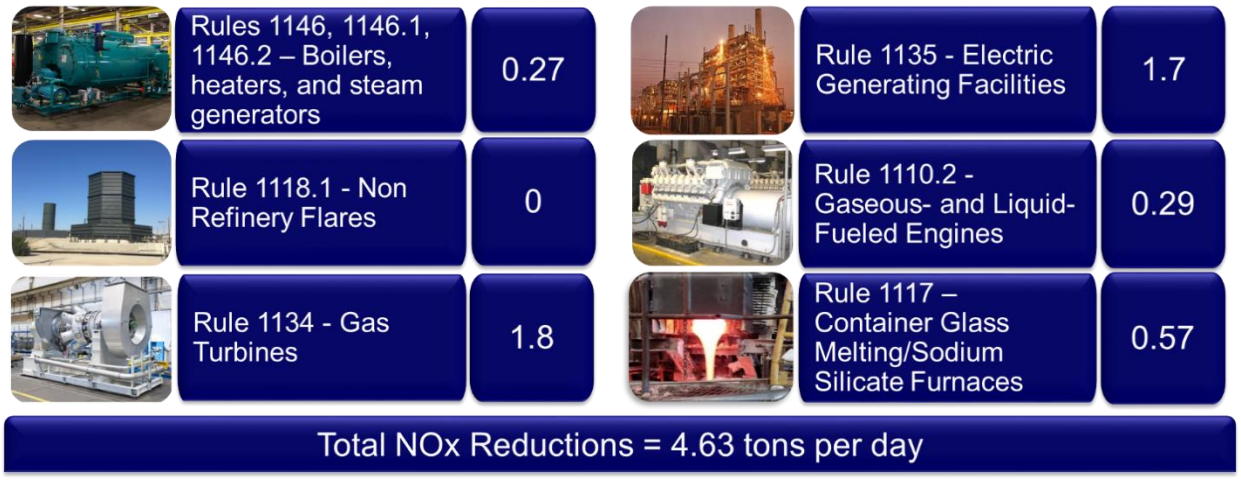
Rule 1100 did not include an implementation schedule for RECLAIM and former RECLAIM facilities for Rules 1118.1 and 1134 since the NOx emission limits applied to RECLAIM and non-RECLAIM facilities.

Emission Reductions from Adopted or Amended Landing Rules

For the eight landing rules that have been adopted or amended, NOx emission reductions from RECLAIM facilities is 4.63 tons per day. Implementation dates are generally around January 1, 2024. Longer implementation dates were allowed for units that had more complex issues

surrounding compliance with the NOx emission limit. A summary of the emission reductions is provided in Figure 2-1.

Figure 2-1
Estimated NOx Emission Reductions
from RECLAIM Facilities for Adopted or Amended Landing Rules



Chapter 3:
BARCT Determination Process

Background

The California Health and Safety Code Section 40406 defines BARCT as "an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source." BARCT is reassessed periodically and is updated as technology advances.

Statutory Requirements

The California Health and Safety Code Section 40920.6 establishes requirements prior to adopting rules or regulations regarding retrofit control technologies. Some of these requirements include:

- Identifying one or more potential control options which achieves the emission reduction objective for the regulation.
- Reviewing the information developed to assess the cost-effectiveness of the potential control option, where cost-effectiveness is defined as the cost, in dollars, of the potential control option divided by emission reduction potential, in tons (i.e., the amount of dollars per ton of NOx reduced).
- Calculating the incremental cost-effectiveness for the potential control options is defined as the difference in the costs divided by the difference in the emission reduction potential between each progressively more stringent potential control option as compared to the next less expensive control option.

In addition, other items for consideration and review at a public meeting include the effectiveness of the proposed control option in meeting the requirements of Section 40920.6 and the requirements adopted by the state board pursuant to subdivision (b) of Section 39610, the cost-effectiveness of each potential control option, and the incremental cost-effectiveness. At public hearings, these requirements are considered and included in the findings. The District provides the reasons for the adoption of the proposed control option or options which are also included in the adoption Resolution.

A District may establish its own BARCT requirement provided the following are met:

- Requirement meets the state definition of BARCT, as defined earlier (Section 40406).
- Rules and regulations include a process to approve alternative methods of complying with emission control requirements that provide equivalent emission reductions, emissions monitoring, or recordkeeping.
- Requirement is consistent with state law, and federal law, including, but not limited to, the applicable state implementation plan (SIP).

Guiding Principles for Establishing BARCT Levels

Staff has developed the following set of Guiding Principles for establishing BARCT levels for RECLAIM equipment:

- Development of BARCT levels must be consistent with state law and take into account environmental, energy, and economic impacts.
- The BARCT levels must adhere to Health and Safety Code Section 40920.6 which establishes requirements prior to adopting rules or regulations regarding retrofit control technologies.
- If an applicable, existing, command-and-control source-specific rule establishes a NOx concentration limit that represents current BARCT, that NOx concentration limit will be used and an additional BARCT determination is not needed.
- Staff will conduct a BARCT review if the following occurs:
  - an applicable command-and-control source-specific rule has a NOx concentration limit that is not representative of BARCT;
  - the 2015 RECLAIM amendment NOx concentration levels need to be reassessed; or
  - a BARCT level has not been established for a specific equipment source category, fuel type, and/or specific application of the equipment.

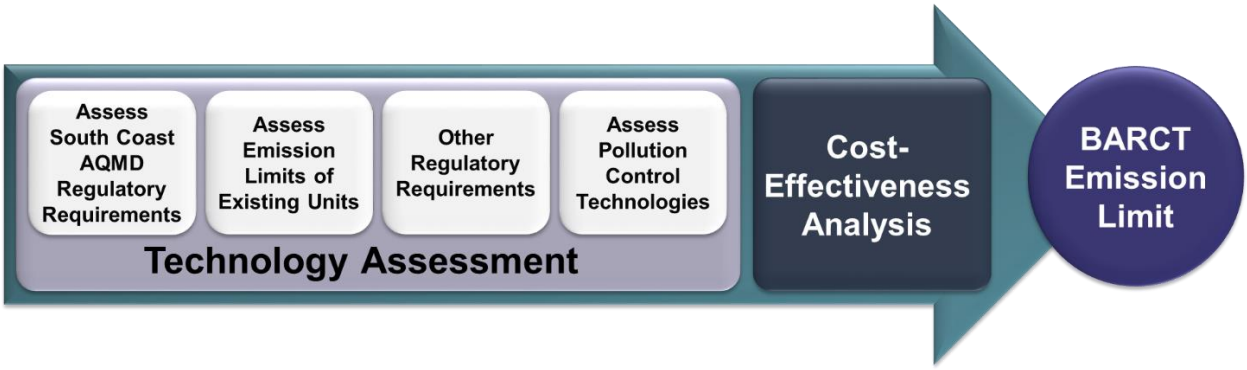
The South Coast AQMD staff has developed a methodical BARCT analysis process that meets the statutory requirements for analysis of BARCT that is used in the rule development process. BARCT is an iterative process, therefore it will be updated as new information becomes available. In addition to the overall cost-effectiveness, additional considerations consist of outliers, stranded assets, incremental cost-effectiveness, and accounting for recent installations or implementation of previous requirements for BARCT or BACT.

The BARCT emission limit can be established based on existing or emerging technologies, emissions data such as Annual Emissions Reporting data, source tests, and Continuous Emissions Monitoring Systems data, and/or through equipment vendor guarantees/quotations. For each equipment source category, the emission levels can vary based on equipment size, fuel type, application, and other considerations. BARCT emission limits can be technology forcing based on demonstration projects, technology transfer, and technology assessments. For BARCT emission limits based on emerging technologies, the implementation time must be sufficient for that technology to be developed by the compliance date.

BARCT Analysis Process

Since the first version of the RECLAIM Transition Plan, staff developed a standard approach to establish the BARCT emission limit that includes a robust approach to assess achievable technologies. For each of the landing rules, the BARCT analysis includes a technology assessment to develop an initial NOx emission limit for each class and category of equipment. The cost-effectiveness of achieving the initial NOx emission limit is then analyzed. Staff uses the 2016 AQMP average cost-effectiveness of $50,000 per ton of NOx reduced as a guide to determine if achieving the initial BARCT NOx emission limit is cost-effective. If it is determined that the initial BARCT emission limit is cost-effective, the initial NOx BARCT limit becomes the NOx BARCT emission limit for the proposed or proposed amended rule.

Figure 3-1
BARCT Analysis Process



The purpose of the Technology Assessment is to assess available and emerging technologies and their associated emission limit for a specific class and category of equipment. For the BARCT analysis, there are four main elements to the Technology Assessment: 1) Assess South Coast AQMD regulatory requirements; 2) Assess emission limits of existing units; 3) Assess emission limits under other regulatory requirements; and 4) Assess pollution control technologies. Each of these four elements are discussed below.

Assess South Coast AQMD Regulatory Requirements

One of the first steps in the Technology Assessment is to identify current emission limits in existing BARCT rules and in the BACT Guidelines under Regulation XIII. Evaluation of existing BARCT limits provides an understanding of the regulatory baseline of what is currently required. In some cases, there are BARCT limits established for the same or similar equipment in an existing BARCT rule that provides guidance in establishing the BARCT limit for the proposed rule. For example, when establishing the NOx limits for engines used at electricity generating facilities, staff assessed current NOx emission limits under Rule 1110.2 which also regulates engines. It is important to assess current rules and regulations to ensure proposed NOx emission limits are consistent with existing South Coast AQMD rules, if appropriate.

Assess Emission Limits of Existing Units

Assessing emission limits of existing units is a critical part of the Technology Assessment. This part of the BARCT analysis includes reviewing permitted levels, source tests, and continuous emissions monitoring system (CEMS) data, if available. Staff will evaluate emissions data from sources regulated by the South Coast AQMD as well as other agencies.

Other Regulatory Requirements

As part of the BARCT analysis staff looks at requirements that establish emission limits for the same equipment categories that are regulated by other agencies throughout the state and nation to identify the lowest emission limits that have been established in other jurisdictions. Generally if staff does find a lower emission limit adopted by another agency, staff will reach out to that agency and obtain more details regarding the implementation status and if there are any issues with that particular emission limit.

Assess Pollution Control Technologies

There are a variety of resources that staff uses to identify available pollution control technologies. Staff reaches out to manufacturers of equipment such as burner and pollution control technologies. Staff conducts research to identify current and emerging technologies by conducting literature searches, technologies identified by control technology conferences, working with the South Coast AQMD's Technology Advancement Office demonstration projects, BACT assessments, and AQMP control measure evaluations.

Cost-Effectiveness Analysis

The average cost-effectiveness is examined for each class and category of equipment for the Initial BARCT emission limit from the four analyses above: 1) Assessment of South Coast AQMD regulatory requirements; 2) Assessment of emission limits of existing units; 3) Assessment of emission limits under other regulatory requirements; and 4) Assessment of pollution control technologies. In general class and category can be based on industry type, equipment type, equipment size, fuel type, and other categories. Cost-effectiveness is the cost measured in terms of control costs (dollars) per emissions reduced (tons). For example, the cost-effectiveness of a NOx BARCT limit is expressed as a dollars per ton of NOx reduced. If information is available, staff will estimate the cost-effectiveness for each piece of equipment affected by the proposed BARCT limit and for each class and category of equipment average those values. The two main elements in the cost-effectiveness analysis are the cost information and emission reductions.

Cost Information

Cost information can be obtained from technology vendors, installers/contractors, permitting evaluations, demonstration project reports, actual installations from facilities, and the U.S. EPA Office of Air Quality Planning and Standards Control Cost Manual. Design parameters from facility equipment are obtained from South Coast AQMD records or from information obtained from facilities.

The design parameters are evaluated to assess the feasibility of a proposed emission level or an alternate emission level. The design parameters are specific to the type of equipment and consider the rating/size, fuel, heating value, and stack parameters (e.g., flow rate, temperature, moisture content, oxygen content, pollutant concentration) from source tests or CEMS data. The two main components for costs are Total Installed Costs (Capital Costs) and Annual Costs. Total Installed Costs include, but are not limited to, engineering and design; project management, labor, and supervision; capital equipment costs (e.g., equipment replacement, pollution control equipment, catalyst initial charge, controls, monitors, ductwork, etc.); freight; permitting; and taxes. Contingencies can be based on the scope of work or other site-specific considerations (e.g., space limitations that may require additional structural materials and installation). Annual Costs include, but are not limited to, consumables as a result of operation (e.g., periodic catalyst replacements, sorbent usage, reducing agent usage, water usage, etc.); power consumption; and periodic maintenance costs. Only incremental costs, costs incurred in addition to current costs, directly resulting from compliance with the proposed rule or regulation are considered.

Emission Reductions

Baseline emissions are determined based on the information obtained from Assessing Emission Limits of Existing Units and Annual Emissions Reporting (AER) data, source testing results, and

continuous emission monitoring systems. When that information is not available, permit limits and emission factors may be utilized. Fuel usage from reported AER data provides a baseline to estimate throughput of a device. Initial BARCT Level emissions are determined by using the fuel usage and the Initial BARCT concentration limit. Finally, estimated emission reductions are calculated by comparing baseline emissions to emissions estimated at the Initial BARCT Levels.

Determination of Emission Reductions and Cost-Effectiveness

To calculate Cost-Effectiveness, total discounted costs, or the Present Worth Value (PWV), is divided by the projected emission reductions over the life of the equipment.

$$Cost\text{-}Effectiveness\ (\$\ per\ ton) = \frac{PWV\ (\$)}{Emission\ Reductions\ Over\ n\ Years\ (tons)}$$

PWV is the summation of Total Installed Costs and the present value of the stream of Annual Costs over the life of the equipment. PWV is calculated using the Discounted Cash Flow method as follows:

$$PWV\ (\$) = Total\ Installed\ Costs\ (\$) + [Annual\ Costs(\$) \times Present\ Worth\ Factor]$$

The discounted stream of Annual Costs over the lifetime of the equipment is calculated using a Present Worth Factor, defined as:

$$Present\ Worth\ Factor = \frac{(1+i)^n - 1}{i(1+i)^n}$$

where,

i = real interest rate
n = equipment life (in years)

For example, if we assume a 4% interest rate and an equipment life of 25 years, the Present Worth Factor is 15.622.

The range of cost-effectiveness can vary, depending on the control technology available to achieve the same emission level. In general, equipment with lower emission reductions have a higher cost-effectiveness. Cost-effectiveness can be calculated per device and for a general industry category as an average or a range. Some installations will be more cost-effective than others. Command-and-control rules take into account all applicable sources and may make exceptions for certain unique situations meeting certain specific criteria. Ancillary costs for construction are included in the Total Installed Costs, but only if they pertain directly to the pollution control project. The costs for other projects that are conducted concurrently, such as upgrades to other pieces of equipment nearby and not directly affecting the emission source, are not included in the Total Installed Costs.

Incremental Cost-Effectiveness

Health and Safety Code section 40920.6 requires an incremental cost-effectiveness analysis for Best Available Retrofit Control Technology (BARCT) rules or emission reduction strategies when there is more than one control option which would achieve the emission reduction objective of the proposed amendments relative to ozone, carbon monoxide, sulfur oxides, oxides of nitrogen,

and their precursors. Incremental cost-effectiveness is the difference in the dollar costs divided by the difference in the emission reduction potentials between each progressively more stringent potential control option as compared to the next less expensive control option. Incremental cost-effectiveness is calculated as follows:

$$Incremental\ Cost\text{-}Effectiveness = \frac{(C_{alt} - C_{proposed})}{(E_{alt} - E_{proposed})}$$

Where:

$C_{proposed}$ is the present worth value of the proposed control option;
$E_{proposed}$ are the emission reductions of the proposed control option;
C_{alt} is the present worth value of the alternative control option; and
E_{alt} are the emission reductions of the alternative control option.

BARCT Emission Limit

The cost-effectiveness analysis is calculated using a bottom-up approach which assesses each individual unit using actual emissions data from that unit. The data from each unit is used to calculate an average cost-effectiveness for each class and category of equipment. Next, an initial sensitivity assessment is conducted to further analyze outlier units with an excessively high cost-effectiveness value. Next, an average cost-effectiveness with outliers removed is calculated and compared to the 2016 AQMP average cost-effectiveness of $50,000 per ton of NOx reduced. If the cost-effectiveness is generally $50,000 per ton of NOx reduced or less, then the initial BARCT emissions limit will become the proposed BARCT emission limit.

