APPENDIX E

Response to Comments

Response to Comments – Section A

Summary of Comment Letters Received
Comment Period Ending April 23, 2004

The following comments were received during the public workshop for RECLAIM on April 7, 2004 and during the comment period that followed, ending April 23, 2004.

General Comments and Comments on Specific Rules

1. Comment: Redefine "Facility" to treat adjacent businesses under common ownership, but different SIC code designation, as two separate facilities. This would be helpful in the implementation of RECLAIM and in applying an industry specific rate of reduction.

   Response: Staff has not observed any problem with the current facility definition during rule implementation. In addition, since staff's proposal does not call for industry specific RTC reduction, there is no need to change the facility definition.

2. Comment: CEC forecasts are not appropriate for individual unit forecasting, as there are too many variables that can readily change.

   Response: AQMD staff appreciates the merits and limitations of the forecast information provided by CEC. Individual unit forecast information is not being used as a basis for any of the proposed amendments. The CEC regularly conducts an electricity supply and demand analysis, taking into account various weather scenarios that factor in the availability of generation sources outside of the state (i.e., hydro-electric power) that contribute to the state's electricity grid. The report provides aggregate forecasting information which is useful for looking at the range of potential emissions under the different scenarios. The CEC forecast also gives consideration to known unit start-ups and shutdowns. In addition, a report out by the CEC in July 2004 concluded that their 2003 – 2013 forecast of December 2003 remains the same, which predicts overall generation growth to range from 1.5 to 2.0 percent. However, based on stakeholder comments, the staff proposal has relied on the SCAG growth projections provided for the 2003 AQMP, not the CEC forecasts.

3. Comment: Power producers should not be reinstated into RECLAIM, or they should have their RTCs reduced to current actual emission levels. Bringing them back into the market will allow them to be sellers of excess RTCs, allowing other facilities to pollute more.

   Response: In June 2003, the Governing Board reviewed a report related to power producers and the limitations on trading that were put in place in response to the increased in-Basin power generation and greatly inflated RTC prices. In this report, the Board made the findings that reinstating power producers would not be expected to negatively impact the energy situation for the rest of the facilities in the program. Power producers were required to install BARCT and in many instances went to BACT, so they are now operating equipment that is very well controlled.

The overall proposed reduction in the market is based on BARCT for all equipment where it is technically and economically feasible. Power plants are being treated in the same manner as other facilities and their BARCT levels will contribute to the overall programmatic RTC holding reductions. Reducing their RTC holding to their current level of actual emissions could lead to shortage in RTCs, leading to increased prices in the market if energy needs in southern California increase in the future. The 2003 AQMP, for example, projects a 2.5 percent increase in in-Basin generation per year. The CEC forecasts range from year 2003 to 2013 and forecasts increase energy demand of between 1.5 and 2.0 percent.

In order to address the commenter's concern, the staff proposal would limit power producers' ability to sell yearly 2005 and 2006 RTCs among themselves or new power producers brought on-line January 1, 2004 or later. The trading restrictions will be completely removed after year 2007 when the programmatic reductions begin.

4. Comment: The Rule 2007 provision allowing power producers to sell surplus RTCs to the AQMD should be continued until EPA approval of these amendments.

   Response: The provision of Rule 2007 was added during the May 2001 amendments, in conjunction with the Mitigation Fee Program, that were designed to address the increased demand in RTCs and was intended to be a short-term relief mechanism during the time in which credit prices were exceptionally high. Staff is not proposing to extend the referenced Rule 2007 provision. Since the power plant Mitigation Fee Program sunsets after the 2004 compliance year, there would be no need for AQMD to purchase RTCs.

5. Comment: The Mitigation Fee Program for power producers should be extended.

   Response: Staff does not see the need to extend the Mitigation Fee program. This program was instituted due to the unusual situation created by the power crisis and the need to make sure that excess emissions from power producers were made up. This situation no longer exists.

6. Comment: The Rule 2009 requirement for emission forecasts is no longer necessary. These forecasts do not directly contribute to NOx emission reductions.

   Response: Rule 2009 requires forecasts submittals for the 2001 through 2005 compliance years with Cycles 1 and 2 forecasts due November 30th and May 31st of each year, respectively. The final forecast for compliance year 2005 have already been submitted. At this time, since the requirement for submitting final forecast reports is partially completed, staff believes that removing the requirement for Cycle 2 facilities is not appropriate and the requirement for the final years forecast should be completed.

Allocation Reductions

7. Comment: Programmatic reductions should be implemented evenly across all RECLAIM sources.

Response: Generally, the staff proposal recommends this approach. However, the staff proposal also includes exemptions from these reductions. These exempted reductions would be added to the total reductions possible based on BARCT determinations across the RECLAIM universe and reducing RTC holdings by the same percentage. However, it should be noted that staff is also proposing to implement reductions in two phases. The first phase would implement a 4 ton per day reduction in 2007 followed by a 3.7 ton per day reduction implemented over the 2008 through 2010 compliance years for a total of 7.7 ton per day reduction. In addition, staff is proposing that RTC reductions during the phase two reductions not occur if the price exceeds $15,000 per ton. Staff also proposes criteria by which a facility may apply for an exemption from RTC holding reductions. The commenter is referred to subdivision (i) of proposed amended Rule 2002 for the exemption criteria.

8. Comment: Determination of RTC reductions should consider growth and job impacts.

   Response: These considerations have been evaluated as part of the rule development process. The determination of the programmatic adjustment is based on base-year emissions grown and adjusted to represent new BARCT levels. The growth assumptions used for this rule development are the same as those used for the 2003 AQMP. This is consistent with the original program design for determining command-and-control equivalency.

   A socioeconomic assessment for this project has been conducted and includes information on job impacts from the proposed amendments to the program, as well as alternatives presented in the environmental assessment, and a comparison to a command-and-control approach.

9. Comment: The proposal to shave existing RTC holdings is supported. SCAQMD should seek the greatest reductions possible beyond the 3 tons per day in the 2003 AQMP.

   Response: Staff proposal tries to achieve the maximum amount of NOx reductions when considering the technical and economic feasibility. The amount of reductions from the program RTC holdings is based on a technical and economic evaluation of each category of equipment in RECLAIM. Reductions are proposed to be applied program wide, which represents BARCT in aggregate, as required by state law. Since such an approach would essentially result in reductions that would lead RTC holdings to equal actual projected emissions, staff has adjusted the proposed reductions to allow a 10 percent margin to account for market uncertainties.

10. Comment: We support the 3 tons per day reduction commitment in the 2003 AQMP. Further reductions could be damaging to the market and could result in a shortage of RTCs.

    Response: There are legal requirements that RECLAIM reductions be adjusted to reflect BARCT. In addition, the program must be equivalent to what would have occurred under a command and control approach (i.e., equivalent or greater emission reductions at equivalent or less cost and job impacts). The 2003 AQMP preliminary

estimate of 3 tons per day reduction has been refined during this rule development project. The staff proposal reflects BARCT in aggregate for the program.

Staff has hired market experts and sought their advice on potential market impacts and suggestions for how to mitigate any negatives for the market. In part, as a result of their input, the staff proposal for a two-phase reduction is designed to be able to react to adverse price increases in the market. The second part of the total reductions will not occur if the market price, based on a 12-month rolling average, exceeds $15,000 per ton. The immediate SIP commitment will be the first phase reductions only, that is the 4.0 ton per day reduction required in 2007 and the remaining reductions submitted only after implementation of the reductions.

In addition to the reductions that reflect BARCT, there are many other potential sources of reductions for program participants. There are many equipment categories for which staff did not recommend a BARCT reduction. Within these categories, there are some equipment that is currently uncontrolled and would be cost-effective to control. In addition, equipment replacement after its useful life results in significantly lower reductions for that equipment. One of the basic premises of RECLAIM is that each facility will determine its least cost solution to meeting its allocation. Cross-cycle trading, production changes, improvements in efficiency and innovative reduction strategies can be employed. Such reductions were not included in the overall programmatic determination of BARCT, but are potentially available to provide additional RTCs for the market.