If the cost-effectiveness is greater than $50,000 per ton of NOx reduced, then the initial BARCT emissions limit is revised and cost-effectiveness is recalculated using the revised initial BARCT emission limit. The process of revising the initial BARCT emission limit and recalculating cost-effectiveness continues until the cost-effectiveness is generally $50,000 per ton of NOx reduced or less.

The outlier units that are removed will be further analyzed and will be addressed through a different implementation approach or possibly be exempt from the new BARCT emission limit. For example, Rule 1135 exempts units that are near the BARCT limit and units that are low use. An example of an alternative implementation approach is allowing a unit to meet the NOx BARCT limit upon when the burner reaches its useful life or upon burner replacement.

South Coast AQMD's Authority to Base a BARCT Emission Limit on Equipment Replacement

Industry stakeholders have commented that the word "retrofit" in "Best Available Retrofit Control Technology" precludes the South Coast AQMD from requiring emissions limits that can only be cost-effectively met by replacing the basic equipment with new equipment. Therefore, the South Coast AQMD does not have the authority to base a BARCT emission limit on equipment replacement and establishing BARCT is limited to retrofits only. South Coast AQMD staff disagrees with this interpretation of BARCT and believes that the term "retrofit" does not preclude

replacement technology based on the: 1) Statutory definition of BARCT; 2) Dictionary definitions of retrofit; and 3) South Coast AQMD's Broad Statutory Authority of BARCT .

Statutory Definition of BARCT

The statutory definition of BARCT supports a broad interpretation, including replacement. Health & Safety Code section 40406 provides: "As used in this chapter, 'best available retrofit control technology' means an emission limitation that is based on the maximum degree of emission reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source." BARCT is an "emission limitation" and does not limit the technology approach to achieve the emission limitation such as an add-on pollution control or equipment replacement. There is no policy reason for insisting that replacement equipment cannot be an element of BARCT as long as it meets the requirements of the statute including cost-effectiveness.

On-line Dictionary Definitions of Retrofit

A review of on-line dictionaries supports staff's view that the use of the term "retrofit" does not preclude replacement technology. The on-line Merriam-Webster Dictionary defines "retrofit" in a manner that does not preclude replacing equipment[1]. In addition, the on-line Dictionary.com is more explicit in allowing replacement parts in its definition of retrofit as a verb[2]. This definition includes replacement of existing equipment within the concept of "retrofit." Accordingly, the use of the term "retrofit" can include the concept of replacing existing equipment. Applicable dictionary definitions do not preclude the view that BARCT can include equipment replacement.

South Coast AQMD's Broad Statutory Authority of BARCT

The South Coast AQMD retains broad statutory authority to adopt emission-control requirements for stationary sources, and that authority may require equipment replacements, as long as the requirement is not arbitrary and capricious. The case law supports an expansive reading of BARCT. In explaining the meaning of BARCT, the California Supreme Court held that BARCT is a "technology-forcing standard designed to compel the development of new technologies to meet public health goals." *American Coatings Ass'n. v. South Coast Air Quality Mgt. Dist.*, 54 Cal. 4th 446, 465 (2012). In fact, the BARCT requirement was placed in state law for the South Coast AQMD in order to "encourage more aggressive improvements in air quality" and was designed to augment rather than restrain the South Coast AQMD's regulatory power. *American Coatings, supra*, 54 Cal. 4th 446, 466. Accordingly, BARCT may actually be more stringent than Best Available Control Technology (BACT), because BACT must be implemented today by a source receiving a permit today, whereas BARCT may, if so specified by the South Coast AQMD, be implemented a number

[1] On-line Merriam-Webster Dictionary definition of retrofit: 1: to furnish (something, such as a computer, airplane, or building) with new or modified parts or equipment not available or considered necessary at the time of manufacture, 2: to install (new or modified parts or equipment) in something previously manufactured or constructed, 3: to adapt to a new purpose or need: modify. https://www.merriam-webster.com/dictionary/retrofit

[2] On-line Dictionary.com definition of retrofit as a verb: 1. to modify equipment (in airplanes, automobiles, a factory, etc.) that is already in service using parts developed or made available after the time of original manufacture, 2. to install, fit, or adapt (a device or system) or use with something older; to retrofit solar heating to a poorly insulated house, 3. (of new or modified parts, equipment, etc.) to fit into or onto existing equipment, 4. to replace existing parts, equipment, etc., with updated parts or systems. http://www.dictionary.com/browse/retrofit.

of years in the future after technology has been further developed. *American Coatings, supra,* 54 Cal. 4th 446, 467.

The Supreme Court further held that when challenging the South Coast AQMD's determination of the scope of a "class or category of source" to which a BARCT standard applies, the challenger must show that the South Coast AQMD's determination is "arbitrary, capricious, or irrational." *American Coatings, supra*, 54 Cal. 4th 446, 474. Therefore, the South Coast AQMD may consider a variety of factors in determining which sources must meet any particular BARCT emissions level. If, for example, some sources could not cost-effectively reduce their emissions further because their emissions are already low, these sources can be excluded from the category of sources that must meet a specific BARCT emission limit. Therefore, the South Coast AQMD may establish a BARCT emissions level that can cost-effectively be met by replacing existing equipment rather than installing add-on controls, and the South Coast AQMD's definition of the category of sources which must meet a particular BARCT is within the South Coast AQMD's discretion as long as it is not arbitrary, capricious, or irrational.

Chapter 4:
Overview of New Source Review

Background

New Source Review (NSR) is a regulatory program required by the federal and state Clean Air Acts that is designed to protect air quality as new or modified sources (equipment or processes) are permitted. Before a permit is issued, NSR ensures that the new or modified source meets the cleanest emission standards achievable at the time of permitting and any emission increase is offset by emission reductions from other existing sources. The purpose of NSR is to ensure that emission increases from new and modified sources do not interfere with the progress towards meeting the National Ambient Air Quality Standards (NAAQS) and state ambient air quality standards, while ensuring that future economic growth and facility modernization in the South Coast Air Basin are not unnecessarily restricted.

There are a number of issues related to NSR and the RECLAIM transition. Since the first version of the RECLAIM Transition Plan, staff has conducted additional analyses of offsets in the Open Market and the Internal Bank to better understand the current availability of offsets for NOx, SOX, PM10, and VOC. This chapter provides a regulatory overview of the South Coast AQMDs NSR program for RECLAIM and non-RECLAIM facilities, state requirements, and federal requirements. This chapter also provides a summary of the current supply of offsets in the Open Market and the Internal Bank.

South Coast AQMD's NSR Programs

South Coast AQMD has two NSR programs: Rule 2005 – New Source Review for RECLAIM and Regulation XIII – New Source Review. Rule 2005 establishes NSR requirements for RECLAIM facilities and Regulation XIII establishes NSR requirements for non-RECLAIM facilities. Both NSR programs are designed to implement state and federal NSR requirements and have been approved by CARB and U.S. EPA in 1996 for inclusion into the State Implementation Plan. Any changes or revisions to either NSR regulatory program will need to satisfy state and federal requirements that pertain to NSR. The following provides a brief regulatory overview of Rule 2005, Regulation XIII, and state and federal NSR requirements that are related to the RECLAIM transition.

Rule 2005 – RECLAIM New Source Review

Rule 2005 specifies the NSR requirements for new RECLAIM facilities[3], modifications to existing RECLAIM facilities[4], and facilities that increase their allocation to a level greater than their starting allocation plus non-tradable credits. In addition to requiring Best Available Control Technology (BACT) and modeling to demonstrate no significant increase in NO2, Rule 2005 has specific holding requirements for offsetting emission increases from new or modified sources that were permitted during RECLAIM. Existing RECLAIM facilities with new or modified sources which result in an

[3] A new RECLAIM facility is any facility which has received District Permits to Construct on or after October 15, 1993. (Rule 2000 (c)(51))

[4] An existing RECLAIM facility is any facility that submitted Emission Fee Reports pursuant to Rule 301 – Permit Fees, for 1992 or earlier years, or with a valid District Permits to Operate issued prior to October 15, 1993, and continued to be in operation or possess valid District permits on October 15, 1993. (Rule 2000(c)(35))

emission increase must hold sufficient RECLAIM Trading Credits (RTCs) to offset the annual emission increase at a 1-to-1 ratio for the first year of operation. The holding requirement for new RECLAIM facilities and any RECLAIM facility that increases their annual allocation above the level of their starting allocations plus non-tradable credits is to hold sufficient RTCs to offset the annual emission increase from new or modified sources at a 1-to-1 ratio for the first year of operation and every year thereafter.

Although, a RECLAIM facility's holding requirement for emission increases is based on a 1-to-1 offset ratio, RECLAIM complies with the federal 1.2-to-1 offset requirement for NOx on a programmatic basis. Each year an annual RECLAIM audit report assesses NSR permitting activities to verify that RECLAIM complies with the federal and state NSR requirements based on programmatic compliance. The Annual RECLAIM Audit Report includes the federal equivalency demonstrating compliance with the federal 1.2-to-1 offset requirement on aggregate.

Regulation XIII – New Source Review

Under Regulation XIII, a facility must offset the permitted increase at an offset ratio of 1.2-to-1 and in perpetuity using ERCs. Regulation XIII requires offsets for any permitting action that results in an emission increase of greater than or equal to one pound per day of any nonattainment air contaminant. Regulation XIII establishes applicability requirements and provisions for generating and using emission offsets. Under Regulation XIII there are two offsetting programs: Open Market and the Internal Bank. The Open Market allows individual entities to hold, buy, sell, and transfer Emission Reduction Credits (ERCs) that can be used for offsetting requirements for new and modified sources. Quantification of ERCs are specified under Rule 1306 – Emission Calculations and the process to generate an ERC are established in Rule 1309 – Emission Reduction Credits and Short Term Credits. The Internal Bank is a bank of emission offsets that is managed by the South Coast AQMD and is available to sources that are exempt from providing offsets pursuant to Rule 1304 – Exemptions, such as sources with a Potential to Emit less than 4 tons per year, and other exempt sources. Offsets are also provided for certain priority sources under Rule 1309.1 – Priority Reserve such as Essential Public Services, Electrical Generating Facilities, and other priority sources. Use of the Internal Bank and quantification of offsets for the Internal Bank are specified under Rule 1315 – Federal New Source Review Tracking System. There is no fee for using offsets from the Internal Bank.

Key Comparisons Between Rule 2005 and Regulation XIII Offsetting Requirements

Rule 2005 and Regulation XIII have different requirements for offsetting emission increases. One fundamental difference is that RECLAIM is based on allocations and Regulation XIII is based on emission offsets. RECLAIM Trading Credits (RTCs) are emission allocations that each facility was issued at the start of the program. The focus of RECLAIM is to ensure at the end of the compliance cycle, the facility has sufficient RTCs to cover *actual* emissions for all equipment covered under RECLAIM. There is no quantification of an emission decrease when a unit shuts down, only quantification of the actual emissions associated with the units that are operating. The operator can sell "unused" RTCs that were associated with operation of the shutdown unit. Those unused or excess RTCs can be used for the annual compliance reconciliation of actual emissions or to offset emission increases from new and modified units.

In contrast, Regulation XIII is based on ERCs that require quantification of the emission reductions associated with the unit that is shutdown. An overt emission reduction action must occur to generated an ERCs. In addition, the emission reduction has a very specific quantification method and there are discounts applied to ensure that the emission reduction for the unit meets the federal requirements of real, quantifiable, surplus, permanent, and enforceable. The quantification process and surplus discounting to generate an emission reduction credit under Regulation XIII is much resource intensive and can result in substantially less offsets than under RECLAIM where there is no surplus discounting because it is a cap and trade program. Other key differences between the two NSR programs is the amount of offsets that must be provided and when. The basis for determining if there is an increase in potential emissions is hourly for RECLAIM NSR and daily for Regulation XIIII. Table 4-1, below, provides a comparison between Rule 2005 and Regulation XIII offsetting requirements.

Table 4-1
Comparison of Rule 2005 and Regulation XIII Offsetting Requirements

Element	Rule 2005 – RECLAIM NSR	Regulation XIII – NSR
Type of Credit	RTC is an Allocation	ERC is an Emission Reduction Credit
Quantification for Reductions	None	Specific quantification and discounting provisions
Offset Ratio	1.2-to-1, demonstrated programmatically	1.2-to-1, demonstrated for each NSR event where offsets required
Surplus Discounting	None, cap and trade program	Discounted to BACT
Offsetting Requirement	Permitted emissions at the beginning of each compliance cycle, and actual emissions at end of the compliance cycle	Permitted emissions at permitting and in perpetuity
Time period for determining an increase in potential emissions	Hourly (lb/hr)	Daily (lb/day)

State NSR Requirements

Under the California Clean Air Act, each District is to include in its attainment plan, a stationary source control program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors for all new or modified sources that exceed particular emission thresholds. All changes to South Coast AQMD's NSR program must comply with California NSR Requirements codified in the California Health and Safety Code at Division 26. South Coast AQMD uses a 1 pound per day "no net increase" threshold. In addition, similar to federal requirements all new and modified stationary sources are required to use Best Available Control Technology (BACT), where BACT is defined under the California Health & Safety Code Section 40405 the same as federal Lowest Achievable Emission Rate (LAER). The state NSR program applies to all new or modified sources with emission increases, as compared to the federal program which focuses on Major Polluting Facilities and Major Source Modifications.

Senate Bill 288 – Protect California Air Act of 2003 (SB 288)

In response to concerns with the federal NSR reform changes in 2002, Senate Bill 288, "Protect California Air Act of 2003" was enacted. The provision for SB 288, codified under Health and Safety

Code Section 42504, which states "… No air quality management district or air pollution control district may amend or revise its new source review rules or regulations to be less stringent than those that existed on December 30, 2002." Air districts can make NSR changes that are more stringent than existing provisions, but changes that are less stringent are only allowed under specific conditions. Some of the NSR changes allowed by SB 288 are:

- Replacement of a rule that will result in greater public health protection;
- Replacing a technically problematic rule;
- Amending a rule to relieve a business of substantial hardship – district must offset any emission increases;
- Adopting a temporary rule to address an emergency; and
- Rule changes are allowed for areas that attain all national ambient air quality standards if the changes will not impair maintenance with those standards or impair progress toward attaining state ambient air quality standards

However, the NSR rule changes allowed by these specific circumstances listed above may not exempt or reduce the obligation of a major source to meet BACT. For a rule change that is less stringent, the Board must base its decision to approve the rule change on substantial evidence in the record. The air district then submits the rules to CARB who must, after a public hearing, approve or deny the rule changes. Approval is based on confirmation that the specific conditions as listed above are met. Until CARB approval, the changes in the NSR rules are not effective.

Federal NSR Requirements

Federal NSR requirements are part of the attainment strategy and vary based on the area's attainment designation for each regulated pollutant. Since the South Coast Air Basin (Basin) is designated as extreme nonattainment for federal ozone standards, the Basin is subject to the strictest federal NSR requirements for VOC and NOx sources. Thresholds for defining a Federal Major Polluting Facility or a Major Source Modification are the lowest thresholds to ensure that new and modified sources do not interfere with the Basin's progress towards attaining federal ozone standards. Under federal NSR, a new Major Polluting Facility or an existing Major Polluting Facility that exceeds the Major Source Modification thresholds must meet BACT, which is generally equivalent to federal LAER, and provide emission offsets. One distinction between BACT requirements for Major and non-Major Polluting Facilities, is there is no cost threshold for Major Source BACT requirements.

In 2002, U.S. EPA revised the Federal NSR program (2002 NSR Reform). The 2002 NSR Reform revised several components of the federal program, including the NSR applicability test for modified major sources. U.S. EPA has indicated that approval of all changes to South Coast AQMD's NSR program will be reviewed according to the most recent federal NSR requirements, which includes the provisions from the 2002 NSR Reform. Additionally, U.S. EPA is required to ensure all changes comply with the backsliding prohibitions in Section 110(l) of the federal Clean Air Act which states "…The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress…or any other applicable requirement of this chapter."

Current Supply of Offsets in the Open Market and Internal Bank

The first version of the RECLAIM Transition Plan included a general discussion regarding the availability of offsets, focusing primarily on whether the Open Market can support facilities that transition out of RECLAIM and options that staff was considering if there are not sufficient offsets in the Open Market. Based on the NOx emission increases from new and modified sources in RECLAIM over the five-year period from 2011 – 2015, the average demand for RTCs for RECLAIM NSR is over 1,000 lbs/day. This chapter presents a more in-depth analysis of the current supply, price, and holdings of Emission Reduction Credits in the Open Market (ERCs) and Emission Reductions Credits in the Internal Bank (I-ERCs) to assess if the existing sources of offsets can support the RECLAIM transition. The analysis is expanded to SOx, PM10, and VOC offsets in the Open Market and Internal Bank since proposed changes to the NSR applicability and offsetting requirements for Major Source Modifications will also impact these pollutants.

Availability of Emission Reduction Credits in the Open Market

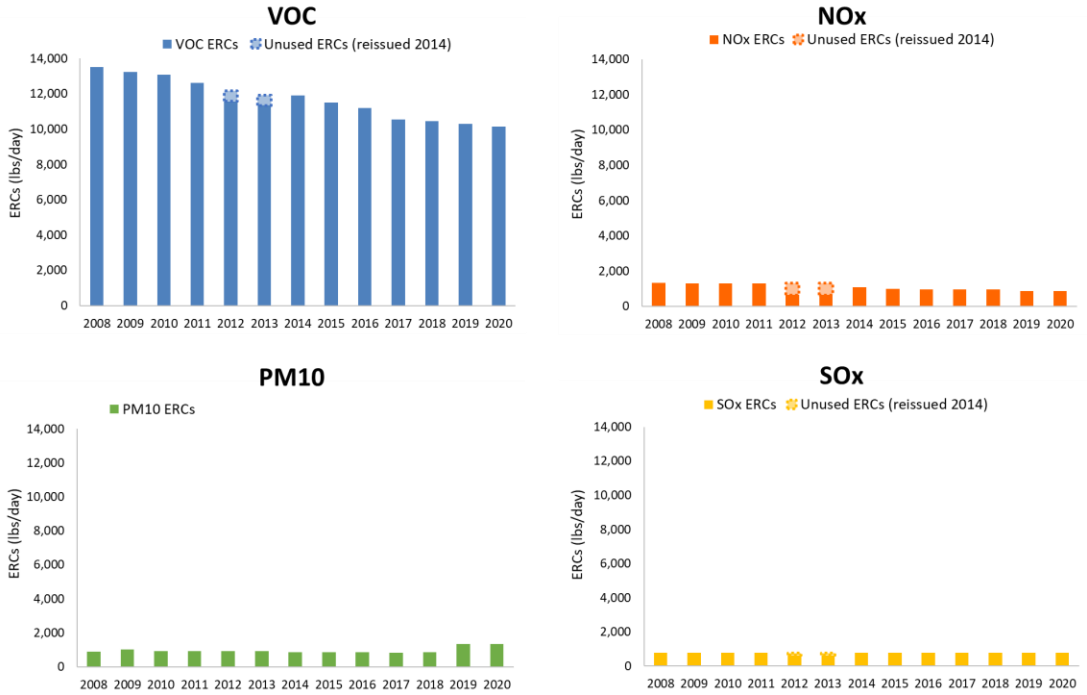
Under Regulation XIII, the primary source of offsets is the Open Market. Offsets in the Open Market are referred to as "Emission Reduction Credits" or "ERCs." Operators can purchase ERCs from another facility or broker to offset emission increases. The ERC holder sets the price of the ERC. To generate an ERC, an operator must pay a fee to the South Coast AQMD and submit an application. ERCs can be generated for NOx, SOx, PM10, and VOC.

Staff assessed the current supply and availability of NOx, SOx, PM10, and VOC ERCs in the Open Market, evaluating the distribution of holdings of ERCs and price of ERCs. The following is a summary of staff's assessment and findings regarding availability of NOx ERCs post-RECLAIM.

Supply of ERCs in the Open Market

The current supply of NOx, SOx, PM10, and VOC ERCs in the Open Market was evaluated by comparing the net ERC balance for each pollutant year-to-year for the past 13 years (2008 – 2020) as shown in the Figure 4-1 below. Based on the current supply of ERCs in the Open Market, there are about 800 pounds per day of NOx ERC, 700 pounds per day of SOx ERCs, 1,300 pounds per day of PM10 ERCs, and 10,000 pounds per day of VOC ERCs. Although there was a recent increase in PM10 ERCs (from a facility shutting down in the last two years), the ERC balance for SOx and PM10 has not changed and is generally stagnant. Although the balance of VOC ERCs has been declining, the supply of VOC ERCs is more than 10 times the supply of other ERCs. The supply of NOx ERCs is concerning as the supply has been declining and the current supply is low. In addition, based on a demand from RECLAIM facilities of 1,000 pounds per day, the current supply of NOx ERCs of 800 pounds per day in the Open Market could potentially be depleted in less than a year. Additionally, revisions to the NSR Applicability Test for Major Source Modifications and offset calculations for Major Source Modifications will increase the demand for all offsets.

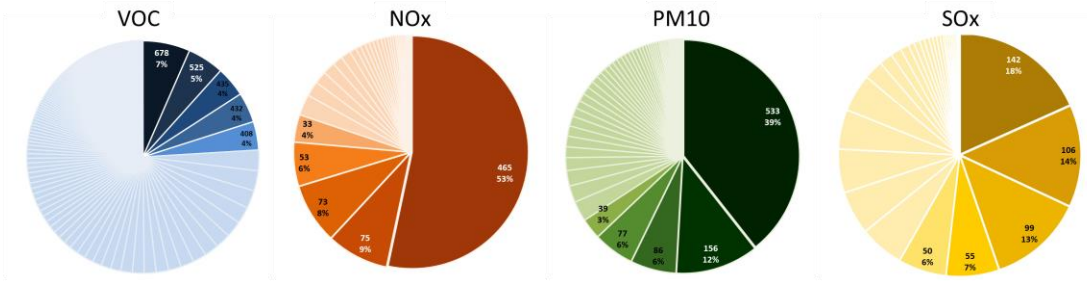
Figure 4-1
Historical and Current Supply of ERCs in the Open Market



Distribution of Holdings of ERCs

Since ERCs are held by individual facilities and brokers, not all ERCs in the Open Market are available for sale. As shown in Figure 4-2, based on the list of active ERCs, VOC ERCs are widely distributed among owners, while NOx, PM10, and SOx ERCs are owned by only a few sources. Many of these ERCs owners have held on to their ERCs for over ten years. Additionally, historical ERC transactions in the Open Market show that there have been limited sales of NOx and SOx ERCs (less than 10 sales per year). A reason for the limited availability of ERCs in the Open Market could be due to facilities holding on to ERCs for future business growth.

Figure 4-2
Distribution of Holdings of ERCs in the Open Market



5 out of 250+ facilities hold 24% of VOC ERCs

5 out of 36 facilities hold 80% of NOx ERCs

5 out of 64 facilities hold 66% of PM_{10} ERCs

5 out of 32 facilities hold 58% of SOx ERCs

Price of ERCs

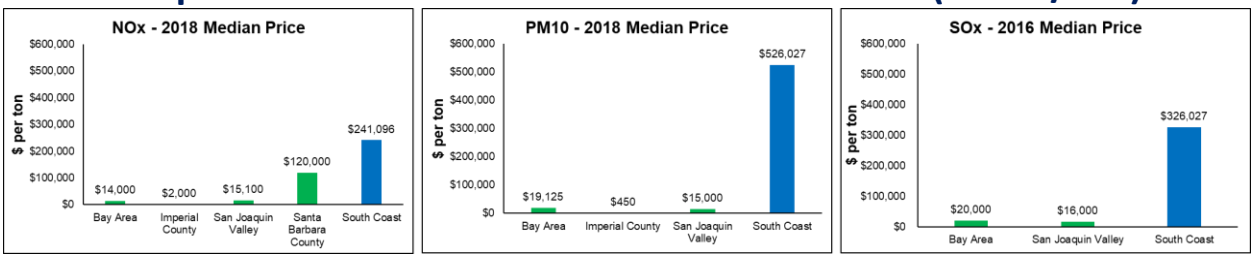
Staff also evaluated the ERC price for VOC, NOx, PM10, and SOx. The price for VOC ERCs is relatively low compared to other pollutants at about $30,000/ton per year, while the cost for PM10 ERCs is the most significant at more than $700,000/ton per year (Table 4-2). The average price for NOx ERC is more than $150,000/ton per year.

Table 4-2
Average Price of ERCs (Dollar/ton per year)[5]

Pollutant	Average Price ($/ton per year)
VOC	$30,000
NOx	$151,000
PM10	$714,000
SOx	$376,000

Additionally, staff compared South Coast AQMD ERC prices to four other California air districts. Staff found that the price of South Coast AQMD NOx, SOx, and PM10 ERCS is about 10 times higher than other air districts with the exception of Santa Barbara Air Pollution Control District (APCD) (Figure 4-3). South Coast AQMD NOx ERC prices are two times higher than Santa Barbara APCD. NOx ERC prices for Santa Barbara APCD may be higher than other air districts due to the demand for NOx ERCs for combustion projects, the tendency for few facilities to hold onto to ERCs for future use, and that ERCs expire within 5 years unless the holder renews the offset.

Figure 4-3
Comparison of ERC Prices to Other Air Districts (Dollar/ton)[6]



Summary of Availability of ERCs in the Open Market

The current supply of NOx ERCs in the Open Market, which currently has about 800 lbs/day of NOx ERCs[7], would potentially be depleted by RECLAIM facilities in less than a year. Therefore, another source for offsets is needed to satisfy the projected demand from RECLAIM facilities. While, the

[5] Based on the historical ERC transactions between 2008 – 2019; Archive of annual ERC transaction reports: http://www.aqmd.gov/home/research/documents-reports/erc-transaction-report-archive

[6] Based on the Emission Reduction Offsets Transaction Cost Summary reports for 2018 and 2016. https://ww2.arb.ca.gov/new-source-review-emission-reduction-credit-offsets

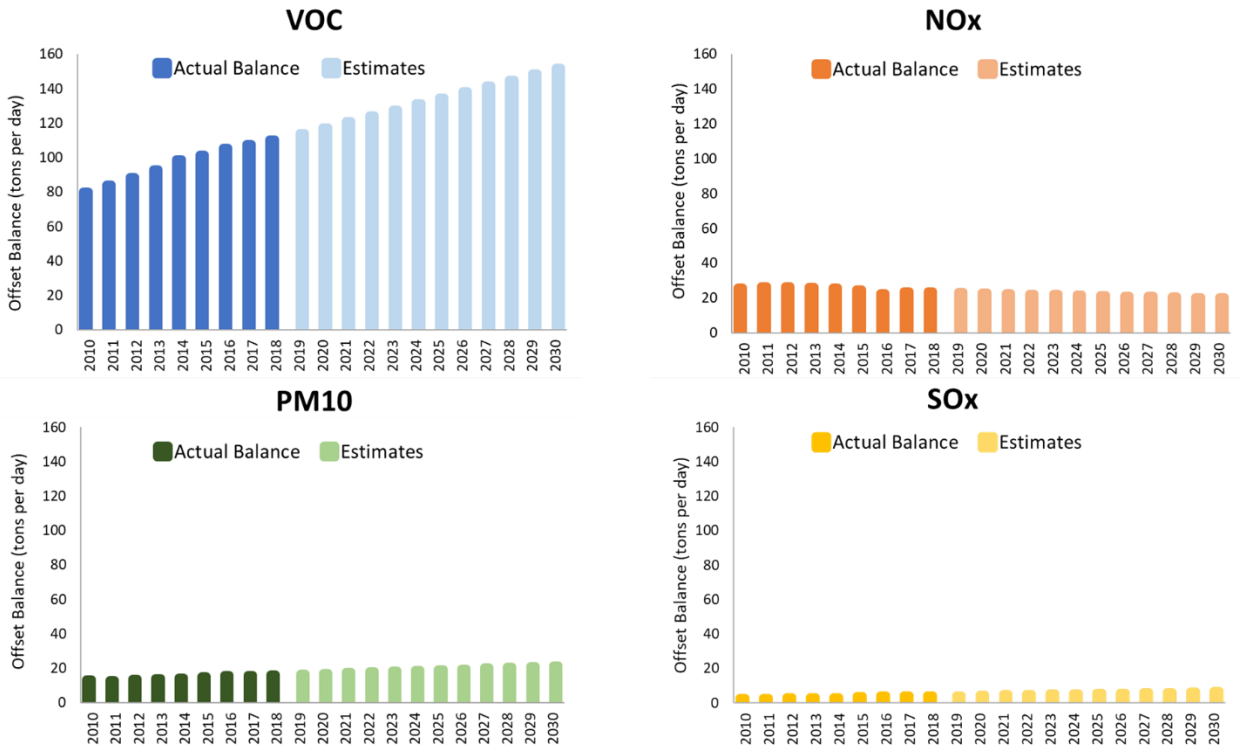
[7] October 2020 listing of active ERCs http://www.aqmd.gov/home/permits/emission-reduction-credits/historical-active-erc-and-sterc-lists

Open Market is not sufficient to support all former RECLAIM facilities, it will still be an option for facilities that choose to obtain ERCs from the Open Market. The supply, distribution, and price of SOx and PM10 ERCs in the Open Market are also a concern. Based on the supply and price for VOC ERCs, staff recommends keeping the VOC ERCs in the Open Market and is not pursuing other options.

Current Availability of Offsets in the Internal Bank

The second source for offsets under Regulation XIII is the South Coast AQMD's Internal Bank. Offsets from the Internal Bank are only accessible to sources that are eligible for the Priority Reserve under Rule 1309.1 or exempt from providing offsets pursuant to Rule 1304. Internal Bank offsets are mostly generated from orphan shutdowns and are discounted annually to BARCT. Staff assessed the offset balances for the South Coast AQMD's Internal Bank by evaluating the historical average of offsets deposited and withdrawn from the bank, as well as the average BARCT discount applied. Based on the preliminary analysis, VOC, SOx, and PM10 offsets are projected to increase, whereas NOx offsets are declining.

Figure 4-4
Projected Supply of Offsets in the Internal Bank



Use of Offsets in the Internal Bank Post-RECLAIM

Currently, South Coast AQMD's Internal Bank has a balance of 23.9 tons/day of NOx offsets.[8] Staff explored using the NOx offsets from the Internal Bank post-RECLAIM as a potential source of offsets to support the demand from facilities that transition out of RECLAIM. To ensure offset availability in the future, staff initially proposed to use the SIP-approved offsets in the Internal Bank, which satisfy the criteria of being real, permanent, enforceable, quantifiable, and surplus. However, U.S. EPA commented that offsets from the Internal Bank are quantified according to Rule 1315 using a less traditional approach that assumes actual emissions are 80 percent of the Potential to Emit for orphan reductions and shutdowns. This approach was approved for offsets for the Internal Bank based on the limited use of the offsets by eligible sources pursuant to Rules 1304 and 1309.1. In addition, U.S. EPA commented that if a more traditional quantification and surplus discounting approach were used, orphan reductions and shutdowns could be used for RECLAIM and other sources that do not have access to the Internal Bank.

[8] Actual ending balance reported in Table 1 of the Final Determination of Equivalency report for the 2018 calendar year in the September 4, 2020 status report on Regulation XIII.

Chapter 5:
Ensuring Availability of Offsets Post-RECLAIM

Background

To ensure there are sufficient offsets at a reasonable price post-RECLAIM, staff is recommending the development of a Large Source Bank for NOx, SOx, and PM10 offsets, that would be managed by the South Coast AQMD. The proposed Large Source Bank would be in addition to the Open Market and the Internal Bank. Based on stakeholder input, staff is also exploring streamlining the quantification and surplus discount for generating offsets for the Open Market and proposed Large Source Bank. This Chapter provides an overview of the relationship between the three sources of offsets, and generation and use of offsets for the Open Market, Internal Bank, and the proposed Large Source Bank.