11. Comment: Begin programmatic reduction in 2007 instead of 2006 to allow time for installing controls.

    Response: Staff has reviewed this proposal to begin reductions in 2007. While some equipment retrofit will have a short or long planning horizon, there are many projects that can be initiated and completed by 2007. Therefore, in order to allow the appropriate amount of time to install BARCT, staff has modified its proposal to begin reductions in the 2007 compliance year.

12. Comment: Use of 1997 actual emissions as the basis for the AQMP allocation adjustment methodology will result in an under-prediction of power plant emissions, as 1997 was the last year of operating under a regulated electricity generation market.

    Response: The 2003 AQMP is the basis for this comparison. The 1997 base year actual emissions are used in the AQMP, and growth and control factors are applied. A recent CEC report, Electricity and Natural Gas Assessment Report, December 2003 (100-03-014F), showed power producer generation in 1997 to be typical and representative of more recent years.

    There have been significant changes in the emission levels at power producing facilities after implementation of Rule 2009 compliance plans. Equipment used for power generation is at BARCT and in many cases BACT. Even if the generation levels seen in the year 2001 were to reoccur, the power producers hold sufficient RTCs to cover their

allocations to the year 2010.

Credit Set Asides and Non-Tradable Credits

13. Comment: Set-aside and non-tradable credits for power plants are unnecessary.

    Response: Staff has removed these elements from the proposal.

14. Comment: The set-aside is not supported, as it will only increase the price of remaining credits. Demand on the set-aside is unknown. If the purpose of the set-aside is to address RTC price inflation, more real time price tracking tools would address this issue. Web-based tools are already available to facilities, such as brokerage sites, to monitor price fluctuations.

    Response: Staff has removed the set-aside from the proposal. There have been significant improvements made to the information available on trades for RECLAIM. There are also changes in progress to post un-audited emission reports each quarter to provide additional information to interested parties. Based on these changes, staff does not feel that a set-aside is needed.

15. Comment: Do not limit use of non-tradable credits for power producers once RTC holdings have been exhausted.

    Response: Non-tradable credits for power plants are no longer included in the staff proposal, due to comments received. Analysis of the holdings and projected energy demands indicate that power plants as a whole should have sufficient holdings to cover projected emissions, even if generation levels increase to the year 2001 levels.

16. Comment: "Increased Electricity Demand" needs to be defined to describe how this provision is applied in practice.

    Response: This term is no longer used in the proposed rule changes.

17. Comment: Once the non-tradable credits for power producers have been exhausted, allow access to non-tradable credits from other facilities under common ownership.

    Response: The concept on non-tradable credits for power plants is no longer included in the staff proposal. Analysis of the holdings and projected energy demands indicate that power plants as a whole should have sufficient holdings to cover projected emissions, even if generation levels increase to the year 2001 levels.

18. Comment: The set-aside is not supported. Removing credits from the reductions would hamper the market system and would help to disincentivize equipment retrofit by creating a ceiling price for RTCs and pumping additional RTCs into the market when the price, by natural forces, reaches that ceiling.

    Response: Staff is no longer proposing a set-aside.

19. Comment: The concept of non-tradable allocations for power producers is not supported. Such credits could lead to market manipulation and allow power producers to exceed their allocations.

    Response: Staff is no longer proposing non-tradable credits for power producers.

20. Comment: Non-tradable credits should be an additional stream of RTCs, not an extra reduction from other facilities.

    Response: Staff is no longer proposing non-tradable credits for power producers

21. Comment: The name should be changed to "restricted" RTCs. Allow use of restricted RTCs for power producers with approved redevelopment, replacement, modernization or efficiency improvement projects.

    Response: Staff is no longer proposing non-tradable credits for power producers

22. Comment: RTCs should be transferable between facilities under common ownership, as well as other power producers.

    Response: This comment was made relative to the non-tradable credits for power plants, which is no longer part of the staff proposal.

23. Comment: An appeal process should be created for the possibility of AQMD denying access to non-tradable or set-aside RTCs.

    Response: Staff is no longer proposing non-tradable credits for power producers.

24. Comment: The "first-come-first-served" approach for accessing set-aside credits should be changed to a more even distribution methodology.

    Response: Staff is no longer proposing non-tradable credits for power producers.

25. Comment: Breakdown emissions not offset by unused RTCs should be taken from the set-aside instead of reductions from all RECLAIM facilities.

    Response: Staff is no longer proposing non-tradable credits for power producers. Breakdown emissions have been addressed in a previous rule amendment. Rule 2015 was amended in June 2004 to include tracking of any unmitigated breakdown emissions and inclusion of this information in the annual RECLAIM audit. If there are such emissions, unused RTCs each year will be used to cover those. In the unlikely event that there are more breakdown emissions that were not offset by RTCs and the unused RTCs are insufficient to make up the emissions, then the facility or facilities that had the uncovered breakdown emissions will have deductions made in their RTC holdings for the next compliance year.

Exemptions from Further Reductions

26. Comment: A facility that is at BARCT pursuant to its Rule 2009.1 compliance plan and has insufficient 2003 NOx allocations to cover projected facility emissions based on new BARCT factors should not be subject to further reductions. Any future reductions should be based on a determination of new BARCT at the facility.

    Response: In response to comments received staff has develop criteria by which a facility's initial allocation would not be subject to RTC reductions. Specifically, a facility may apply for an exemption from reduction if it meets specific criteria. The reader is referred to subdivision (i) of Rule 2002 and Section II of staff report for a more detailed description of the exemption. The criteria includes that a facility has been in the program since the start of RECLAIM or existed prior to 1994, but subsequently entered RECLAIM pursuant to Rule 2001; the facility does not have any equipment identified as new BARCT and the current emission factors for each equipment at the facility are less than or equal to Table 1 of Rule 2002; RTCs have not been sold for 2007 or later compliance years; and the facility demonstrates that the cumulative NOx compliance costs incurred for the RECLAIM reduction requirements exceed the costs that otherwise would have occurred under a command-and-control regulatory approach; or alternatively, in lieu of the aforementioned criteria, the proposed reductions would not apply to any facility that used the same emission factors in calculating initial allocations for the 1994 and 2000 compliance years at the start of RECLAIM, have not sold RTCs for 2007 or later compliance years, and that the current emission factors for each equipment at the facility are less than or equal to that of new BARCT or Table 1, which ever is lower.

    A facility seeking exemption would need to file an application and if approved, the exemption would only apply the reduction of initial RTC allocations, beginning the next compliance year following the exemption application, and not apply to reductions resulting from future periodic BARCT review. If denied, a facility has the right to appeal the denial of the exemption to the Hearing Board. Any forgone reductions by facilities meeting the exemption criteria would be distributed evenly among the remainder of the RTC holders and implemented two years from the compliance year of the applicable exemption.

BARCT

27. Comment: The BARCT cost-effectiveness threshold needs to be stated.

    Response: The AQMD Board determines BARCT on a case-by-case basis. AQMD historically has not predetermined a BARCT threshold for rule development. For the 1999 amendment for the 1997 AQMP, $13,500 per ton for proposed VOC rules was established as a level that would require an additional step in the public process. That is, an additional board hearing is held if the cost-effectiveness of a proposed VOC rule is over $13,500 per ton, not as a threshold to automatically reject a rule. This approach is unique to VOC rules, and does not apply to other pollutants.

    Staff analyzed the cost-effectiveness for adopted or amended rules and 1991 AQMP control measures that were subsumed in RECLAIM. When the cost-effectiveness is

adjusted to reflect 2003 dollars, the range for adopted or amended rules includes a range of $2,900 to $34,000 per ton, with several rules over $15,000 per ton. A similar analysis of 1991 AQMP control measures results in a range of $1,600 to $22,600 per ton.

28. Comment: Cost-effectiveness, including incremental cost-effectiveness, should be considered when evaluating BARCT.

    Response: Staff analyzed the cost-effectiveness and incremental cost-effectiveness for the new BARCT determinations (the reader is referred to Sections III and IV of the staff report). There are some categories where low-NOx burners are recommended, rather than SCR, due to the incremental cost analysis. In addition, several categories of equipment do not have a new BARCT recommendation. Some of these are because technology has not developed or the emission reductions available are not cost-effective.