Overview of the Relationship Between the Open Market, Internal Bank, and Large Source Bank

A Large Source Bank for NOx, SOx, and PM10 will be created and managed by South Coast AQMD. The most needed offsets are for NOx, but offsets are also needed for PM10 and SOx. VOC offsets are not being considered for the Large Source Bank based on the ample supply and reasonable cost of VOC ERCs in the Open Market. Access to the Large Source Bank will be given to sources with a Potential to Emit at or above 4 tons per year of either NOx, SOx, or PM10. This includes former RECLAIM facilities and non-RECLAIM facilities that are not eligible to use the existing Internal Bank per Rule 1304 or Rule 1309.1. Former RECLAIM facilities with a NOx Potential to Emit less than 4 tons per year will use the existing Internal Bank. Staff is also proposing that a fee be established for using offsets from the Large Source Bank that would be based on a dollar per pound, with the main objective is to ensure staff can recover resource costs to quantify and process offsets for the Large Source Bank. Staff has not yet proposed a fee for offsets for the Large Source Bank.

Relationship Between the Open Market, Internal Bank, and Large Source Bank

The Large Source Bank is designed to be an alternative source of emission offsets, for operators that do not have access to the Internal Bank. Operators that need NOx, SOx, or PM10 offsets that do not have access to the Internal Bank, will have the option to obtain ERCs from the Open Market or Emission Reduction Credits from the Large Source Bank (L-ERCs). As shown in Table 5-1, there is no generation fee for the Internal Bank or Large Source Bank. Staff will be re-assessing the fee for generating ERCs for the Open Market and is considering an initial fee plus a dollar per hour fee based on the time for staff to review and issue the ERC. As discussed in more detail below, the source of L-ERCs will be orphan reductions and shutdowns.

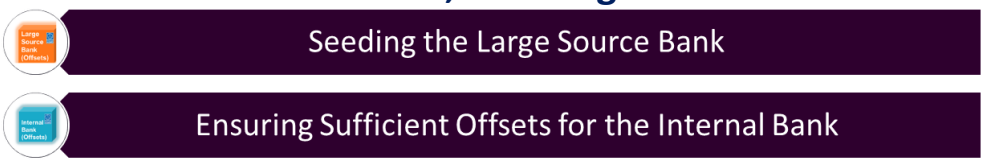
Table 5-1
Comparison of Key Features of the Open Market, Internal Bank, and Proposed Large Source Bank

	Open Market (ERCs)	Internal Bank (I-ERCs)	Large Source Bank (L-ERCs)
Offset Name	ERCs	I-ERCs	L-ERCs
Pollutants	VOC, NOx, SOx, and PM10	VOC, NOx, SOx, and PM10	NOx, SOx, and PM10
Access	All Sources	• Facilities with a PTE < 4 tons/year • Sources exempt from offsets (Rule 1304) • Essential Public Services (Rule 1309.1)	Facilities with a PTE ≥ 4 tons/year
Generation Fee	$4,800 for non-Title V $6,000 for Title V	No Fee	No Fee
Use Fees	Market price of ERC	No Fee	Fee, to be established
How Offsets are Accessed	Open Market with buyers and sellers	Provided by the South Coast AQMD	Provided by the South Coast AQMD
How Offset Generated	ERC Application	Orphan Reductions and Shutdowns	New Orphan Reductions and Shutdowns

Key Issues Related to the Open Market, Internal Bank, and Large Source Bank

There are two key issues related to the interaction between the Open Market, Internal Bank, and Large Source Bank: 1) Seeding the Large Source Bank and 2) Ensuring Sufficient Offsets for the Internal Bank. Each of these issues is discussed below.

Figure 5-1
Key Issues Related to the Open Market, Internal Bank, and Large Source Bank



Seeding the Large Source Bank

Regardless if the emission offsets are for the Open Market, Internal Bank, or the proposed Large Source Bank, the origin of the emission decreases is the same. The decision for an emission decrease to become an ERC for the Open Market hinges on if an ERC application pursuant to Rule 1309 is submitted within 180 days of the shutdown or emission decrease. If an ERC application is not submitted and the operator did not pay its annual permit renewal fee for more than 12 months, then the emission decrease is eligible to be an I-ERC for the Internal Bank. These

"unclaimed" emission decreases are referred to as orphan reduction or orphan shutdowns depending on if the emission decrease is from overcontrolling or shutting down a piece of equipment or process. Most ERCs and I-ERCs for the Open Market and Internal Bank are generated from equipment or process shutdowns.

Staff initially pursued using I-ERCs in the Internal Bank to seed the Large Source Bank, however, U.S. EPA had concerns that the overall quantification approach for the Internal Bank was based in part on the types of sources that have access to the Internal Bank which are generally Essential Public Services, facilities with a Potential to Emit less than four tons per year, and other sources that are exempt from providing offsets. The following provides a summary of the proposed approach to seeding the Large Source Bank. Staff has discussed this approach with U.S. EPA and CARB, and although there are no specific issues with the general approach, staff is still in discussions regarding the quantification of the emission decreases, particularly when records are not available.

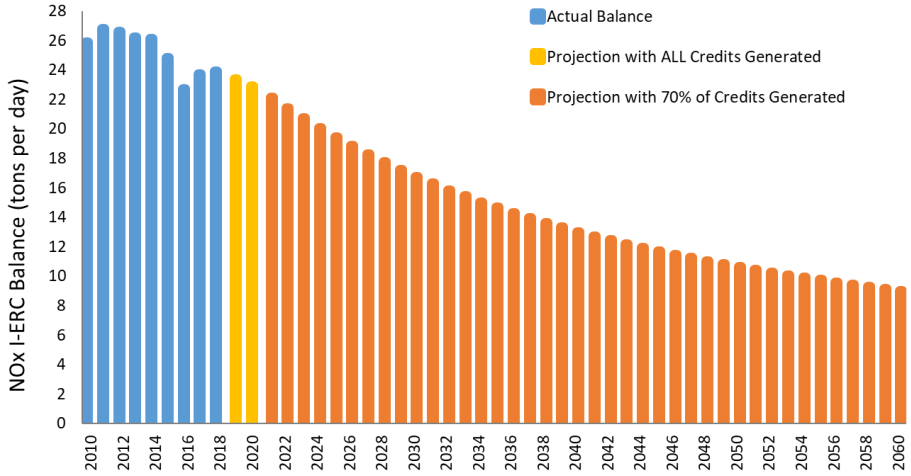
Issue	*Since I-ERCs from the Internal Bank cannot be used for the Large Source Bank, how will the Large Source Bank be Seeded?*
Discussion	Since the Internal Bank has a sufficient supply of I-ERCs, staff is considering limiting new deposits of credits into the Internal Bank and directing some of the new emission decreases to the proposed Large Source Bank to generate Large Source Bank ERCS or "L-ERCs." Staff is also considering to temporarily suspend the generation of ERCs for the Open Market to allow more emission reductions to be directed to the Large Source Bank. Once a sufficient supply of NOx, SOx, and PM10 L-ERCs is generated for the Large Source Bank, generation of ERCs for the Open Market will resume. There are approximately 1.0 tons per day of I-ERCS generated for the Internal Bank annually. Based on initial discussions with U.S. EPA, it is likely that only a portion of these reductions can flow into the Large Source Bank. The amount of emission decreases that can be used for the Large Source Bank will be based on the availability of records to quantify emission decreases and the type of source that will be using the L-ERCs. When records, such as an Annual Emissions Report, are available those emission decreases can be quantified into L-ERCs for the Large Source Bank. If sufficient records are not available, staff is exploring with U.S. EPA if an approach similar to the Internal Bank where a percentage of the Permit to Emit can be allowed for orphan reductions and shutdowns. (See discussion "Alternative Quantification of Offsets Without Records"). Based on initial estimates, the demand for offsets for NOx RECLAIM facilities is about 0.6 tons per day, annually. Based on review of I-ERCs generated for the Internal Bank between 2015 and 2017, roughly 30 percent of the emission decreases are associated with facilities that have Annual Emissions Reports. If these reductions were directed to the Large Source Bank, approximately 0.3 tons per day of NOx L-ERCs could be generated each year. It is expected that by diverting NOx emission decreases to the proposed Large Source Bank, that within five years there could be approximately 1.5 tons per day of NOx L-ERCs for the Large Source Bank.

	The initial estimate of NOx L-ERCs for the Large Source Bank does not include a BARCT discount. Staff is proposing that any emission reductions with records would continue to be directed to the Large Source Bank. As RECLAIM facilities transition to command-and-control the demand for offsets will increase, however, the RECLAIM facilities will also be an additional source of new offsets. Currently only facilities with annual emissions that are greater than four tons per year report annual emissions. Staff will explore expanding the Annual Emissions Reporting to facilities less than four tons per year to potentially increase the opportunity to direct emission reductions to the Large Source Bank.
Proposed Approach	Direct emission decreases from orphan reductions and shutdowns from facilities with Annual Emissions Reports to the Large Source Bank. Explore temporarily suspending the generation of new ERCs for the Open Market in order to further seed to the Large Source Bank. Explore expanding the Annual Emissions Reporting to facilities less than four tons per year.

Ensuring Sufficient Offsets for the Internal Bank

Staff conducted an analysis of the estimated demand and supply of I-ERCs for the Internal Bank to ensure that directing emission decreases to the Large Source Bank does not affect sources that need I-ERCs from the Internal Bank. The analysis was based on the average credits, debits, and the annual BARCT discount for the Internal Bank. Based on 2014 to 2018 data, the average debits for Rule 1309.1, which includes essential public services, is 0.09 tons per day and for Rule 1304, which includes facilities less than 4 tons per year and other exempt sources, is 0.13 tons per day. For this same period, the annual BARCT discount is 5.4 percent. As shown in Figure 5-2, if staff were to divert 30 percent of NOx emission decreases to the proposed Large Source Bank and based on the debits and credits to the Internal Bank staff estimates about 9 tons per day of I-ERCs will still be available in the Internal Bank through 2060. The downward trend is attributed to the BARCT discount. It is expected as BARCT rules become fully implemented, that the programmatic BARCT discount will decrease accordingly.

Figure 5-2
Projected Internal Bank NOx Offsets



Chapter 6:
Generation of Offsets

Background

Regulation XIII establishes the requirements for generating offsets for the Open Market and Internal Bank. As discussed in Chapter 4, ERCs generated for the Open Market must meet the requirements under Rules 1306 and 1309 and I-ERCs generated for the Internal Bank must meet the requirements under Rule 1315. Regardless if the offsets are for the Open Market, Internal Bank, or the proposed Large Source Bank, all generated offsets must meet the federal offset criteria to ensure emission reductions are real, quantifiable, permanent, enforceable, and surplus. The requirements to ensure offsets are real, permanent, and enforceable will be the same regardless if the offset is generated for the Open Market, Internal Bank, or the proposed Large Source Bank. The emission reductions must be based on actual emissions, that are verifiable and permanently enforced through a permit modification or by surrendering of a permit for an equipment or process shutdown.

Generation Requirements for the Open Market, Internal Bank, and Proposed Large Source Bank

As shown in Table 6-1, there are differences between the Open Market, Internal Bank, and the proposed Large Source Bank regarding the surplus discount and quantification of offsets. Staff is proposing to align requirements between the Open Market and the proposed Large Source Bank for surplus discounting and quantification of offsets when records are available. When records are not available an applicant cannot generate an ERC, instead the orphan reductions or orphan shutdowns are currently used for the Internal Bank and staff is recommending that these reductions should also be eligible for the proposed Large Source Bank. Staff is proposing to align the quantification approach for orphan reductions and orphan shutdowns, when records are not available.

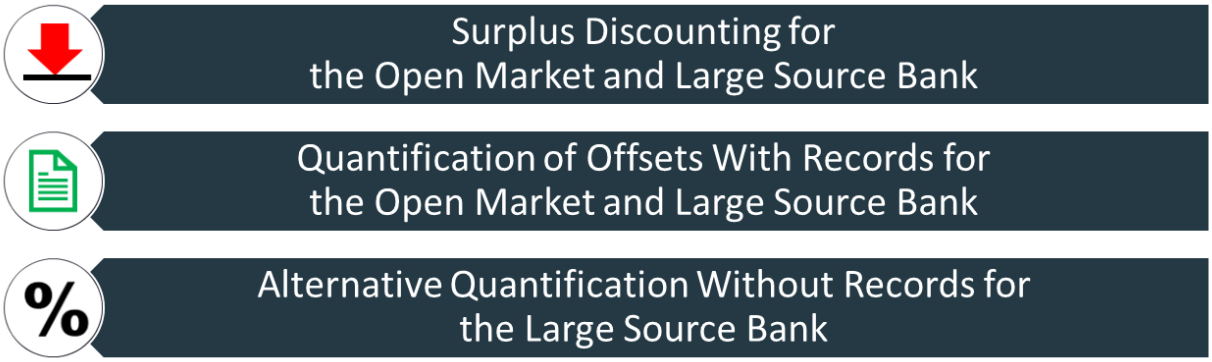
Table 6-1
Comparison Between Requirements for Generating Offsets for the Open Market, Internal Bank, and Proposed Large Source Bank

			
Real	Actual emissions	Same	Same
Permanent	Physical modification, cease operation, or equipment removal	Same	Same
Enforceable	Permit conditions or surrender permit	Same	Same
Surplus Discounting	**Current:** Source-specific BACT discount	**Current:** Annual programmatic BARCT discount	N/A
	Proposed: Source-specific BARCT discount	**Proposed:** No change	**Proposed:** Source-specific BARCT discount
Quantification with Records	**Current:** Actual reduction w/ supporting information	**Current:** 80% of PTE	N/A
	Proposed: No change	**Proposed:** 80% of PTE (Possibly lower)	**Proposed:** Actual reduction w/ supporting information
Quantification without Records	**Current:** No ERC issued	**Current:** 80% of PTE	N/A
	Proposed: No change	**Proposed:** 80% of PTE (Possibly lower)	**Proposed:** TBD

Overview Issues Related to Offsets for the Open Market, Internal Bank, and the Proposed Large Source Bank

ERCs in the Open Market currently meet the surplus criteria through a one-time BACT discount when each ERC is generated, whereas all the offsets in the Internal Bank are discounted annually to BARCT. ERCs in the Open Market are currently quantified using operating data from the past two years, whereas the offsets in the Internal Bank, which are primarily orphan reductions or orphan shutdowns, are quantified by estimating actual emission at 80 percent of the source's Potential to Emit. The provisions to ensure offsets for the Large Source Bank are real, permanent, and enforceable will be the same provisions as the Open Market and Internal Bank. The Large Source Bank will have different provisions to ensure offsets are surplus and quantifiable. The remainder of this Chapter will discuss the following issues relating to offsets for the Open Market, Internal Bank, and the proposed Large Source Bank: 1) Surplus Discounting for Open Market and Large Source Bank, 2) Quantification of Offsets with Records, and 3) Alternative Quantification without Records (Figure 6-1).

Figure 6-1
Key Issues Surrounding Quantification of Offsets



Surplus Discounting for the Open Market and the Proposed Large Source Bank

Currently, to ensure ERCs in the Open Market are surplus, emission reductions are discounted to BACT pursuant to Rule 1306(c). The BACT discount is applied at time of generation, according to the source type creating the emission reduction for the ERC, with no additional discount at time of use. Some industry stakeholders have commented that the application of a BACT discount is not necessary and is a disincentive to generate ERCs for the Open Market and suggested that staff consider the more traditional BARCT discount.

According to federal guidance, to satisfy the surplus requirement offsets are typically discounted at time of generation and again, if needed, at time of use based on any new requirements applicable to each specific source category and type of reduction that created the emission decrease. To ensure offsets are surplus, emission decreases cannot be based on emission reductions that are required by the Air Quality Management Plan or other applicable federal, state, or local rule or regulation (e.g. BARCT). U.S. EPA allows local air agencies to use different approaches to meet the surplus requirement as long as the method used is not less stringent than what is federally required. The discount must account for all new requirements that become applicable for the specific source category on or before the offset is used, which is usually when the permit is issued. Consistent with federal guidance, staff is considering a BARCT discount for ERCs for the Open Market and L-ERCs for the Large Source Bank. Staff has had initial discussions with U.S. EPA and CARB and additional discussions are needed to ensure there is not an SB 288 issue.

Issue	*What discounting approach will be used to ensure ERCs for the Open Market and L-ERCs for the Large Source Bank are surplus?*
Discussion	Staff is proposing a more traditional approach to discounting ERCs and L-ERCs. Offsets would be discounted to BARCT upon generation, annually, and at time of use, if needed. If a new regulatory requirement has an effective date that affects an ERCs, the ERC would be further discounted before the ERC is used. As a result, the future value of an ERC is more uncertain with a BARCT discount as compared to a BACT discount which is applied only at time of generation.