29. Comment: More detailed background data is needed to assess AQMD BARCT determinations.

    Response: Staff has released information on categories of equipment for which new BARCT is recommended, and has provided additional information upon request. Staff has also evaluated data submitted by the various industry groups. We have responded to comments made by making adjustments to some equipment category BARCT recommendations, such as that for Rule 1109 refinery boilers and heaters. In addition, staff has accounted for equipment previously controlled relative to determining the overall programmatic reductions. For more information, the reader is referred to Appendix A for the BARCT determinations.

30. Comment: The proposed BARCT emission factor, for refinery boilers and process heaters is not appropriate. At one refinery, a recent retrofit of a process heater >110 mmbtu/hr with an ultra low NOx burner did not get the results cited.

    Response: The BARCT determination for boilers and heaters over 110 mmbtu/hr is based on SCR technology. This recommendation is based in technical and economic feasibility. Low-NOx burners would be expected to result in less emission reductions.

    The BARCT for this category represents an average, or typical case. Staff understands that there would be a range of cost-effectiveness for each piece of equipment, depending on the emissions, size, configuration, and other factors. The proposed changes to RECLAIM would not require these specific actions. Each facility has the flexibility under the program to meet their allocations by adding controls, trading, efficiency improvements, and many other options.

31. Comment: SCR as BARCT is incorrect, it is BACT/LAER. SCR is not easily transferable to all FCCUs, as they are unique. DeNOx catalyst technology for BARCT should be considered for this category of equipment.

    Response: While SCR is BACT it is BARCT. Two refineries in the Basin have installed SCR on their existing FCCUs. Of those facilities that have employed De-NOx,

most do not see it as a viable alternative and are planning on deactivating the technology.

32. Comment: Use the same BARCT methodology for power producers as is being used for non-power producers (not the Rule 2009 approach).

    Response: The methodology for determining the contribution of power plant reductions to the overall BARCT is the same as for other facilities in the program.

Cost and Cost-Effectiveness

33. Comment: Determination of programmatic reductions must consider costs at the facility level.

    Response: Staff analyzed costs as part of the BARCT determination.

34. Comment: Comparing control technologies relied upon by other air districts requires the use of cost-effectiveness information. The AQMD uses a different methodology for cost-effectiveness.

    Response: Emission rates achievable for new BARCT were based on other rules or on actual installations at RECLAIM facilities. Using the standard DCF method, staff calculated cost-effectiveness based on the emission reductions for the in-basin equipment and cost data provided by equipment vendors or permitting information.

35. Comment: The programmatic reductions called for in PAR 2002 should be subject to an incremental cost-effectiveness analysis.

    Response: Because incremental cost effectiveness is determined by comparing control options, not rates of reduction, each BARCT recommendation that underlie the rate of reduction considered the cost and cost-effectiveness of the technology proposed. For some equipment categories, staff did not recommend controls when technology was available, but the cost-effectiveness was very high. For some equipment categories, the BARCT level was determined by considering cost-effectiveness. For example, for boilers and heaters over 40 mmbtu/hr, low NOx burners were the technology relied on for the emission reductions because SCR for this size range was not cost-effective. Incremental cost information has been prepared for each new BARCT category and is available in Section IV of the staff report.

36. Comment: There are other ways to achieve emission reductions including less effective but less expensive controls on the same type of equipment, controls on other equipment that do not have a designated new BARCT, equipment replacement, credit trading, and innovative reduction strategies are options for RECLAIM facilities.

    Response: Staff agrees with this statement. Each facility will have these options to use to determine how best to manage their emissions and RTC holdings.

Protocols

37. Comment: Several comments supported the proposed change to the RATA testing.

Response: Thank you for the comments.

Comment: Proposed changes to Rules 2011 and 2012 are supported. Additional amendments to Rules 2001 and 2012 should allow for temporary non-operational status for major sources which cannot be operated due to a mechanical failure; and allow CEMS to be used on temporary major sources, instead of factored data.

Response: Appendix A of Rule 2012 allows alternative methods to monitor and determine emissions from major sources without a CEMS. These methods include the uses of standby CEMS, reference test methods, process curves, and other alternate means approved by the Executive Officer. In addition, even though the rule allows up to a year to have a CEMS certified, CEMS data can be used earlier to determine emissions once it is certified to be accurate and operational. Major sources can emit substantial amount of pollutants once they start-up. There needs to be accurate monitoring of these emissions whenever it occurs. The requirements of the rule are to have the monitoring system always operational and ready to measure any emissions once the mechanical failure is resolved and the major source comes back on-line.

Response to Comments – Section B

Summary of Comment Letters Received
Comment Period From April 24 Through October 21, 2004

The following comments were received after the close of the initial comment period ending April 23, 2004, but prior to October 22, 2004. It includes comments received at the August 12, 2004 Public Consultation meeting. It should be noted that counter proposals were received by both representatives of industry and the environmental community. These proposals are summarized and responded to herein, as well as compared to the various elements of staff's proposal in Appendix C.

In addition, over the last several months, staff has been holding technical meetings with stakeholders (i.e., refineries, power plant, oil and gas production, etc.) discuss technical issues. Many representatives have shared technical and cost data with the staff, either generic in nature, confidential facility-specific or trade-secret information. Such information is not included in the comments below. However, all of the data received has been reviewed, evaluated, clarified if needed, and given due consideration relative to staff's proposal.

General Comments and Comments on Specific Rules

1. Comment: The current proposal, as of July 9, 2004, for amendments to the NOx RECLAIM program differs substantially from the one presented in the noticed April 7, 2004 Public Workshop, which did not include a completed BARCT analysis, and could result in severe impacts to many South Coast oil and gas producers in terms of costly proposed controls. Potentially affected industry members were not aware of the April 7th workshop or subsequent meetings. A second workshop is requested to allow additional comments.

   Response: A Public Consultation meeting was held August 12, 2004 to explain the current proposal and solicit comments on the proposal. Since then, staff developed a White Paper regarding key issues relative to the proposed RECLAIM amendments (i.e., BARCT determinations, cost-effectiveness, and method, amount, and timing of emissions reductions) and an Informational Hearing was held on October 1, 2004 by the AQMD Governing Board to hear comments on the staff's efforts up until that time. In addition, another public workshop was held on October 28, 2004 to present staff's revised proposal and other elements being considered.

2. Comment: The September 3, 2004 Public Hearing for the proposed RECLAIM amendments should be delayed. It was not until the June 23, 2004 meeting of the RECLAIM Working Group that the refined staff proposal regarding RTC holding reductions was presented. The two-week comment period that followed is not enough time to fully analyze the impacts of the proposal. Given the complexity of the amendments, additional time is necessary to understand the proposal, including review of the AQMD socioeconomic analysis.

   Response: The public hearing is scheduled for January 7, 2005. In addition, the public process included an August 12, 2004 Public Consultation meeting, October 1,

2004 Informational Hearing, and October 28th Public Workshop, in addition to a 45-day review and comment period on the environmental assessment.

3. Comment: Power plants should be allowed full trading privileges as of January 1, 2005. Therefore, it is imperative that the RECLAIM amendments be heard no later than December 2004.

   Response: The staff's original proposal has been modified as a result of comments received. Under the staff proposal, power plants will be given full trading privileges by compliance year 2007, when reductions are made in the market. This will prevent a large influx of credits into the market and assure reductions occur. The reader is referred to Comment #4 of Response to Comments Section A, Sections I and II of the staff report, and Proposed Amended Rule 2007 for additional information.

4. Comment: An adjustment to the RECLAIM endpoint appears necessary. The new deadlines for the federal 8-hour standards for ozone and PM2.5 are years 2021 and 2015, respectively. The adjusted RECLAIM program still uses a 2010 endpoint. The staff's proposal should take this into account relative to the amount and timing of the RTC reductions. There has been no analysis of the appropriate slope of reductions in light of these new requirements.