	Applying an annual discount provides an accurate balance of L-ERCs in the Large Source Bank. The annual BARCT discount for each pollutant will be specific to the equipment category associated with implementation of applicable rules and regulations. The BARCT discount will not be applied to the entire balance, instead it will only be applied based on the source category and emission levels of the source that created the offset. Discounting ERCs and L-ERCs using a source-specific approach will require specific tracking of each offset. Tracking the offsets will allow for a more accurate discount application based on the specific source that generated the offset. To track each offset, specific information about the equipment or process that generated the emission reduction will be required, such as the type and category of the source and the emission levels. Implementation of the BARCT discount would be based on the compliance dates for the applicable rules. However, due to varying compliance paths for each applicable rule, application of the BARCT discount based on the emission rate of the source generating the ERC or L-ERC could lead to ambiguity in the timing and amount of the BARCT discount for a specific offset. Therefore, in order to capture the various implementation scenarios, staff is proposing to apply the BARCT discount based on the overall percent reduction estimated in the applicable rule. This would streamline the BARCT discount application since the percent reductions are estimated when the applicable rule is adopted or amended. U.S. EPA agrees with staff's proposal to surplus discount ERCs by applying a BARCT discount at time of generation and again, if needed, at time of use since this is a more traditional method to ensure offsets are surplus at time of use. However, changing the basis of the surplus discount from BACT to BARCT may be an SB288 issue, since the BACT discount may be greater than a BARCT discount. However, as BARCT rules become more stringent, emission rates for some equipment categories or processes may be the same as BACT
Proposed Approach	For the Open Market and Large Source Bank, ERCs and L-ERCs will be discounted to BARCT at time of generation, annually, and at time of use, if needed. Staff will work with CARB to ensure there are no backsliding issues per SB 288.

Quantification of ERCs and L-ERCs with Records

As discussed above, staff is proposing that ERCs for the Open Market and L-ERCs for the Large Source Bank both surplus discount emission decreases to BARCT. Staff is also proposing that offsets for the Open Market and Large Source Bank use the same quantification approach for determining emission decreases when company records are available. Staff is re-assessing the following areas of the current quantification approach for calculating daily emission decreases for ERCs under Rule 1306: 1) Time period for calculating emission decreases, 2) Records for estimating throughput and emission rate, 3) Application of a usage factor, and 4) Averaging.

Time Period for Calculating Emission Decreases

Under Rule 1306, offsets are based on actual emission decreases for each year during the two-year period immediately preceding the date of the permit application for an equipment or process modification or the date the equipment or process was removed from service for a shutdown. Rule 1306 allows another appropriate period as determined by the Executive Officer.

For calculating emission decreases for offsets for the Open Market and Large Source Bank, staff is recommending to use an approach that is generally based on the federal requirements where emission decreases will be based on actual emission decreases over the last two calendar years or other two calendar years that are more representative of normal operations over the previous five calendar years, immediately preceding the date of the permit application for ERCs or immediately preceding the date the permit is surrendered for L-ERCs. Operators must have sufficient operating records for the two consecutive years to quantify an emission decrease. If records for two consecutive calendar years are not available because the unit was not operating, a shorter time period no less than 12 consecutive months will be allowed. Staff has discussed this approach with U.S. EPA and CARB.

Records for Estimating Throughput and the Emission Rate

For records that are required to substantiate emission decreases, Rule 1306 currently references Annual Emissions Reports pursuant to Rule 301, which include throughput and the emission rate for each device. Staff is recommending clarification to Rule 1306 to specify that the annual emissions declarations requires throughput, emission rate, or any other factors needed to estimate emission rates. Additionally, for calculating emission decreases for offsets for the Open Market and Large Source Bank, staff is considering modifications to the Annual Emissions Reports to require facilities to report the annual days of operation for each device to help streamline calculating the daily emissions for offsets for the Open Market and the Large Source Bank. Staff is also recommending to maintain the provision which allows the operator to provide information as approved by the Executive Officer, as well as recommending to add a provision that would require the operator to provide additional information to substantiate an emission decrease if requested by the Executive Officer.

Usage Factor

Rule 1306 (c)(2) currently requires that annual emissions be divided by the total number of actual operation days in each of the two years. In addition, Rule 1306 (c)(3) applies Usage Factors depending on the number of operating days per year:

- 1.0 when operated 180 days or more,
- 0.5 when operated 30 to 179 days, and
- 0.0 when operated less than 30 days.

Application of the Usage Factor further discounts the emission decrease beyond the BACT surplus discount and dividing by the annual reduction by the actual number of operating days. The Usage Factor is designed to further adjust annual emissions to account for seasonal or periodic operations before the daily emissions are calculated. Staff presented the concept of removing the Usage Factor to the Working Group in October 2020, however, after further discussions with U.S. EPA and CARB concerns were raised that removing the Usage Factor may permit emission increases greater than the emission decreases that generated the offsets depending on the operating days for the equipment or process that created the emission decrease. To the contrary, keeping the Usage Factor may over reduce emission decreases, if the operating days for the generation of the offset is greater than the operating days for the use of the offset, resulting in unused offsets. For generation of offsets for the Open Market and Large Source Bank, staff is exploring the feasibility of issuing offsets based on an annual basis which will eliminate the need

for a Usage Factor and obtaining number of operating days. Additional time is needed to work with U.S. EPA, CARB, and stakeholders regarding if the Usage Factor will be retained or removed when quantifying emissions decreases.

Averaging

Rule 1306 (c)(4) states that "the average value shall be calculated for those two years or other approved period." For quantifying offsets for the Open Market and the Large Source Bank, staff is recommending to clarify that the average value shall be calculated for those two years or other approved period, no less than 12 consecutive months, if the two consecutive calendar years of operating data is not available.

Alternative Quantification of Offsets Without Records

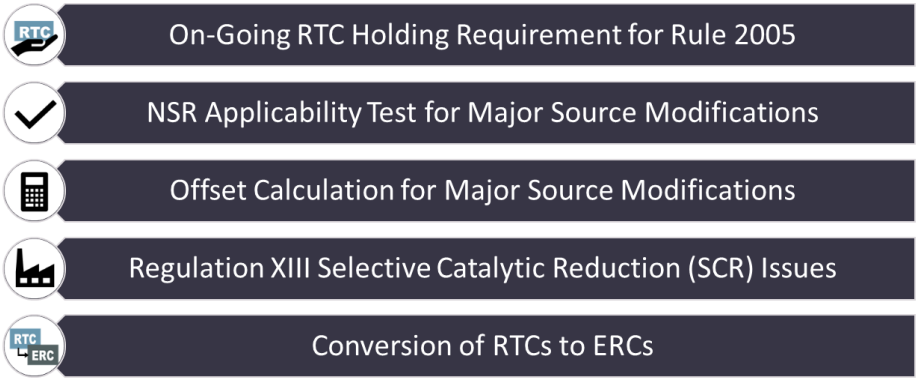
Under Rule 1315 (c)(3), orphan reductions or shutdowns are deposited into the Internal Bank at eighty percent of the total or change in the source's NSR permitted emission level, respectively. When records are not available, staff has been exploring with U.S. EPA a quantification approach for L-ERCs that would be similar to the quantification of I-ERCs for the Internal Bank. U.S. EPA has doubts about allowing a percentage of the PTE approach for L-ERCs that are used by Major Polluting Facilities or to offset increases from Major Modifications at Major Polluting Facilities. Staff is continuing to work with U.S. EPA regarding use of emission decreases for the Large Source Bank.

Chapter 7:
NSR Issues Related to the RECLAIM Transition

Background

There are a number of NSR issues that need to be resolved in order to transition RECLAIM facilities into a command-and-control regulatory structure. South Coast AQMD staff has been working on these issues with stakeholders, CARB, and U.S. EPA. Since the first version of the RECLAIM Transition Plan, in addition to NSR issues related to the RECLAIM transition, other issues were raised by U.S. EPA that affect RECLAIM and non-RECLAIM facilities related to the NSR applicability test and the amount of offsets required for Major Polluting Facilities with Major Source Modifications. In addition, industry stakeholders have raised issues regarding installation of selective catalytic reduction (SCR) associated with ammonia emissions. This chapter discusses five NSR issues related to the RECLAIM transition: 1) On-Going RTC Holding Requirement for Rule 2005; 2) NSR Applicability Test for Major Source Modifications; 3) Offset Calculation for Major Source Modifications; 4) Regulation XIII Selective Catalytic Reduction (SCR) Issues; and 5) Conversion of RTCs to ERCs (Figure 7-1). The format of each of the issues includes a general summary of the specific NSR issue, a discussion of the issue, key challenges, concepts staff is exploring to address the NSR issue, and staff's proposed approach. Through the RECLAIM transition process, staff continues to work with U.S. EPA and CARB and is meeting two to three times monthly to discuss the various issues. The final confirmation of any of the issues will be decided when the South Coast AQMD submits amended rules to CARB and U.S. EPA for approval into the State Implementation Plan.

Figure 7-1
Summary of Key NSR Issues Related to the RECLAIM Transition



On-Going RTC Holding Requirement for Rule 2005

In the first version of the RECLAIM Transition Plan, staff discussed what the offset obligations are as facilities transition out of RECLAIM. Based on several NSR discussions with U.S. EPA and CARB, there was general agreement that:

- A facility in RECLAIM that installs a new source or modifies a source while in RECLAIM must comply with Rule 2005 – New Source Review for RECLAIM;

- A former RECLAIM facility[9] that installs a new source or modifies a source after exiting RECLAIM must comply with Regulation XIII – New Source Review; and
- The transition of a facility from RECLAIM to command-and-control is not an NSR event. Facilities will transition from one U.S. EPA approved NSR program (Rule 2005) to another approved NSR program (Regulation XIII)[10].

Since the first version of the RECLAIM Transition Plan, staff has had additional discussions with U.S. EPA and CARB regarding on-going RTC holding requirements post-RECLAIM. This issue and the proposed approach are discussed below.

Issue	*Rule 2005 paragraph (f)(1) requires that new facilities where all permits were issued after October 1993 must hold RTCs at the beginning of each compliance year to cover their Permit to Emit. Upon exiting RECLAIM, is there any RTC or emission credit holding requirement?*
Discussion	To ensure compliance with SB 288, which requires no backsliding of NSR programs approved before 2002, when RECLAIM ends, a demonstration of the future holding requirements under Rule 2005 will need to be made. Prior to transitioning facilities out of RECLAIM, a one-time programmatic demonstration will be performed to show that excess RTC allocations post-RECLAIM are sufficient to cover the on-going holding requirement for new RECLAIM facilities. Existing RECLAIM facilities with new or modified sources permitted during RECLAIM will not be part of this demonstration since these facilities are only required to hold RTCs to offset emission increases for the first year of operation, therefore no further demonstration is needed. Under Rule 2005, existing facilities that were including in RECLAIM at its inception that have a new or modified source, must hold sufficient RTCs to their Permit to Emit for the new or modified source for the first year of operation. After the first year, these facilities must hold sufficient RTCs to cover their actual emissions. A facility's requirement to have sufficient RTCs for reconciliation of their actual annual emissions, pursuant to Rule 2004, is not an NSR requirement. There is no on-going obligation for these new or modified sources post-RECLAIM.
Proposed Approach	A one-time post-RECLAIM programmatic demonstration will satisfy the SB 288 requirements for Rule 2005 NSR on-going RTC holding requirements.

NSR Applicability Test for Major Source Modifications

The NSR applicability test for Major Source Modifications was a significant NSR issue that was raised after the first version of the RECLAIM Transition Plan. In discussions with U.S. EPA regarding

[9] A former RECLAIM facility, or any of its successors, is a facility that was in the Regional Clean Air Incentives Market as of January 5, 2018, as established in Regulation XX, that has received a final determination notification, and is no longer in the RECLAIM program.

[10] New permits will be issued to facilities upon exiting RECLAIM solely as an administrative action to transition from RECLAIM to command-and-control. Command-and-control requirements based on the applicable landing rule will be added to the permits, while references to Regulation XX that are no longer applicable will be removed. All current permit limits will be retained and no permit changes other than the transition will be included in this action.

modifications to Regulation XIII, U.S. EPA had informed staff that the 2002 NSR Reform regulation changed the NSR applicability test for Major Source Modifications and that Regulation XIII will need to incorporate the 2002 NSR Reform applicability test. The 2002 NSR Reform applicability test is based on the difference between the pre-modification Baseline Actual emissions and the post-modification Projected Actual emissions referred to as "Baseline Actual-to-Projected Actual." The 2002 NSR Reform regulation also allows an alternative applicability test that is the difference between the pre-modification Actual emissions and the post-modification Potential to Emit referred to as "Actual-to-PTE."

The South Coast AQMD staff was concerned that there are scenarios where a Baseline Actual-to-Projected Actual applicability test would be less stringent than the current Regulation XIII applicability test which is based on the difference between the pre-modification PTE and the post-modification PTE referred to as "PTE-to-PTE." Staff was concerned that using a less stringent applicability test would be in direct conflict with SB 288. South Coast AQMD staff was also concerned about the alternative applicability test of Actual-to-PTE which would be more stringent than the current Regulation XIII PTE-to-PTE applicability test.

Below is a summary of the issue and the proposed approach. Details regarding the federal NSR applicability test and the proposed approach have been discussed in multiple RECLAIM and NSR Working Group Meetings. Staff will continue to work with stakeholders regarding specific details such as if the federal provisions, contained in 40 CFR §51.165, will be incorporated by reference or added to Regulation XIII and the need for permit limits that would be associated with projected actual emissions if the federal applicability test is applied. The proposed approach is similar to NSR applicability tests used by other air districts in California and was discussed with U.S. EPA and CARB. Both agencies had no specific concerns with the proposed approach.

Issue	*U.S. EPA commented that the NSR applicability test for Major Source Modifications must be based on the 2002 NSR Reform [67 FR 80185] which allows use of either:* • *Pre-modification Baseline Actual emissions compared to post-modification Projected Actual emissions referred to as "Baseline Actual-to-Projected Actual"; or* • *Pre-modification Actual emissions compared to post-modification Potential to Emit referred to as "Actual-to-PTE".*
Discussion	The Regulation XIII applicability for all sources is based on PTE-to-PTE. Due to concerns that using an NSR applicability test based on Baseline Actual-to-Projected Actual could result in backsliding under SB 288, staff initially recommended use of the stricter Actual-to-PTE applicability test for Major Source Modifications. Some industry stakeholders expressed concern regarding use of the stricter Actual-to-PTE applicability test for Major Source Modifications. In order to satisfy both use of the NSR applicability test under U.S. EPA's 2002 NSR Reform and assurance that the NSR applicability test will not be considered backsliding under SB 288, staff developed a two-tiered applicability test for Major Source Modifications. Tier 1 is based on the current Regulation XIII applicability test of PTE-to-PTE. If the permitting project is not subject to NSR under Tier 1, NSR applicability is evaluated

	under Tier 2. Tier 2 is based on the federal NSR applicability test of Baseline Actual-to-Projected Actual. Since the two-tiered approach retains the current PTE-to-PTE applicability test and uses the Baseline Actual-to-Projected Actual, there is no backsliding under SB 288 and the applicability test incorporates the applicability test under the 2002 NSR Reform.
Proposed Approach	Amend Regulation XIII to incorporate the two-tiered approach for evaluating NSR applicability for Major Source Modifications: • Tier 1: PTE-to PTE applicability test, and • Tier 2 (if project not applicable to NSR under Tier 1): Baseline Actual-to Projected Actual applicability test. Regulation XIII will retain the PTE-to-PTE NSR applicability test for new sources and non-major source modifications.

Offset Calculation for Major Source Modifications

Another NSR issue that was raised after Version 1.0 of the RECLAIM Transition Plan, was the NSR offsetting calculations for Major Source Modifications. U.S. EPA had informed staff that federal NSR offsetting calculations for Major Sources should be the difference between pre-modification Actual emissions and post-modification Potential to Emit referred to as "Actual-to-PTE". This issue would apply to all NSR pollutants and is not specific to the RECLAIM transition.

The current Regulation XIII offsetting calculation for new emission sources and modifications to existing pre-NSR emission sources is Actual-to-PTE. For the offset calculation for modifications to existing post-NSR emission sources, Regulation XIII requires the pre-modification PTE and the post-modification PTE referred to as "PTE-to-PTE." One concern with changes to South Coast AQMD's NSR program, including changing the offset calculation to Actual-to-PTE, is there will be an increased demand and decrease the supply of offsets. Chapter 4 discusses the supply and demand for offsets post RECLAIM.

Below is a summary of the issue and the proposed approach. This issue has been discussed in multiple RECLAIM and NSR Working Group Meetings. Based on initial discussions, U.S. EPA had no specific concerns with the proposed approach.

Issue	*U.S. EPA commented that the calculation methodology for offsets for Major Source Modifications should be based on the difference between pre-modification actual emissions to the post-project PTE, or Actual-to-PTE.*
Discussion	Under Regulation XIII subdivision (d), the amount of offsets required is based on the pre-modification PTE and the post-modification PTE or PTE-to-PTE.[11] U.S. EPA commented that although this methodology was approved into the SIP, it is no longer acceptable. U.S. EPA did inform staff that other air districts have been allowed to use a PTE-to-PTE for Major Source Modifications when actual emissions

[11] For permitting projects where the source never was subject to Rule 213 or Regulation XIII, the offset calculation is based on pre-modification actual emissions to post-modification PTE.

	are 80 percent or more of the PTE or when increases were fully offset less than five years ago. As federal NSR does not apply to minor sources, calculating offsets for post-NSR minor sources will continue to use PTE-to-PTE.
Proposed Approach	Amend Regulation XIII to incorporate provisions with the following hierarchy for determining the amount of offsets required for Major Source Modifications: 1) PTE-to-PTE when actual emissions are at least 80 percent of the PTE or if past emission increases were fully offset less than five years prior to an application deemed complete; and 2) Actual Emissions-to-PTE for all other cases.

Regulation XIII Selective Catalytic Reduction (SCR) Issues

Industry stakeholders have commented on ammonia and PM10 co-pollutant issues related to installation of Selective Catalytic Reduction (SCR) to meet NOx emission limits under source-specific rules. To achieve NOx concentration limits, large combustion equipment will need to install SCR. SCR uses ammonia in the catalyst to reduce NOx emissions which will result in ammonia emissions, referred to as ammonia slip. In addition, for combustion units at refineries that use refinery fuel gas, the ammonia from the catalyst reacts with the sulfur and forms ammonia sulfate which is emitted as PM10. Below are two issues that are associated with the ammonia and PM10 emissions associated with installation of SCRs.

Below is a summary of the issues and the proposed approach. Both issues have been discussed with the Regulation XIII Working Group, and U.S. EPA and CARB. Depending on the pathway selected for the co-pollutant issue will determine if approval from U.S. EPA and/or CARB will be needed.

Ammonia Slip Limits

Issue	*The Regulatory Flexibility Group has commented that ammonia limits should be addressed during rule making and not deferred to permitting.*
Discussion	Rules 1146 - Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters, 1134 Emissions of Oxides of Nitrogen from Stationary Gas Turbines, and 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities included an ammonia slip limit of 5 ppm for SCR projects. During the development of Rule 1110.2, staff discussed the inclusion of an ammonia slip limit and had decided that addressing ammonia limits during permitting is more appropriate. Rule 1303 (a)(1) requires Best Available Control Technology (BACT) for permitting projects with ammonia emissions greater than or equal to one pound per day. Currently, BACT for ammonia emissions from SCR is 5 ppm. During permitting, the ammonia limit is evaluated relative to the NOx limit in the rule and can be evaluated on a case-by-case basis. Additionally, permitting will consider the existing unit and limitations for achieving a 5 ppm ammonia limit. Staff is concerned that specifying an ammonia limit in the rule is redundant with NSR

	requirements and may be more limiting as options are limited if the operator cannot achieve the ammonia limit.
Proposed Approach	Address ammonia limits during permitting and amend Rules 1146, 1134, and 1135 to remove the ammonia limits.

Co-Pollutant Emissions from Installation of SCR on Refinery Equipment

During the rulemaking for Proposed Rule 1109.1 - Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations, industry stakeholders highlighted that when an SCR is installed on a refinery boiler or heater, that particulate matter emissions from the boiler or heater may trigger BACT requiring sulfur clean-up in the refinery fuel gas. For boilers and heaters that are using refinery gas that install SCRs, SO2 emissions from the boiler and heater are converted to SO3 on the SCR catalyst. The unreacted ammonia from the SCR reacts with the SO3 to form ammonium sulfate which is emitted as particulate matter. The cost for sulfur clean-up can be over $100 million for refineries that are currently not at BACT.

Staff has been working with U.S. EPA and CARB on different approaches to address this issue. Staff believes that the NOx reductions from implementation of Proposed Rule 1109.1 should be the first priority since the region is in extreme nonattainment of federal ozone standards. U.S. EPA agrees that if the modification does not exceed the federal significant emission rates, that major new source review would not be required. Initial estimates indicate that the increase in particulate matter emissions would likely be below federal major modification thresholds which are 15 ton per year for PM10 and 10 tons per year for PM2.5. Under this approach, a demonstration is still needed to show that there is no backsliding under SB 288. CARB staff did identify that other air districts throughout California have a provision that exempts sources from meeting BACT when complying with a BARCT requirement. It is staff's understanding that the objective is to ensure BACT does not interfere with the ability of a region to achieve air quality requirements that can only be achieved through the implementation of BARCT requirements. Staff is continuing to work with U.S. EPA and CARB to evaluate potential options on how to evaluate these types of projects and a potential path forward in the event SB 288 is triggered.

Conversion of RTCs to ERCs

Under Rule 2002 (c)(3), all NOx and SOx ERCs held by a RECLAIM Facility Permit holder at the start of RECLAIM were reissued as RTCs and included in the facility's starting Allocation. These converted RTCs had a zero rate of reduction until 2000, thereafter they were adjusted at the same rate as other RTCs. Additionally, pursuant to Rule 2002 (c)(4), non-RECLAIM facilities had the option to convert ERCs to RTCs. This issue addresses the request from some stakeholders to allow ERCs that were converted to RTCs, to be converted back to ERCs.

Below is a summary of the issue and the proposed approach. This issue has been discussed in multiple RECLAIM and NSR Working Group Meetings. The proposed approach was discussed with U.S. EPA and CARB. U.S. EPA expressed serious concerns with this concept and commented that they could not approve an approach that would allow conversion of RTCs back to ERCs. CARB also commented that conversion of RTCs back to ERCs would make the programmatic demonstration

to satisfy holding requirements much more complicated. A discussion of this issue is provided below.

Issue	*Some industry stakeholders have requested that ERCs that were converted to RTCs, be allowed to be converted back to ERCs.*
Discussion	Staff did explore the possibility of converting RTCs that were originally ERCs, back to RTCs. Based on the conversion of ERCs to RTCs at the start of the program there were approximately 2.6 tons per day of NOx ERCs based on 2003 Allocations.[12] The remaining RTCs for conversion today would be less after accounting for the two past RECLAIM shaves, which reduced Allocations for the compliance years in 2007 – 2011 and 2016 – 2022. Staff considered an initial concept that would allow a one-time conversion for those ERCs that were required to be converted to RTCs at the beginning of the program under Rule 2002 (c)(3), where the value of any converted RTCs would reflect any adjustments to allocations pursuant to Rule 2002. Staff explored the concept that conversion of RTCs to ERCs would be limited to those facilities that are still in operation. Staff recognized converting RTCs back to ERCs posed several challenges, including ensuring that an RTC is surplus and the difficulty in tracking the use of RTCs which are not serialized. Staff had several discussions with U.S. EPA on this topic. U.S. EPA commented that the conversion of RTCs back to ERCs is not possible because there is no mechanism to sort out and track the unused RTCs that were reissued from ERCs since RTCs were not serialized, and that the conversion of RTCs to ERCs would require ongoing obligations post-RECLAIM, such as emissions caps.
Proposed Approach	Based on input from U.S. EPA, ERCs that were converted to RTCs will not be allowed to be converted back to ERCs.

[12] Annual RECLAIM Audit Report for 1994 Compliance Year.

Chapter 8:
Transition Process

Background

This Chapter discusses when facilities would begin transitioning out of RECLAIM and the process that would be used to transition facilities out of RECLAIM. Since the first version of the RECLAIM Transition Plan, staff has had a series of discussions with U.S. EPA regarding the transition of facilities out of RECLAIM. As a result, the timing of when facilities could begin transitioning out of RECLAIM has been revised. This Chapter provides additional information of the progression of the transition process and the current recommendations for when facilities can begin transitioning from RECLAIM to a command-and-control regulatory program, federal demonstrations that will be required to satisfy the federal Clean Air Act Section 110(l), and the process of transitioning facilities from RECLAIM to a command-and-control regulatory program.

Initial Recommendations for Transition Process

The first version of the RECLAIM Transition Plan discussed the January 5, and October 5, 2018 amendments to Rules 2001 – Applicability and 2002 - Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). The January 2018 amendments included the initial steps for the RECLAIM transition. Amendments to Rule 2001 ended the addition of any facilities into RECLAIM, and Rule 2002 amendments established the notification process for RECLAIM facilities exiting the program, as well as addressed the RTC holdings for these facilities. The October 2018 amendments to Rules 2001 and 2002 revised the eligibility criteria for a facility to receive Initial and Final Determination Notifications to exit RECLAIM, added provisions to allow facilities to opt-out of RECLAIM if certain criteria were met, and added an option for facilities that received an Initial Notification to remain in RECLAIM while pending elements relating to the transition were further developed and resolved. Only one facility exited RECLAIM. This facility exited under the opt-out provisions of the October 2018 version of Rule 2001, which were subsequently removed from Rule 2001 as discussed later in this chapter.

Current Recommendations for Transition Process

Initially, facilities were going to be transitioned out of RECLAIM as landing rules were adopted and amended. Since the first version of the RECLAIM Transition Plan, stakeholders expressed concerns about exiting facilities from RECLAIM since Regulation XIII issues were not resolved and impacts to the RECLAIM market if RTCs were removed from the market. Stakeholders commented that if large RTC holders were to exit RECLAIM, there could be a sharp increase in the price of RTCs.

U.S. EPA had also expressed concerns about exiting facilities before all the regulatory elements associated with the transition and changes to the RECLAIM program were completed. U.S. EPA recommended that facilities should not be allowed to exit RECLAIM until the following three regulatory elements are submitted to CARB and U.S. EPA, and approved into the State Implementation Plan (SIP):

- Landing rules for all RECLAIM equipment, including monitoring rules;
- Regulation XX – RECLAIM; and
- Regulation XIII – New Source Review.

RECLAIM facilities would be required to comply with emission limits in landing rules while in RECLAIM as well as the 12 ton per day shave that was adopted in 2015. RECLAIM facilities would also continue to subject to Rule 2005 RECLAIM NSR provisions while in RECLAIM. Based on U.S. EPA's recommendation to keep facilities in RECLAIM until the three regulatory elements are completed and approved into the SIP, Rule 2001 was amended on July 12, 2019 to remove the opt-out provision and to remove language that allowed facilities to exit RECLAIM. Staff is still working on specifics for how facilities will exit to transition from RECLAIM to command-and-control.

Rule 2002 Provisions for Initial and Final Determination Notifications

In general, provisions under Rule 2002 that establish the process of issuing Initial and Final Determination Notifications has not changed since the first version of the RECLAIM Transition Plan (See Appendix C). Rule 2002 includes provisions that allow a RECLAIM facility the option to stay in RECLAIM upon receiving an Initial Determination Notification. This option was added in the October 2018 amendments to Rule 2002 to assure RECLAIM facilities that if the Regulation XIII issues were not yet resolved, they could remain in RECLAIM even if they received an Initial Notification. With the revised approach to transition facilities out of RECLAIM, Rule 2002 will need to be amended to remove this provision.

Rule 2002 also includes provisions for use of RTCs after receipt of a Final Determination Notification that prohibits an owner or operator from selling or transferring any future compliance year RTCs as of the date specified in the Final Determination Notification. In addition, Rule 2002 also establishes provisions that prohibits a facility that is transitioned out of RECLAIM to use offsets from the South Coast AQMD's Internal Bank for a limited time. With the revised approach to transition facilities out of RECLAIM, Rule 2002 will need to be amended to remove these provisions.

First Set of Initial Determinations

In February 2018, the first set of Initial Determination Notifications were sent to 37 facilities. This group of 37 facilities were identified as potentially ready to exit the NOx RECLAIM program because they have no facility NOx emissions or have NOx emissions solely from the combination of Rule 219 equipment, various location permits, or unpermitted equipment, and/or RECLAIM equipment that meets current command-and-control BARCT rules. However, it should be noted that any RECLAIM combustion equipment at these 37 facilities that is exempt from permitting (e.g., small boilers and heaters) could become subject to future amendments to Rule 1146.2 after the facility transitions out of the NOx RECLAIM program.

Suspension of Final Determination Notifications

Staff will follow the transition process outlined in Rule 2002. However, until NSR issues regarding the future supply of Emission Reduction Credits (ERCs) are resolved, only facilities with a permitted Potential to Emit of less than four tons per year will be transitioned out of RECLAIM as these facilities can access the South Coast AQMD's Internal Bank under Regulation XIII if making future modifications or adding equipment that result in emission increases above their baseline Potential to Emit. Facilities with a permitted Potential to Emit of greater than or equal to four tons per year will not be transitioned out until future ERC supply issues are resolved. (See discussion under "New Source Review"). Staff will prepare these facilities to exit RECLAIM by issuing the Initial Determination Notification, reviewing requested information submitted by the facility, and making

the determination if the facility is ready to exit NOx RECLAIM. The Final Determination Notification for these facilities will be suspended, and following amendments to Regulation XIII, the Final Determination Notifications will be issued for these facilities. There are no restrictions on the purchase, sale, or transfer of RTCs until a facility receives a Final Determination Notification. Staff will attempt to minimize the suspension time because it can potentially lead to more RTC sales before credits are frozen.

Federal Clean Air Act Section 110(l)

Since the first version of the RECLAIM Transition Plan, staff had a series of discussions with U.S. EPA regarding the transition process and requirements under federal Clean Air Act Section 110(l) to ensure that revisions to the State Implementation Plan (SIP) would not interfere with attainment and reasonable further progress, or any applicable requirement under the Clean Air Act. There are two issues related to SIP: 1) SIP commitment for the 12 ton per day shave of RECLAIM allocations; and 2) Implementation of CMB-05: 5 Further NOx Reductions from RECLAIM Assessment (NOx).

Regarding the SIP commitment to achieve the 12 ton per day shave of RECLAIM allocations, U.S. EPA recommended and staff agreed that a one-time programmatic equivalency demonstration can be done with the SIP submittal package for the RECLAIM transition. South Coast AQMD will need to demonstrate that actual emissions from RECLAIM facilities is less than 14.5 tons per day. If actual emissions are > 14.5 tons per day, then emission projections with implementation of landing rules with future effective dates can be used to project actual emissions.

CMB-05 is designed to achieve an additional 5 tons per day of NOx emissions from RECLAIM facilities. Staff has discussed with U.S. EPA whether any demonstration is needed for the 5 tons per day associated with CMB-05. U.S. EPA concurs with staff that no demonstration is needed for the additional 5 tons per day that will be achieved through implementation of command-and-control rules that affect RECLAIM facilities.

Chapter 9: Permitting

Background

There are a number of considerations related to permitting as RECLAIM facilities undergo the transition to command-and-control. These include the structure of the permit and changes to permit conditions. The intent is to make the transition efficiently with minimal disruption and to keep fees as low as possible. The initial plans for the general structure of the permits are that the facility permit structure for current RECLAIM facilities will be maintained. The process to separate all the equipment in the RECLAIM permits into individual command-and-control permits would be overly burdensome on staff resources and the permit applicant, as well as potentially resulting in additional fees. The facility permit structure would still be required for facilities that are currently in the SOx RECLAIM program. Nevertheless, a facility may voluntarily request to change their RECLAIM permit into command-and-control permits, if they were to submit the permit applications and fees.

Under RECLAIM, to determine if there is an emission increase pursuant to Rule 2005(d), a modification is evaluated based on the source's maximum hourly Potential to Emit (PTE) by comparing the hourly PTE prior the modification (pre-modification PTE) to the hourly PTE after the modification (post-modification PTE). If the modification results in an emission increase, the amount of the emission increase that must be offset is determined by comparing the pre-modification PTE and the post-modification PTE on an annual basis. For future modifications post-RECLAIM at facilities previously subject to RECLAIM, a method for determining pre-modification PTE needs to be defined to harmonize transitioned permit units with the PTE calculation method under current Regulation XIII – New Source Review. The current South Coast AQMD computer systems being used to track New Source Review offset requirements and associated Potential to Emit will also need to be upgraded to accommodate any new methodologies.