   Response: This proposal is to implement BARCT as expeditiously as feasible. Controls are currently available and can be implemented by 2010. The suggested analysis would be made in conjunction with future AQMP revisions. An AQMP analysis would take into account the amount and timing of NO_x reductions from all sources, i.e., stationary, mobile, and area. The current amendments are designed in the context of the 2003 AQMP for the 1-hour ozone standard that has an attainment date of 2010.

5. Comment: The proposed RECLAIM changes entail significant changes in that it alters the fundamental principals in the design of the program by redefining BARCT equivalency every three years virtually unconstrained by cost-effectiveness criteria. It also uses "base year" and forecasted growth rates that appear to underestimate regional production and industrial competitiveness needs. The amendments appear to be designed to reduce all but 10 percent of the program's total emissions.

   Response: The amendments do not change the fundamental principles of RECLAIM. State law requires the AQMD to assess, not redefine as the commenter has suggested, new BARCT equivalency for RECLAIM sources in conjunction with the AQMP. By definition, cost-effectiveness must be taken into account when assessing BARCT. The program must also be equivalent to what would have occurred under command-and-control, if RECLAIM did not exist. Both analyses are done by making a comparison with the AQMP. The AQMP contains the most recently available growth forecast information. The statement that the amendments are designed to eliminate all but 10 percent of the program's total emissions is incorrect. The amendments would only seek to reduce 22.5 percent (7.7 tons per day) of the RTCs available in the market (34.2 tons per day).

6. Comment: The objectives of the proposed amendments appear to force facilities to install new control equipment on a source-by-source or industry-by-industry basis, even if emission reductions can be more economically achieved elsewhere. This reduces flexibility afforded by a market to decide the most economical reductions. If this is the case, the fundamental benefit of the program has been eliminated.

   Response: The purpose of the amendments is not to force the installation of new control equipment. If a more economical reductions can be achieved, they may still be implemented. Staff is proposing programmatic BARCT equivalency and RTC holding reductions, not a source-by-source or industry-by-industry reduction of NO_x emissions. RECLAIM facilities continue to retain such flexibilities as reducing emissions from sources that are not identified for BARCT or purchasing RTCs, as long as their overall allocations have been met. It is expected that through a market program, economic efficiency can be achieved.

7. Comment: The current proposal does not adequately factor the need for credits as a result of NSR. An example is the potential need for increased electric power generation over the next ten years. The proposal fails to recognize the significance of the industry's expected growth.

   Response: Growth by industry has been adequately addressed in the proposal. The proposal accounts for a 2.5 percent increase per year for in-Basin generation per year for power producers, based on the 2003 AQMP growth projections. CEC projects year-to-year overall generation growth, which translates into emissions, to range from 1.5 to 2.0 percent. This growth includes adjustments for future new generation and unit shutdowns. The AQMD does recognize that the growth for peak demand is about 6 percent for the past summer, which relates to necessary capacity to avoid rolling blackouts. But total annual state-wide generation is projected increased about 2% according to the CEC's December 2004 Electricity and Natural Gas Assessment Report.

8. Comment: The proposal does not address the unique situation associated with the power industry. For example, increased in-Basin generation may be necessary in the event a problem occurs with one of the transmission lines bringing in power. Such a disruption could trigger an order by Cal-ISO for a significant and unexpected ramp-up of electricity production. Such an event could be disruptive to the RECLAIM market and put a strong and unanticipated upward pressure on the price of RTCs.

   Response: The reader is referred to the response to Comment #4 of Response to Comments Section A relative to staff's proposal for lifting of current RTC trading restrictions. The proposal also includes such safeguards as a two-phase reduction designed to react to adverse price increases in the market. The second phase of the total reductions will not occur if the market price, based on a 12-month rolling average, exceeds $15,000 per ton. There still remains the Rule 2015 program evaluation in the event RTC prices exceed $15,000 per ton. In the case of sudden a disruption of power in which a state or federal emergency has been declared, both the Governor and AQMD Executive Officer (see Rule 118) are empowered to suspend certain regulations.

9. Comment: Renewable energy should be considered as a viable control option. It would be beneficial to consider if power plants that use renewable energy, such as wind, solar, biomass and geothermal, could be given some type of credit under the program.

   Response: The use of renewable energy sources is a built-in incentive of the program since use of such technologies do not have any associated emissions and therefore do not require RTC offsets. Relative to developing a credit generation rule for renewable energy, this would be difficult due to the inability to separate the units contribution to the electricity grid and discern between in-Basin vs. out-of-Basin generation. Staff will, in the future, consider how to provide additional incentives for renewables.

10. Comment: The primary driver behind the proposed reductions to existing RECLAIM allocations is to assure that the program is meeting requirements under H&SC §39616. §39616 applicable to market incentive programs, which include requirements to achieve equivalent or greater emission reductions at less costs and equivalent or fewer job losses as compared to if command-and-control regulations were applied and future air quality measures that otherwise would have been adopted as part of the AQMD's plan for attainment. The staff should only focus on these provisions of the health and safety code to determine program equivalency.

    Response: This section of the California Health and Safety Code is not a stand alone provision. Staff must consider other applicable sections that pertain to the equivalency demonstration, such as §40440 regarding BARCT. The amendments are driven by the 2003 AQMP control measure. However, any changes to the rules under the program must be evaluated relative to the pertinent sections of §39616. BARCT, which is an element of the command-and-control comparison, must also be periodically examined for non-RECLAIM sources, as well as RECLAIM sources.

11. Comment: For the purposes of demonstrating BARCT equivalency, which is more consistent with a market-based program such as RECLAIM and carries significantly reduced risk, is the AQMD should determine the cost, in dollars per ton of emissions reduced, that RECLAIM sources would be expected to pay at a maximum. Based on this determination, the overall emission reductions required to be equivalent to what would have been achieved if all measures that meet the established cost-effectiveness threshold (that is the $15,000 threshold set in Rule 2015 and pursuant to §39616(f)) were implemented.

    Response: The commenter is suggesting the establishment of a cost-effectiveness threshold for determining the quantity of feasible emission reductions. Staff is not making such a recommendation and believes that cost should be evaluated on a category basis, taking into consideration the unique parameters surrounding those types of operations, such as equipment life.

12. Comment: In establishing BARCT levels, it is within the discretion of the AQMD to reject otherwise feasible control measures if the AQMD finds that they are not cost-effective. The simplest mechanism for implementing this approach in a market-based program is to make gradual reductions in allocations over time until the price of credits reaches the established threshold, which indicates that there are no control options

available at lower cost. By making incremental reductions, and then assessing how the market responds, as reflected in the price of credits, and making additional adjustments as necessary to ensure it has achieved the desired BARCT equivalency, the district dramatically reduces the level of risk associated with an approach that only achieves the desired end results (economic as well as environmental). The RTC price threshold was required under state law to ensure that the program meets statutory requirements to those that would be achieved under a command-and-control approach, but that it do so at a lower level of economic and job impacts (§39616(d)(1)). The primary test for determining whether the AQMD has achieved this balance between emission reductions and economic impact is whether the price for trading credits stays below a predetermined market price level. To require BARCT reductions that would cost in excess of the established cost-effectiveness threshold would run afoul of the mandate set forth in §39616.

Response: The staff's proposal reflects a proactive approach, as opposed to a reactive one. Staff has modified its price trigger proposal with the last three years reduction occurring only if the price of RTCs, based on a 12-month average, remains below $15,000 per ton. This was made to address concerns about too much impact on the market. With the exception of the years during the California energy crisis, prices have remained low and as much as 20% of the RTCs go unused and only a small reduction from today's actual emissions would be required to meet the 2007 reductions. The reader is referred to the programmatic reduction summary of Comment #7 of Response to Comments Section A.

13. Comment: As to whether this incremental adjustment approach would satisfy the timing requirements for acting expeditiously, that is a judgment call and the statute does not define expeditious. However, the statute is clear that the primary consideration is that the emission reductions must remain at a level that does not impose as much cost or job impacts would have occurred under command-and-control. Furthermore, since the timing of future reductions under a command-and-control regime are unknown (and may in fact be prolonged due to often lengthy rulemaking for individual source categories), there is no benchmark for making a determination that an incremental approach would achieve the desired reductions in a timeframe that is significantly less expeditious.

    Response: The reader is referred to prior Comment # 12. The staff proposal recognizes that "expeditious" is affected by a number of factors. The first phase reduction of 4 tons per day is designed to acknowledge that there are emission reductions that can be achieved in a relatively short period of time from proven cost-effective control technologies, in this case, low-NOx burners. The proposal of relative to the second phase reductions of 3.7 tons per day is intentionally spread over a three-year timeframe, as it is designed to acknowledge that there are several factors influencing the market. These include, among other things, the necessary time to install SCR on larger emitting sources and the potential increases in credit prices that can result from implementing the next increment of reductions.

Allocation Reductions

14. Comment: "Across the board" reduction of NOx RTC holdings is opposed. Such reductions are not fair to facilities that have installed control equipment and accomplished their commensurate command-and-control reductions under the program. To be fair, since additional reductions will be made to ensure equivalency of RECLAIM to BARCT, equity demands that additional reductions bear a substantial relationship to each sector's control relative to BARCT. The AQMD should conduct a more sensitive and sector-specific analysis, and impose reduction requirements more heavily on those sectors that have made fewer actual reductions. Therefore, permitted and actual reductions should be applied to those sources that have not yet installed or achieved BARCT since these facilities have not incurred the cost and difficulties associated with these improvements. Otherwise, BARCT facilities would have to either purchase RTCs, reduce production, or close business. This is particularly the case when competing businesses are outside the Basin and not subject to the same regulatory requirements. It appears that some large sectors of the RECLAIM program would like to avoid installing further controls to achieve BARCT. An across-the-board reduction would help these non-BARCT facilities achieve that end and penalize facilities that have already achieved real reductions.

    Response: The staff proposal is taking the "across the board" reduction of NOx RTC holdings approach by looking at the total reductions possible based on BARCT determinations and reducing allocations for all RTC holders by the same percentage would accomplish this approach. This approach, from a market design stand point and based on the overall conceptual design of the RECLAIM program to achieve programmatic BARCT, is the most equitable as it addresses the inherent problem of third party holder of RTCs, which the commenter's suggestion does not address, and the many choices facilities made due to the flexibilities under the program (e.g., selling of initial allocations). However, based on comments received, staff has included a process by which a facility may apply for an exemption from having the facility's initial allocation reduced. The reader is referred to Comment # 26 of Response to Comments Section A.

15. Comment: Staff has outlined two methodologies for obtaining additional NOx emission reductions under the program: the peak-year/new-BARCT methodology; and AQMP methodology. In order to retain program integrity and reduce the possibility for unintended impacts, the RTC holding reduction methodology should be based on the peak-year/new-BARCT methodology. The AQMP methodology depends on control factors that can be inaccurate and emissions based on an average year would be inappropriate. The peak-year method provides high production year compliance flexibility. This methodology should be adhered to until 2018, the last discrete year RTCs can be traded.

    Response: After careful evaluation, staff is proposing to rely on the AQMP method to derive the amount of RTC reductions needed for several reasons. The 2003 AQMP baseline inventory and growth projection provide the most recent benchmark for command and control equivalency determination. The 1997 baseline inventory reported by the facilities provides a more recent equipment profile in the RECLAIM universe and captures the NSR activities since 1994, which is similar to the original RECLAIM

program that used 1991 AQMP which used 1987 as the base year. If a more recent base year were to be used, a new set of growth factors would need to be developed to maintain data integrity. Similarly, control factors need to be revised to reflect controls already installed. This approach would create a different emission currency from the one used in the 2003 AQMP. The growth projections developed for the 2003 AQMP provide a more balanced view of the regional economy as compared to the allocation method that used the peak year activities selected by individual facilities that tend to overestimate the growth assumptions, since it is unlikely that all facilities would operate at their high throughput year at any given time. As a result, the peak year/new BARCT approach cannot be a stand alone method to demonstrate equivalency to command and control. It would inevitably be subject to further adjustment to match its ending allocation with the command and control emissions, as it did for the original 2000 and 2003 allocations. CARB requires that the RECLAIM program be evaluated periodically as part of AQMP revisions. The AQMP method would allow consistency in its approach for future program evaluation and be more amenable to future revisions to emissions inventory and growth forecast.

16. Comment: Details of the "AQMP" methodology for reductions should be provided to allow facilities to comment on this method of proposed allocation reductions.

    Response: A detailed description in table format of the AQMP methodology is contained in Table 5A of the staff report and shows, for the categories with new BARCT, the 1997 baseline, grown emissions to 2010, and reduced using control factors based on BARCT.

17. Comment: The RTC holding reduction methodology should be based on the peak-year/new-BARCT methodology. However, if the AQMP method is used, consideration should be given to all facilities to carryover unused RTCs from one compliance year to the next.

    Response: The carryover of surplus RTCs to future years is contrary to the basic design of RECLAIM. Banking was discussed extensively when the program was originally developed. It was not included in the program design because of the need to meet certain lower emission levels for key milestone years in order to be equivalent to command-and-control and the AQMP commitment.

18. Comment: The two-tier RTC reduction approach is supported, however access to restricted RTCs in the event prices exceed $15,000 per ton should be based on a one-month period, not a 12-month rolling average.

    Response: A one-month period for RTC price evaluation is too short an amount of time for this type of demonstration as it would not correctly reflect overall market activity. In addition, it would be very easy for a holder of RTCs to artificially raise the price and not truly reflect the current condition of the market. Also most trades occur during the reconciliation period. A 12-month rolling average should take into consideration this trading period.

19. Comment: Restricted 2009 and 2010 compliance year RTCs should be transferable to facilities under common ownership in the event the average RTC prices threshold of $15,000 is exceeded.

    Response: Staff has modified its price trigger proposal with the last three years reduction occurring only if the price of RTCs, based on a 12-month average, remain below $15,000 per ton. If the price exceeds this level, then the reductions would be restored to the facility and become tradable.

20. Comment: The non-tradable RTCs that are to be placed in reserve may be insufficient for emergency needs since there are no provisions to allow use of these credits in the event the average RTC prices threshold of $15,000 is exceeded after 2010.

    Response: This is no longer part of the proposal. Staff is proposing that if the price of RTCs, based on a 12-month rolling average, exceeds $15,000 per ton in 2010, 1.2 tons per day of reductions for that year would then be returned to facilities.

21. Comment: In order to allow adequate time for planning, design, permitting, construction, and implementation of control equipment, Phase I reductions should not be started until 2007, with Phase II reductions beginning in 2010 and ending in 2013.

    Response: Staff proposes beginning reductions in 2007. While some equipment retrofit will have a long planning horizon, projects involving low-NOx burners can be initiated and completed by 2007. Continued reductions by 2010 can easily be achieved by continued use of low-NOx burners, installation of SCR control equipment, combustion modification or other equipment changes, as well as purchase of RTCs.

22. Comment: The current proposal calls for a second phase of reductions in 2009 and 2010, if certain criteria are met. Projects for NOx reduction cannot be reasonably planned based on a contingency only to be implemented if AQMD decides it is necessary. Any second phase reductions should be known up front without contingency.

    Response: The contingency is not based on if certain criteria are met. Rather, it will be implemented unless something happens to prevent it, which in this case is if the 12-month rolling average RTC price exceeds $15,000 per ton. Staff appreciates the need for certainty for planning purposes. Staff's current proposal calls for a first phase reduction of 4 ton per day in 2007, followed by a second phase reduction of 1.2 ton per day in each of the 2008 through 2010 compliance years. This proposal is to provide a temporary relief only. Therefore, facilities should plan for the second phase reductions.

23. Comment: BARCT reductions in facility allocations should be implemented across-the-board. Reductions in facility RTC holdings should be based on reductions greater than or equivalent to BARCT.