Another consideration for the facility permits involves updating any relevant cited rule references as facilities transition. For example, for RECLAIM devices subject to amended command-and-control rules, the references to the emission limits, as well as in the equipment-specific conditions in Sections D and H of the RECLAIM permit (Facility Specific and Equipment Specific Conditions) would need to be updated to both add and remove applicable requirements resulting from the transition. In addition, the monitoring, reporting, and recordkeeping requirements in Sections F (RECLAIM Monitoring and Source Testing Requirements) and G (Recordkeeping and Reporting Requirements for RECLAIM Sources) would also need to be updated. In an effort to minimize the need for and extent of potential facility permit amendments during the transition period, staff is exploring alternate ways of addressing changes in Sections D, F, G, and H of the facility permit. Such alternative mechanisms include retaining the applicability of relevant provisions of the NOx RECLAIM program rules (e.g. monitoring, New Source Review, etc.) and, thus, eliminating the need for an immediate facility permit amendment until the facility is in full compliance with current and yet to be developed BARCT rules.

Permit applications will be needed to remove non-applicable RECLAIM provisions and to add requirements for applicable command-and-control rules when facilities exit RECLAIM. Permit applications submitted solely for removing no longer applicable RECLAIM provisions or adding applicable requirements for command-and-control rules will not cover any physical equipment modification nor any process change. Therefore, the permit action will not be a modification as defined under Regulation XIII and will not be considered as an NSR event. The permit application fee for reissuing a facility permit are specified under Rule 301(l) and are necessary to recover the costs incurred by South Coast AQMD for work performed to revise a RECLAIM permit for facilities that will be exiting the NOx RECLAIM program. The fees pursuant to Rule 301(l) consists of an initial flat fee and an additional time and materials (T&M) charge where applicable. Both the initial flat fee and T&M charge are tiered based on the number of permitted RECLAIM NOx sources at the facility. Both the initial flat fee and T&M charge are also differentiated based on a facility's Title V status. Also specified in Rule 301(l) is the fee for a facility that has transitioned out of the RECLAIM program and voluntarily elects to convert their RECLAIM facility permit into individual command-and-control permits. If necessary, staff will reevaluate the current fee structure in order to ensure staff can recover costs related to the transition of a RECLAIM facility to command-and-control.

The timing of these changes is also another consideration given the staff time that will be required to ensure the timely issuance of the new permit for a RECLAIM facility upon its transition into command-and-control.

To minimize changes to Title V permits that would require Public Notification requirements, during this initial transition period, facilities with Title V permits would maintain the RECLAIM MRR. In some cases, facilities may choose to incorporate changes to reporting frequency requirements, although, changes to the reporting frequency would constitute a Significant Title V Permit revision, triggering Public Notification requirements.

Calculating the Pre-Modification PTE for RECLAIM Sources

The first version of the RECLAIM Transition Plan explained that Regulation XIII will apply to former RECLAIM facilities upon the first post-RECLAIM permit modification. Facilities will be issued new permits upon exiting RECLAIM, but will retain all existing NSR limits and permit conditions until the next NSR event (permit action that results in an emission increase). If the permit action results in an emissions increase BACT, modeling, and offsetting will be required, pursuant to Regulation XIII. Under Regulation XIII, emission increases are determined according to Rule 1306 by comparing a source's Potential to Emit (PTE) pre- and post- modification on a thirty-day average basis. An emission increase occurs when a source's PTE after the modification (post-modification PTE) is greater than the source's PTE prior the modification (pre-modification PTE). The PTEs are generally determined at the time of permitting and apply to an individual permit unit, which is typically a single piece of equipment for NOx sources. The PTE represents the source's maximum capacity to emit under its physical and operational design, unless the source is restricted by a federally enforceable operational limitation on the capacity of the source to emit. A source's PTE generally does not represent its actual emissions.

Regulation XIII vs RECLAIM NSR

To determine if a modification will result in an emission increase, a modification is evaluated under

Regulation XIII based on a source's daily PTE on a pounds per day basis, while in RECLAIM a modification is evaluated based on the source's maximum hourly PTE on a pounds per hour basis. Since not all sources exiting RECLAIM have permits with established pre-modification PTEs in pounds per day, the source's pre-modification PTE will need to be determined in pounds per day on a thirty-day average basis upon the first post-RECLAIM permit modification to determine if the source will be subject to Regulation XIII. Determination of a source's daily PTE will typically not be necessary when reissuing new permits to remove non-applicable RECLAIM provisions and to add requirements for applicable command-and-control rules as part of the initial permit transition process. However, since some pre-modification PTEs do not directly translate into pounds per day, a methodology that will account for what permit conditions are used to establish the existing pre-modification PTE in pounds per day and when the facility's permit was issued is needed to evaluate modifications post-RECLAIM to determine if the permit action will result in an emission increase under Regulation XIII. The various approaches are summarized below.

Proposed Approaches for Converting Pre-Modification PTEs to Pounds per Day

Permits issued pre-NSR (pre-1976)

Regulation XIII has an established methodology to calculate emissions increases for sources that have never been subject to NSR pursuant to Regulation XIII or Rule 213. The pre-modification PTE for those sources that did not have an NSR event during or prior to RECLAIM will be calculated according to the existing provisions in Rule 1306. Rule 1306(c)(1) specifies the pre-modification PTE for these sources as the actual emission in the immediately preceding previous two years adjusted to BACT.

Permits issued post-NSR to pre-RECLAIM

The pre-modification PTE for sources that have been subject to Regulation XIII or Rule 213 and were permitted after 1976 and the equipment or process did not have an NSR event during RECLAIM will not need to be converted since permitted unit would have a pre-modification PTE in pounds per day.

Permits Issued During RECLAIM[13]

Permits issued for units during RECLAIM, may or may not have a pre-modification PTE. A hierarchy of methodologies, depending on the existing permit limits, will be used to calculate the pre-modification PTEs in lbs/day. Table 9-1 provides initial approaches that staff is considering for converting pre-modification PTEs that were issued during RECLAIM to a pre-modification PTE in lbs/day.

[13] Certain facilities that had prior NSR events post-1976, do not have a source specific NOx mass limit PTE specified. Facilities that did not have an emission increase during RECLAIM, only had a facility-wide yearly allowable NOx emission limit in place of a source specific mass limit for NOx. However, the facility may have other permit conditions that allow a pre-modification NOx PTE to be calculated. For instance, large sources and process units that do not have a NOx PTE specified as a mass rate may have a NOx concentration limit instead. Additionally, major sources that do not have a NOx PTE specified as a mass rate or a concentration limit, would have data from continuous emissions monitoring systems (CEMS) of actual emissions that could be used to calculate a mass limit scaled to the source's maximum rated capacity.

Table 9-1
Approach to Calculate Pre-Modification PTEs in lbs/day

Units of Current NOx PTE	Approach to Calculate Pre-modification PTE in lbs/day
A daily mass limit in lbs/day	None. The pre-modification PTE is already specified in lbs/day
An hourly mass limit in lbs/hr	The hourly mass rate will be multiplied by 24 hours per day if the permit does not have an operational limitation (e.g. fuel usage limit) that restricts the daily hours of operation. If the facility has an operational limitation, then the hourly mass rate will be multiplied by the daily hours of operation according to the permitted operational limitation.[14]
A monthly mass limit in lbs/month	The monthly mass rate will be divided by 30 days.
No mass limit, but permit has a concentration limit (by Rule, BACT, CFR, etc.)	The most stringent concentration limit will be multiplied by the operational limit, if any, or by the maximum operational capacity in 24 hours if no operational limit exists.
No mass limit or concentration limit, but emissions are monitored by a RECLAIM CEMS	The highest hourly mass rate based on actual emission in the 12-month period immediately before the application submittal date, scaled to the maximum rated capacity, will be used to determine a maximum hourly mass rate. The maximum hourly mass rate will be multiplied by 24 hours per day if the permit does not have an operational limitation. If the facility has an operational limitation, then the maximum hourly mass rate will be multiplied by the daily hours of operation allowed according to the permitted operational limitation.

[14] Further assessments, potentially on a case-by-case basis, will be necessary for operational limitations that are not on a daily basis in order to determine the daily hours of operation allowed according to the permitted operation limitations.

Appendix A – List of RECLAIM Facilities

FACILTY ID	FACILITY NAME
136	PRESS FORGE CO
346	FRITO-LAY, INC.
550	LA CO., INTERNAL SERVICE DEPT
1073	BORAL ROOFING LLC
1634	STEELCASE INC, WESTERN DIV
1744	KIRKHILL - TA COMPANY
2083	SUPERIOR INDUSTRIES INTERNATIONAL INC
2418	FRUIT GROWERS SUPPLY CO
2825	MCP FOODS INC
2912	HOLLIDAY ROCK CO INC
2946	PACIFIC FORGE INC
3029	MATCHMASTER DYEING & FINISHING INC
3417	AIR PROD & CHEM INC
3585	R. R. DONNELLEY & SONS CO, LA MFG DIV
3704	ALL AMERICAN ASPHALT, UNIT NO.01
3721	DART CONTAINER CORP OF CALIFORNIA
3968	TABC, INC
4242	SAN DIEGO GAS & ELECTRIC
4477	SO CAL EDISON CO
5973	SO CAL GAS CO
5998	ALL AMERICAN ASPHALT
7411	DAVIS WIRE CORP
7416	PRAXAIR INC
7427	OWENS-BROCKWAY GLASS CONTAINER INC
8547	QUEMETCO INC
8582	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC
9053	VEOLIA ENERGY LA INC
9755	UNITED AIRLINES INC
11034	VEOLIA ENERGY LOS ANGELES, INC
11119	THE GAS CO./ SEMPRA ENERGY
11435	PQ CORPORATION
11716	FONTANA PAPER MILLS INC
11887	NASA JET PROPULSION LAB
12155	ARMSTRONG FLOORING INC
12372	MISSION CLAY PRODUCTS
12428	NEW NGC, INC.
14049	MARUCHAN INC

FACILTY ID	FACILITY NAME
14495	VISTA METALS CORPORATION
14502	CITY OF VERNON, VERNON GAS & ELECTRIC
14736	THE BOEING CO-SEAL BEACH COMPLEX
14871	SONOCO PRODUCTS CO
14926	SEMPRA ENERGY (THE GAS CO)
14944	CENTRAL WIRE, INC.
15504	SCHLOSSER FORGE COMPANY
16338	KAISER ALUMINUM FABRICATED PRODUCTS, LLC
16639	SHULTZ STEEL CO
16642	ANHEUSER-BUSCH LLC., (LA BREWERY)
16660	THE BOEING COMPANY
16978	CLOUGHERTY PACKING LLC/HORMEL FOODS CORP
17623	LOS ANGELES ATHLETIC CLUB
17953	PACIFIC CLAY PRODUCTS INC
17956	WESTERN METAL DECORATING CO
18294	NORTHROP GRUMMAN SYSTEMS CORP
18455	ROYALTY CARPET MILLS INC
18931	TAMCO
19167	R J. NOBLE COMPANY
19390	SULLY-MILLER CONTRACTING CO.
20203	RECONSERVE OF CALIFORNIA-LOS ANGELES INC
20604	RALPHS GROCERY CO
21598	ANGELICA TEXTILE SERVICES
21887	KIMBERLY-CLARK WORLDWIDE INC.-FULT. MILL
22607	CALIFORNIA DAIRIES, INC
22911	CARLTON FORGE WORKS
23752	AEROCRAFT HEAT TREATING CO INC
25638	BURBANK CITY, BURBANK WATER & POWER
35302	OWENS CORNING ROOFING AND ASPHALT, LLC
37603	SGL TECHNIC INC, POLYCARBON DIVISION
38440	COOPER & BRAIN - BREA
38872	MARS PETCARE U.S., INC.
40034	BENTLEY PRINCE STREET INC
40483	NELCO PROD. INC
42630	PRAXAIR INC
42676	CES PLACERITA INC
42775	WEST NEWPORT OIL CO
43201	SNOW SUMMIT INC
43436	TST, INC.

FACILTY ID	FACILITY NAME
45746	PABCO BLDG PRODUCTS LLC,PABCO PAPER, DBA
46268	CALIFORNIA STEEL INDUSTRIES INC
47771	DELEO CLAY TILE CO INC
47781	OLS ENERGY-CHINO
50098	D&D DISPOSAL INC,WEST COAST RENDERING CO
51620	WHEELABRATOR NORWALK ENERGY CO INC
52517	REXAM BEVERAGE CAN COMPANY
53729	TREND OFFSET PRINTING SERVICES, INC
54402	SIERRA ALUMINUM COMPANY
56940	CITY OF ANAHEIM/COMB TURBINE GEN STATION
58622	LOS ANGELES COLD STORAGE CO
59618	PACIFIC CONTINENTAL TEXTILES, INC.
61722	RICOH ELECTRONICS INC
61962	LA CITY, HARBOR DEPT
62548	THE NEWARK GROUP, INC.
63180	DARLING INGREDIENTS INC.
68042	CORONA ENERGY PARTNERS, LTD
68118	TIDELANDS OIL PRODUCTION COMPANY ETAL
74424	ANGELICA TEXTILE SERVICES
83102	LIGHT METALS INC
85943	SIERRA ALUMINUM COMPANY
89248	OLD COUNTRY MILLWORK INC
94872	METAL CONTAINER CORP
94930	CARGILL INC
95212	FABRICA
96587	TEXOLLINI INC
97081	THE TERMO COMPANY
101656	AIR PRODUCTS AND CHEMICALS, INC.
101977	SIGNAL HILL PETROLEUM INC
105277	SULLY MILLER CONTRACTING CO
105903	PRIME WHEEL
107653	CALMAT CO
107654	CALMAT CO
107655	CALMAT CO
107656	CALMAT CO
109914	THERMAL REMEDIATION SOLUTIONS, LLC
113160	HILTON COSTA MESA
114264	ALL AMERICAN ASPHALT
114997	RAYTHEON COMPANY

FACILTY ID	FACILITY NAME
115172	RAYTHEON COMPANY
115241	THE BOEING COMPANY
115314	LONG BEACH GENERATION, LLC
115315	NRG CALIFORNIA SOUTH LP, ETIWANDA GEN ST
115389	AES HUNTINGTON BEACH, LLC
115394	AES ALAMITOS, LLC
115536	AES REDONDO BEACH, LLC
115563	NCI GROUP INC., DBA, METAL COATERS OF CA
115663	EL SEGUNDO POWER, LLC
117140	AOC, LLC
117227	SHCI SM BCH HOTEL LLC, LOEWS SM BCH HOTE
117290	B BRAUN MEDICAL, INC
118406	CARSON COGENERATION COMPANY
119104	CALMAT CO
119596	SNAK KING CORPORATION
122666	A'S MATCH DYEING & FINISHING
123774	HERAEUS PRECIOUS METALS NO. AMERICA, LLC
124619	ARDAGH METAL PACKAGING USA INC.
124723	GREKA OIL & GAS
124808	INEOS POLYPROPYLENE LLC
124838	EXIDE TECHNOLOGIES
125579	DIRECTV
126498	STEELSCAPE, INC
126536	CPP - POMONA
127299	WILDFLOWER ENERGY LP/INDIGO GEN., LLC
128243	BURBANK CITY,BURBANK WATER & POWER,SCPPA
129497	THUMS LONG BEACH CO
129810	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT
129816	INLAND EMPIRE ENERGY CENTER, LLC
130211	PAPER-PAK INDUSTRIES
131732	NEWPORT FAB, LLC
131850	SHAW DIVERSIFIED SERVICES INC
132068	BIMBO BAKERIES USA INC
132071	DEAN FOODS CO. OF CALIFORNIA
137471	GRIFOLS BIOLOGICALS INC
137508	TONOGA INC, TACONIC DBA
137520	PLAINS WEST COAST TERMINALS LLC
138568	CALIFORNIA DROP FORGE, INC
139796	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT

FACILTY ID	FACILITY NAME
141295	LEKOS DYE AND FINISHING, INC
141555	CASTAIC CLAY PRODUCTS, LLC
142267	FS PRECISION TECH LLC
142536	DRS SENSORS & TARGETING SYSTEMS, INC
143738	DCOR LLC
143739	DCOR LLC
143740	DCOR LLC
143741	DCOR LLC
144455	LIFOAM INDUSTRIES, LLC
146536	WALNUT CREEK ENERGY, LLC
148236	AIR LIQUIDE LARGE INDUSTRIES U.S., LP
148340	THE BOEING COMPANY-BUILDING 800 COMPLEX
148896	CALIFORNIA RESOURCES PRODUCTION CORP
148897	CALIFORNIA RESOURCES PRODUCTION CORP
148925	CHERRY AEROSPACE
150201	BREITBURN OPERATING LP
151394	LINN OPERATING INC
151415	LINN WESTERN OPERATING, INC
151532	LINN OPERATING, INC
151594	OXY USA, INC
151601	CALIFORNIA RESOURCES PRODUCTION CORPORAT
151798	TESORO REFINING AND MARKETING CO, LLC
151899	CALIFORNIA RESOURCES PRODUCTION CORP
152054	LINN WESTERN OPERATING INC
152707	SENTINEL ENERGY CENTER LLC
153199	THE KROGER CO/RALPHS GROCERY CO
153992	CANYON POWER PLANT
155221	SAVE THE QUEEN LLC (DBA QUEEN MARY)
155474	BICENT (CALIFORNIA) MALBURG LLC
155877	MILLERCOORS, LLC
156741	HARBOR COGENERATION CO, LLC
157359	HENKEL ELECTRONIC MATERIALS, LLC
157363	INTERNATIONAL PAPER CO
160437	SOUTHERN CALIFORNIA EDISON
161300	SAPA EXTRUDER, INC
164204	CITY OF RIVERSIDE, PUBLIC UTILITIES DEPT
165192	TRIUMPH AEROSTRUCTURES, LLC
166073	BETA OFFSHORE
168088	POLYNT COMPOSITES USA INC

FACILTY ID	FACILITY NAME
169754	SO CAL HOLDING, LLC
171107	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL
171109	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY
171960	TIN, INC. DBA INTERNATIONAL PAPER
172005	NEW- INDY ONTARIO, LLC
172077	CITY OF COLTON
173290	MEDICLEAN
173904	LAPEYRE INDUSTRIAL SANDS, INC
174406	ARLON GRAPHICS LLC
174544	BREITBURN OPERATING LP
174591	TESORO REF & MKTG CO LLC,CALCINER
174655	TESORO REFINING & MARKETING CO, LLC
175154	FREEPORT-MCMORAN OIL & GAS
175191	FREEPORT-MCMORAN OIL & GAS
176708	ALTAGAS POMONA ENERGY INC.
176934	GI TC IMPERIAL HIGHWAY, LLC
176952	MERCEDES-BENZ WEST COAST CAMPUS
178639	ECO SERVICES OPERATIONS LLC
179137	QG PRINTING II CORP
180367	LINN OPERATING, INC.
180410	REICHHOLD LLC 2
181510	AVCORP COMPOSITE FABRICATION, INC
181667	TORRANCE REFINING COMPANY LLC
182049	TORRANCE VALLEY PIPELINE CO LLC
182050	TORRANCE VALLEY PIPELINE CO LLC
182051	TORRANCE VALLEY PIPELINE CO LLC
182561	COLTON POWER, LP
182563	COLTON POWER, LP
183415	LA CITY, DEPARTMENT OF AIRPORTS
183564	ONNI TIMES SQUARE LP
183832	AST Textile
184958	BRONCS INC. DBA WEST COAST TEXTILES
800003	HONEYWELL INTERNATIONAL INC
800016	BAKER COMMODITIES INC
800026	ULTRAMAR INC
800030	CHEVRON PRODUCTS CO.
800037	DEMENNO/KERDOON
800066	HITCO CARBON COMPOSITES INC
800067	BOEING

FACILTY ID	FACILITY NAME
800074	LA CITY, DWP HAYNES GENERATING STATION
800075	LA CITY, DWP SCATTERGOOD GENERATING STN
800080	LUNDAY-THAGARD COMPANY
800088	3M COMPANY
800113	ROHR, INC.
800127	SO CAL GAS CO
800128	SO CAL GAS CO
800129	SFPP, L.P.
800149	US BORAX INC
800150	US GOVT, AF DEPT, MARCH AIR RESERVE BASE
800168	PASADENA CITY, DWP
800170	LA CITY, DWP HARBOR GENERATING STATION
800181	CALIFORNIA PORTLAND CEMENT CO
800183	PARAMOUNT PETR CORP
800189	DISNEYLAND RESORT
800193	LA CITY, DWP VALLEY GENERATING STATION
800196	AMERICAN AIRLINES, INC,
800205	BANK OF AMERICA NT & SA, BREA CENTER
800264	EDGINGTON OIL COMPANY
800325	TIDELANDS OIL PRODUCTION CO
800330	THUMS LONG BEACH
800335	LA CITY, DEPT OF AIRPORTS
800338	SPECIALTY PAPER MILLS INC
800344	CALIFORNIA AIR NATIONAL GUARD, MARCH AFB
800371	RAYTHEON SYSTEMS COMPANY - FULLERTON OPS
800372	EQUILON ENTER. LLC, SHELL OIL PROD. US
800393	VALERO WILMINGTON ASPHALT PLANT
800408	NORTHROP GRUMMAN SYSTEMS
800409	NORTHROP GRUMMAN SYSTEMS CORPORATION
800416	PLAINS WEST COAST TERMINALS LLC
800417	PLAINS WEST COAST TERMINALS LLC
800419	PLAINS WEST COAST TERMINALS LLC
800420	PLAINS WEST COAST TERMINALS LLC
800436	TESORO REFINING AND MARKETING CO, LLC

Appendix B - AB-617 Facilities

FAC ID	FACILITY NAME	PRIMARY_SECTOR
151798	TESORO SULFUR PLANT	Refinery
171107	PHILLIPS 66 COMPANY - LOS ANGELES REFINERY - WILMINGTON PLANT	Refinery
171109	PHILLIPS 66 COMPANY - LOS ANGELES REFINERY - CARSON PLANT	Refinery
174655	TESORO REFINING & MARKETING COMPANY LLC - LOS ANGELES REFINERY - CARSON	Refinery
181667	TORRANCE REFINING COMPANY LLC	Refinery
800026	ULTRAMAR INC - VALERO WILMINGTON	Refinery
800030	CHEVRON PRODUCTS COMPANY - EL SEGUNDO REFINERY 90245	Refinery
800080	LUNDAY-THAGARD COMPANY DBA WORLD OIL REFINING	Refinery
800183	PARAMOUNT PETROLEUM CORPORATION REFINERY	Refinery
800264	EDGINGTON OIL COMPANY	Refinery
800436	TESORO WILMINGTON	Refinery
3417	AIR PRODUCTS CARSON HYDROGEN PLANT	Hydrogen Plant
42630	PRAXAIR INC.	Hydrogen Plant
101656	AIR PRODUCTS WILMINGTON HYDROGEN PLANT	Hydrogen Plant
148236	AIR LIQUIDE EL SEGUNDO HYDROGEN PLANT	Hydrogen Plant
4242	SDG&E - MORENO COMPRESSOR STATION	Oil and Gas Production
5973	SOUTHERN CALIFORNIA GAS CO - HONOR RANCHO FACILITY	Oil and Gas Production
68118	TIDELANDS OIL PRODUCTION COMPANY - 760 LOS ANGELES BASIN	Oil and Gas Production
101977	SIGNAL HILL PETROLEUM FACILITIES	Oil and Gas Production
129497	THUMS LONG BEACH COMPANY	Oil and Gas Production
150201	BREITBURN OPERATING LP - LOS ANGELES BASIN FACILITY	Oil and Gas Production
151394	LINN OPERATING INC	Oil and Gas Production
151415	LINN OPERATING INC	Oil and Gas Production
151532	LINN OPERATING INC	Oil and Gas Production
151594	TIDELANDS OIL PRODUCTION COMPANY - 760 LOS ANGELES BASIN	Oil and Gas Production
151601	TIDELANDS OIL PRODUCTION COMPANY - 760 LOS ANGELES BASIN	Oil and Gas Production
169754	TIDELANDS OIL PRODUCTION COMPANY - 760 LOS ANGELES BASIN	Oil and Gas Production
174544	BREITBURN OPERATING LP - LOS ANGELES BASIN FACILITY	Oil and Gas Production

FAC ID	FACILITY NAME	PRIMARY_SECTOR
800128	SOUTHERN CALIFORNIA GAS CO - ALISO CANYON FACILITY	Oil and Gas Production
800325	TIDELANDS OIL PRODUCTION COMPANY - 760 LOS ANGELES BASIN	Oil and Gas Production
800330	THUMS LONG BEACH COMPANY	Oil and Gas Production
550	CIVIC CENTER COGEN LA COUNTY	Other Combustion Source
3704	ALL AMERICAN ASPHALT – CORONA	Other Combustion Source
7427	OWENS-BROCKWAY GLASS CONTAINER INC	Other Combustion Source
8547	QUEMETCO INC.	Other Combustion Source
12428	NEW NGC INC - LONG BEACH	Other Combustion Source
14495	VISTA METALS CORP.	Other Combustion Source
16639	SHULTZ STEEL COMPANY	Other Combustion Source
16642	ANHEUSER-BUSCH LLC - LOS ANGELES BREWERY	Other Combustion Source
18931	TAMCO	Other Combustion Source
21887	KIMBERLY CLARK WORLDWIDE INC.	Other Combustion Source
22911	CARLTON FORGE WORKS	Other Combustion Source
46268	CALIFORNIA STEEL INDUSTRIES	Other Combustion Source
62548	NEWARK PACIFIC PAPERBOARD (OPT-IN 2013)	Other Combustion Source
105903	PRIME WHEEL CORPORATION	Other Combustion Source
114801	ECO SERVICES - DOMINGUEZ	Other Combustion Source
117290	BRAUN MEDICAL INC	Other Combustion Source
124838	EXIDE TECHNOLOGIES	Other Combustion Source
155877	MILLERCOORS	Other Combustion Source
172005	NEW-INDY ONTARIO LLC LINERBOARD MILL	Other Combustion Source
174591	TESORO LOS ANGELES REFINERY - WILMINGTON CALCINER	Other Combustion Source
800037	DEMENNO/KERDOON	Other Combustion Source
800335	LOS ANGELES INTERNATIONAL AIRPORT (LAX)	Other Combustion Source

Appendix C

Rule 2002 Process for Initial and Final Determination Notification

Initial Determination Notification

The transition process for a facility begins when the Executive Officer sends the facility an Initial Determination Notification. Pursuant to Rule 2002 paragraph (f)(6), the Executive Officer will send an Initial Determination Notification, notifying the owner or operator that the facility is under review for being transitioned out of NOx RECLAIM. Pursuant to Rule 2002 paragraph (f)(6), within 45 days of the date of Initial Determination Notification, the facility operator is required to identify all NOx RECLAIM emission equipment, including equipment that is exempt from permitting requirements per Rule 219. RECLAIM emission equipment can consist of either process units, large sources, major sources, or some combination thereof. Rule 219 equipment includes boilers and process heaters less than 2 million Btu/hour and generally includes any non-permitted equipment that is reported in the facility's Annual Permitted Emission Program (APEP) report. Other non-permitted equipment that reports emissions would also be included such as various location equipment and portable equipment.

Staff will review the information and if the information is not complete, pursuant to Rule 2002 (f)(7)(A) the owner or operator will be required to resubmit the information on a timeline as specified by the Executive Officer. If the owner or operator fails to resubmit the information within the timeframe specified by the Executive Officer or fails to respond to the initial notification within 45 days, the operator will be prohibited from using, selling or transferring RTCs until all requested information is submitted (Rule 2002 (f)(7)(B)).

Final Determination Notification

The Executive Officer will provide a Final Determination Notification pursuant to Rule 2002 (f)(8) that the facility will be transitioned out of NOx RECLAIM if, after review of the information submitted, it is determined that the facility has no facility NOx emissions or has NOx emissions solely from the combination of the following:

- Rule 219 equipment, unless it would be subject to a command-and-control rule that it cannot reasonably comply with, various location permits, or permitted equipment, and/or
- RECLAIM equipment that meets current command-and-control BARCT rules.

SAMPLE INITIAL DETERMINATION NOTIFICATION LETTER

Subject: Initial Determination Notification for Transitioning Your Facility from RECLAIM to a Command-and-Control Regulatory Structure

Dear RECLAIM Facility Permit Holder,

The South Coast Air Quality Management District (SCAQMD) is transitioning facilities in the NOx Regional Clean Air Incentives Market (RECLAIM) program to a command-and-control regulatory structure. The SCAQMD's Governing Board has directed staff to implement the control measure for RECLAIM facilities in the 2016 Air Quality Management Plan (AQMP) to transition the RECLAIM program to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT) level controls at RECLAIM facilities as soon as practicable.

On January 5, 2018, the SCAQMD's Board adopted amendments to Rule 2002, which establishes the process to transition facilities in the RECLAIM program to a command-and-control regulatory structure. Pursuant to Rule 2002 paragraph (f)(6), this letter serves as an Initial Determination Notification that **FACILITY NAME: ABC, Facility ID # xxxxxx** is under review for being transitioned out of NOx RECLAIM. Pursuant to paragraph (f)(6), within 45 days you are required to identify all NOx RECLAIM emission equipment, including equipment exempt from written permits, pursuant to Rule 219. RECLAIM emission equipment can consist of either process units, large sources, major sources, or some combination thereof. To facilitate the process of identifying RECLAIM emission equipment, enclosed you will find a summary listing of your RECLAIM equipment based on SCAQMD permit data. Please make any corrections and identify any equipment at your facility that is exempt from written permits, pursuant to Rule 219, such as any small boilers or process heaters less than or equal to 2 million BTU per hour (e.g., Rule 219 small boilers and heaters). Please provide for each unit the type, size, and age of the unit.

Upon receiving the submitted summary list of RECLAIM equipment from your facility, SCAQMD staff will review and indicate in writing if the summary list is not complete. If the summary list is not complete, a resubmittal of the summary list for the RECLAIM equipment will be requested as indicated in Rule 2002 subparagraph (f)(6)(A). Failure to provide the completed initial information within 45 days or failure to revise an incomplete submission will result in the prohibition of all RTC uses, sales, or transfers by the facility until all the requested information is submitted, pursuant to Rule 2002 subparagraph (f)(6)(B).

Once SCAQMD staff deems your facility as ready to transition, a final determination notification will be sent, stating that your facility will be transitioned out of NOx RECLAIM. SCAQMD staff will be contacting you to schedule a meeting to discuss any potential issues with the transition from RECLAIM to command-and-control and to coordinate a site visit at your facility. In the event it is determined that your facility should not yet be transitioned out of the NOx RECLAIM program, you will also be notified. To provide a response and if you have any questions, please do not hesitate to contact Kevin Orellana, Program Supervisor, at (909)396-3492 or via email at korellana@aqmd.gov. We look forward to working with you.

FACILITY NAME: ABC
Facility ID: xxxxxx

Instructions:

Please review the list of equipment for the accuracy of the information. If you have any additional RECLAIM source equipment and/or equipment that is exempt from written permits, pursuant to Rule 219, please provide a list of this equipment. Hard copies or electronic submittals are acceptable. Also, identify any small boilers and process heaters with a heat input less than or equal to 2,000,000 BTU per hour at your facility.

RECLAIM Source Equipment List

FID	NAME	Equipment Category	Application Number	Device ID	Size	Units	Reclaim Source Type	Fuel Type	Landing Rules	RECLAIM Permit Section
xxxxxx	ABC	ICE Em	xxxxxx	Dxx	200	HP	Process Unit	DIESEL	1470	D
xxxxxx	ABC	ICE Em	xxxxxx	Dxx	650	HP	Process Unit	NG	1470	D
xxxxxx	ABC	Furnace	xxxxxx	Dxx	5	MMBTU/HR	Process Unit	NG	1147	D
xxxxxx	ABC	Oven	xxxxxx	Dxx	7	MMBTU/HR	Process Unit	NG	1147	D
xxxxxx	ABC	Boiler	xxxxxx	Dxx	30	MMBTU/HR	Large Source	NG	1146	D