    Response: Staff agrees, total programmatic reductions are not proposed to exceed a level of emission reductions achievable by implementing technologically and economically feasible BARCT controls. With the exception of second phase reductions, which may not occur if the 12-month rolling average RTC price exceeds $15,000 per ton,

the reductions in RTC holdings are designed to achieve equivalent reductions, in aggregate, as what would have been achieved if implemented under a traditional command-and-control regulatory approach.

24. Comment: The phase-in period for reductions should allow facilities time to allocate funding and implement projects to reduce emissions. An inadequate phase-in period will force facilities to purchase RTCs to meet reduction targets.

    Response: The reduction schedule takes into account the amount of time to fund and implement projects. The first phase of reductions in 2007 will be met by unused RTCs and installation of low-NOx burners, which do not require much lead time. The second phase reductions are spread out over 3 years and take into account the longer range planning to install SCR control equipment on the larger equipment. Based on the cost-effectiveness ranking discussed in Appendix B, staff assumes that the earliest SCRs would be employed to reduce emissions would be 2007.

25. Comment: The cost-effectiveness for NOx reductions from refinery heaters and boilers > 100 mmbtu/hr appears to be overstated. AQMD cost is $31,500/ton using a 10 year life and capital investment of $3.1M to $4.3M. A detailed cost estimate for units ranging from 150 to 550 mmbtu/hr using the same cost methodology ranges from$77,700 to $105,550/ton. In addition, capital investment requirements for FCCU SCR installations appear to be likewise underestimated.

    Response: Cost effectiveness for refinery heaters and boilers > 110 mmbtu/hr is based on several sources, including information from manufacturers and suppliers of SCR equipment, and cost data from previous installations at refineries. Costs for SCR installations may vary due to site-specific considerations. The cost analysis provides an average cost. Regarding equipment life, please see the following comment.

26. Comment: AQMD has suggested in BARCT calculations, project life spans of 15 and 25 years. Although such spans of this length are used for investment analysis purposes, using 15 and 25 year for BARCT is inappropriate. H&SC §40920.6 requires air districts, prior to making BARCT determinations, to calculate incremental cost-effectiveness of various potential control options for comparative purposes and ranking. Using variable equipment life would distort the process of comparison. Therefore, project life spans should be limited to 10 years for refinery boilers, heaters, and FCC SCR installations.

    Response: Staff believes that it is appropriate to use a longer equipment life if applicable. Staff proposes using a 25-year life for SCR equipment for refinery boilers/heaters and FCCUs. Using an appropriate life will not adversely affect a comparative analysis. It will instead highlight whether or not such controls are suited from a cost standpoint, giving consideration to the useful life of the equipment.

27. Comment: Due to the rigorous financial planning, review, design, engineering and construction of air pollution control projects, installation of SCRs requires 3 to 5 years to complete. Additional time may be needed to coordinate timing with refinery turnarounds. It is therefore recommended that AQMD allow at least 3 years prior to requiring any RECLAIM reductions to allow adequate time to implement NOx

reductions projects.

Response: The public hearing for the proposed RECLAIM is scheduled for early 2005 with phase-one reductions occurring in compliance years 2007 and second phase reductions occurring from the 2008 to 2010 compliance year. Compliance year 2007 reductions are expected to be met using excess unused RTCs and installation of low-NOx burners. Based on the cost-effectiveness ranking discussed in Appendix B, the earliest SCR control equipment would need to be employed to reduce emissions would be 2008, giving facilities that would install SCR equipment three years at a minimum (i.e., 2005-2007, inclusive) for planning and installation purposes. Since not all reductions have to be met until 2010, facilities have an additional two years to install SCRs if choosing to do so.

28. Comment: At its June 23, 2004 RECLAIM Working Group meeting and prior meetings, RTC reductions have ranged from7.4 to 9.8 tons/day. There is a concern since this methodology goes beyond the suggested BARCT reduction amounts and details of this methodology have not been provided.

    Response: The reductions proposed by staff are based on BARCT. A description of the NOx reduction methodology was presented in the September 2004 White Paper and the subsequent revised preliminary draft staff report. As discussed in these staff reports, the BARCT determinations were used to develop control factors that in turn were used to calculate the emissions inventory for RECLAIM sources after accounting for growth. Ten percent of projected emissions after implementing new BARCT were then given back to the market due to market uncertainties. The overall reduction figure has evolved over time and is a direct response to comments and data received from industry, as well as staff's own QA/QC to ensure the accuracy of its data. The proposal does not exceed BARCT reductions for the program as a whole.

29. Comment: For those facilities which, on a facility average, have met or exceeded BARCT, either no further reductions should be required, or only a limited further reduction should be required, not to exceed one-quarter of the reduction requirement for facilities which have not met or exceeded BARCT or five percent (5%) overall, whichever is less.

    Response: The reader is referred to Comment # 26 of the Response to Comments Section A regarding staff's proposed criteria for exemption for facilities at BARCT. In addition, under staff's proposal for exemption from further reductions, all equipment was subject to a BARCT assessment. Only the technologically and economically feasible controls were identified as BARCT. Staff is recommending that BARCT be examined for each equipment category, not on a facility basis. One of the exemption criteria is to show that facilities have exhausted all on-site control options by meeting Tier I emission levels for each piece of equipment. Relying on facility-wide averaging to demonstrate BARCT means that further reductions are still available at the facility.

30. Comment: The AQMD should publish a list of which facilities have on average met or exceeded BARCT at least four months before the RTC reductions are implemented. Facilities that are determined to not have met or exceeded BARCT should be given a

right to present further information for District consideration, and request a determination that they have met or exceeded BARCT, on average. The further information and request should be due not sooner than thirty (30) days following publication by the District of the facility determinations, and the District should issue a ruling on whether it grants or denies the facility's request within sixty (60) days of receipt of the request and further information.

Response: The staff proposal contains a process how facilities qualifying can apply for exemption from the reductions. Please see Comment #26 of the Response to Comments Section A, as well as response to Comment # 30 above, for a more detailed discussion. The process also includes an appeal process should the applicants disagree with staff decisions. If a petition and review process were developed, as the commenter has suggested, the total reductions under the program would be uncertain for several months.

Exemptions from Further Reductions

31. Comment: Municipal power producing utilities should be exempt from the proposed RTC holding reductions. This is particularly the case if the facility operates all NOx emitting equipment, excluding Rule 219 exempt equipment, at BACT or BARCT, no RTCs have ever been sold by the facility in the private market, and, as a municipality, electric power generation demand is driven by factors outside its controls (i.e., peaking and load following requirements, including subject to increased generation requirements by Cal-ISO).

    Response: Municipal power producers were initially excluded from the RECLAIM program partially due to the reason stated by the commenter. However, if a municipal power producer opted into the program, it should be subject to the same requirements as other facilities. Staff appreciates the situation that municipal power producing utilities face under the abovementioned circumstances. At this time, municipal power producing utilities can purchase RTCs from other power producers to meet their allocations. Staff proposes that upon adoption, power producers would be allowed to purchase RTCs for any compliance year as well as sell compliance year 2007 or later RTCs as of adoption of the amendments. However, with the exception of being able to sell RTCs for compliance years 2005 and 2006 to new power generating facilities brought on-line on and after January 1, 2004, current restrictions on the sell of RTCs would remain in effect until the 2007 compliance year.

32. Comment: Reductions are not fair to facilities that that have installed control equipment and accomplished their commensurate command-and-control reductions under the program. For example, oil and gas facilities that have electrified IC engines should be exempt from RTC holding reductions and the reductions spread to those facilities that have not reduced their own emissions. The estimated amount of reductions from these facilities is a minute fraction compared to the overall reductions. Facilities could file for a utilization and verification for the exempt “super compliant” status, thereby allowing the AQMD time to determine the final 2010 reduction.

    Response: Electrification of IC engines decreases NOx emissions and therefore

increases the availability of RTCs from the facilities. Staff is treating these RTCs like all others. Under staff's proposal, these facilities may be eligible for an exemption from the reductions applicable only to the facilities initial allocations. The reader is referred to Sections I and II of the staff report, and Proposed Amended Rule 2007 for additional information.

33. Comment: Facilities that have substantially reduced their emissions since 1994, such as the oil and gas facilities who have electrified their IC engines as a means to reduce emissions. These facilities should be allowed to recalculate their allocations, while still accounting for the 2000-2003 reductions, as an alternative to the RTC holding reductions as proposed. This would apply to a very small group of facilities. It would effectively give these facilities an exemption from the proposed "across-the-board" reduction with the total amount of their "exempted" reductions being a minute fraction of the total. The equivalency demonstration would still be performed based on the overall reductions since the "exempted" reductions would be shared by all remaining facilities across-the-board in the final year (2010).

    Response: The reader is referred to Comment # 26 of Response to Comments Section A regarding staff's proposed criteria for exemption for facilities at BARCT. Recalculation of allocations, if allowed, would lead to all facilities choosing peak year activity (as done for deriving initial facility allocations) and result in an over-allocation of RTCs, which occurred when RECLAIM was originally developed. There is a likelihood that in reestablishing the applicable command-and-control requirements, which includes updating the rule(s) to include BARCT, electrification could be considered BARCT, therefore the recalculation of allocations could reduce all excess RTCs at the facility.

34. Comment: Facilities that electrified, such as the oil and gas industries electrification of IC engines, should possibly be considered to go back to a command-and-control type of regulatory compliance in lieu of RTC holding reductions.

    Response: The staff's proposal contains some limited exemptions (the reader is referred to Comment # 26 of Response to Comments Section A). However to allow facilities to select whether to stay in RECLAIM or command-and-control would created an unstable market, potentially leading to the total demise of the program, and is therefore not recommended by staff. Under RECLAIM, facilities would have excess RTCs as a result of electrification.

35. Comment: Oil producers have dramatically reduced emissions through electrification and have retained RTCs for expansion or for socially beneficial projects, such a distributed generation, which have often been supported by CEC grants. Imposing reductions is a major disruption to the planning and execution of these socially beneficial projects.

    Response: For the reasons given in the staff report, staff recommends that all facilities share reductions required for the program, with the exception of a limited exemption.

36. Comment: Staff has raised a concern regarding exempting BARCT facilities from the RTC holding reductions, stating that exempting the facilities would not ensure that non-BARCT facilities didn't make temporary sales of RTCs to BARCT facilities to avoid reductions, with the intent of buying those RTCs back after the reductions occur. The following language is suggested to restrict this type of transaction:

    "RTC purchase (one-time or stream) by a BARCT facility in the 1-year period prior to a reduction date, can be used to reconcile that facility's emissions, but are non-tradable."

    This would prevent undesired short-term sale and repurchase by non-BARCT facilities since such purchases can only be used for reconciliation purposes. Administratively, purchases by BARCT facilities in the year preceding a reduction would receive more scrutiny, but the accounting is relatively easy.

    Response: The staff proposal contains a limited exemption for facilities at BARCT and the suggestions regarding RTC purchases are not included as they would be difficult to track and administer.

37. Comment: If BARCT facilities were exempt from the RTC holding reductions, what would the amount of the total reductions be that the remaining facilities would have to incur? What is the percentage increase in overall reductions by these facilities?

    Response: At this time, it is unknown which facilities are at BARCT. Therefore, it is unknown what amount of RTC reductions foregone at BARCT facilities would be distributed among the remainder of the facilities. The facilities potentially qualifying under the exemption are expected to be very few.

38. Comment: Facilities that have demonstrated BARCT compliance for the entire facility, such as through a Rule 2009.1 compliance plan, should either be allowed to opt-out of the program or be exempt from RTC reductions. Staff should consider this, as well as any other possible alternatives to an across-the-board reduction.

    Response: Staff is recommending criteria by which a facility's initial allocation may be exempt from reductions. The reader is referred to this proposal as detailed in Comment # 26 of Response to Comments Section A. However, it should be noted that a command-and-control regulatory approach for the entire program is one of the alternatives being considered for the Board's consideration as part of the environmental assessment.

BARCT

39. Comment: Due to the numerous iterations of proposed reductions presented to the RECLAIM Working Group, many questions exist regarding the BARCT level emissions adjustment. It is requested that staff clearly identify/itemize the factors that support how the adjustment was derived before taking the proposal to AQMD Board.

    Response: Staff has provided sufficient information and clarity in the staff report and on the AQMD web-site that identify and itemize data used for developing factors that

support the RTC holdings adjustment. The reader is referred to Section III of the staff report relative to the derivation of the RTC holding reductions.

40. Comment: BARCT is currently proposed for all refinery heaters and boilers greater than 110 mmbtu/hr. The AQMD's cost-effectiveness for refinery heaters and boilers ranges from $17,400 per ton for a 25-year life to $31,500 per ton for 10-year life. AQMD has deemed this category to be cost-effective in total. However there is spectrum of costs depending on the circumstances surrounding a particular unit. Staff's analysis of BARCT should acknowledge that many refinery boilers and heaters over 110 mmbtu/hr already have some level of control. An independent study found that the threshold for BARCT controls should be raised to 250 from 110 mmbtu/hr, which should be the basis for additional NOx reductions from this equipment category. This will reduce the overall cost-effectiveness below $15,000 based on a 10 year equipment life.

    Note to reader: the study in which the commenter derived the resulting cost-effectiveness was provided to staff as confidential information.

    Response: Staff has cost data for this category from several sources. While some installations may be more and some may be less, the cost effectiveness calculation represents the average cost to install an SCR unit. Staff has worked with the refineries to identify refinery heaters and boilers rated greater than 110 mmBtu/hr that had controls prior to 1997, such as low-NOx burners or SCR. The reductions from this category have been recalculated for the purpose of the proposed across-the-board allocation reductions. The reductions used for cost effectiveness were based on allocations for all units assuming at Tier I control level and control costs for all units, regardless of when they were/are installed.

41. Comment: The AQMD's assessment shows that there are only four FCC units that are uncontrolled. Due to the few number of units, a facility specific analysis should be conducted for this equipment category. An independent study conducted on the equipment shows SCR as BARCT not to be cost-effective, based on a 10-year equipment life.

    Response: Based on the data provided by the refineries and equipment vendors, staff is confident in the accuracy and representativeness of cost and a unit-by-unit study is not warranted. . It should be noted that due to the programmatic nature of this program, the FCCUs are only one of many sources a refinery may use for NO_x emission reductions. Also, the industry standard is to design the reactor for a 25 year equipment life with catalyst replaced between 3 to 5 years. Therefore, a 10-year life is not appropriate.

42. Comment: Potential NOx reductions from refinery boilers and heaters are overstated. This is because it did not correctly account for the total number of uncontrolled equipment and number of SCRs in service in 1997, the base year from which emission reductions were derived.

    Response: Staff has worked with the refinery and power industries to identify equipment with SCRs in service and their emission levels in 1997. The reductions called for in the current staff proposal reflect the operational status of refinery heaters and

boilers, as well as power plant units, in operation during the baseline year of 1997.

43. Comment: Potential NOx controls for FCCUs are unique due to design considerations and deserve case-by-case evaluation. Since there are currently only four units uncontrolled, it is imperative to specifically evaluate each one for its potential emission reduction, cost of controls, cost-effectiveness, and, where applicable, incremental cost-effectiveness. Although there are two local FCCUs with SCR, the staff's basic assumption of technology transfer is not applicable under these unique operational scenarios.

    Response: As cited in the response to comment #42, the cost data has solid foundation. Based on their experience, equipment vendors are confident that the technology is transferable to other FCCUs. An incremental cost-effectiveness can only be applied if there is an alternative control option. Based on refinery and vendor information, an alternative control does not exist for the 4 FCCUs, except for various levels of control efficiency by SCRs.

44. Comment: It does not appear that the AQMD accounted for the use of NOx reducing catalyst use to determine the potential emission reductions or the incremental cost effectiveness for refinery boilers/heaters. Additionally, the projected costs for control equipment (SCR in this case) are underestimated, and the estimated annual cost did not include likely downtime costs associated with this equipment (as reported in the AQMD's recent draft BACT determination). The true cost effectiveness value for this source category is significantly greater than the $11,400 per ton that is claimed, and that, as a result, the proposed New BARCT cannot be considered cost effective. The "Remaining Emissions" from this source category should be the same 2.0 tons per day that is shown for "Tier I Remaining".

    Response: De-NOx was not considered a viable control technology for FCCUs because it increases other emissions (e.g., CO and PM) while reducing NOx and the refineries in the Basin that have used or are using it have or will be removing it for this reason. The AQMD respectfully disagrees with the conclusion that FCCU SCR control is not cost effective based on the data obtained by staff from equipment manufacturers and refineries themselves.

45. Comment: The baseline level of emissions for the Rule 1109 boiler and heater source category appear to have been over-estimated. Considering only the assumption regarding the number of units served by an SCR unit as of 1997, it is believed that the remaining incremental reduction, beyond Tier 1, is 1.1 tons per day, at best. Recalculating the various values to account for the other assumptions may well reduce the potential emission reductions further. Lastly, it should be noted that, at an estimated $17,430 per ton (Pg. B-9), this would be the costliest source category to control further. However, using estimates of the actual potential emissions reductions and the true cost of controls, the cost effectiveness value for this source category would be more than double the estimate of $17,430 per ton. At a higher value for cost effectiveness, this source category is not cost effective, and therefore the "Remaining Emissions" would be the same 3.4 tons/day that is shown for the "Tier I Remaining Emissions".

Response: AQMD agrees to consider additional information and has recalculated the incremental reductions from this source category. The final calculations are based on device level emissions reported by the refineries. The RECLAIM White Paper and Revised Preliminary Draft Staff Report did not give credit to units that were controlled in 1997, the based year used for the 2003 AQMP inventory. Staff has received information from refinery representatives and independently verified/supplemented with CEMS data submitted by refineries in 1999 for 1997. The revised procedure accounts for emission controls that were already in place in 1997. However, the net result did not change appreciably from the previous calculations.

46. Comment: As stated in the RECLAIM White Paper and Revised Preliminary Draft Staff Report, the baseline emissions were 25.6 tons/day, and Rule 1135 would have reduced those emissions by 76 percent (which equates to final controlled emissions of 6.1 tons per day – approximately 20.6 ppm). The BARCT analysis states that an emissions level of 9 ppm is cost effective. The New BARCT Remaining mass emissions should then be calculated by reducing the emissions from 20 to 9 ppm. Applying this reduction to the remaining 6.2 tons/day, the "New BARCT Remaining" emissions would be 2.7 tons/day. This underestimation of remaining emissions is primarily due to the underestimation of the percentage of equipment meeting new BARCT when determining the new BARCT Control Factor.

    Response: Staff's evaluation examines RECLAIM equipment relative to BARCT. BARCT this category include both Rules 1135 and Rules 2009. The commenter is assuming that Rule 1135 was already implemented in 1997 so we should start at 20.6 ppm, rather than from uncontrolled emissions we used. This is clearly not the case as additional information has been received from industry representatives that showed various levels of control in place in 1997. Staff has revised the calculation to reflect the composite 1997 levels of control, and has resulted in a net decrease of 0.41 TPD of reductions.

Cost and Cost-Effectiveness

47. Comment: Allowable cost effectiveness should not exceed $15,000 per ton of reduction, based on a 10-year equipment life. The $15,000 level is used as the basis to trigger a program evaluation under Rule 2015 – Backstop provisions and was used to set participation in the RECLAIM Mitigation Fee Program and Air Quality Investment Program.

    Response: It is true that the $15,000 ton per day level is used as the basis to trigger a program evaluation. However, this cost value was not established to reflect BARCT cost-effectiveness. AQMD historically has not predetermined a BARCT threshold for rule development. Staff analyzed the cost-effectiveness for adopted or amended rules that were subsumed in RECLAIM. When the cost-effectiveness is adjusted to reflect 2003 dollars, the range for adopted or amended rules includes a range of $2,900 to $34,000 per ton, with several rules over $15,000 per ton. A similar analysis of 1991 AQMP control measures subsumed by RECLAIM results in a range of $1,600 to $22,600 per ton.

48. Comment: RTC reductions should be recognized as a "take-away" of credits that have real, significant financial cost to companies. This represents a financial loss since many companies bought such credits to ensure compliance. This is a write-off that publicly-traded companies will have to show in their financial statements. The replacement or opportunity cost of the RTC reduction is larger than the anticipated financial loss. The RTC reductions will significantly increase the cost of future compliance, as these credits were not surplus to operational needs.

    Response: At the onset of RECLAIM, RTCs were allocated to RECLAIM facilities free of additional charge. Facilities for accounting purposes have included these RTCs as assets and their values depend on the price and number of RTCs. The values of these assets are realized as they are sold. This issue has been thoroughly analyzed in Socioeconomic and Environmental Assessments of RECLAIM in 1993(RECLAIM Volume III – Final Socioeconomic and Environmental Assessment, October 1993).

    The RECLAIM rule clearly stated that these RTCs are not property to the facilities and AQMD can remove them in the future. The proposed amendments to RECLAIM will reduce the number of current RTCs. Since there was no cost associated with allocated RTCs for a facility, there should be no financial loss to the facility as the District retires them. Furthermore, when the total RTCs are reduced in the market, the RTC price may increase, that could offset the loss in numbers of RTCs held. Any additional purchase of RTCs executed by a facility is made in lieu of emission control. The choice between the RTC purchase and emission control is solely a business decision. The associated expenditure is the compliance cost of RECLAIM, which is no different from the compliance cost of any command-and-control rule. Yet, RECLAIM facilities have additional choices that are not afforded to those under the command-and-control rules.

49. Comment: If staff believes that an equipment life of 25 years is appropriate, then no further reductions from the equipment should be sought for the same 25-year period where facilities have installed the controls to comply with the RECLAIM RTC reductions.

    Response: Equipment life, whether 10 or 25 years, is independent of a BARCT assessment. According to state law, a BARCT assessment would occur in conjunction with future AQMPs. For a particular source category, if a BARCT is not technologically feasible and cost-effective then no further reductions would be required. As to limiting future reductions based on control equipment life (i.e., 25 years), this would bind future board actions and stifle technology advancement, which is not an environmentally protective approach. However, staff can account for the 25-year life given when evaluating the cost-effectiveness of future additional controls.

50. Comment: It appears that the cost-effectiveness calculations for refinery boilers and heaters include those equipment that have already been retrofitted, some down to 30 ppm. In reviewing the calculations, it does not appear to have taken the emission levels into consideration, which would significantly affect (increase) the cost-effectiveness of the staff's proposal.

    Response: The cost portion of the cost-effectiveness calculation does not take into

account reductions individual boilers have made. The NOx reductions in the calculation are based on the activity levels used for the 2000 to 2003 ending allocations and the 2000 (Tier I) emissions factors. The Tier I emission factors represent the average for the source category, individual boilers could be higher or lower than the Tier I control level.

51. Comment: BARCT cost-effectiveness should be based on $7,000 per ton NOx threshold stated in the 2003 AQMP control measure CMB-10.

    Response: The AQMP control measure projected cost, as with all control measures, is an estimated figure that would be refined during actual rule development. It was never intended to establish feasible cost-effectiveness. Based on staff's technical analysis, it would be inappropriate to set the cost threshold so low, especially considering the nature (i.e., equipment parameters and emissions) of some of the industries with likely control options.

52. Comment: LCF should be used as the methodology to evaluate cost-effectiveness. It is commonly used in within the private and public sectors.

    Response: The AQMD has long used DCF to calculate cost-effectiveness. Switching to LCF would leave the Board with no ability to compare current actions with the AQMP and past cost-effectiveness evaluations. For a response, the commenter is referred to Section III-D of the staff report.

53. Comment: There is an apparent discrepancy between the emission reductions used to derive the RTC holding reductions and cost-effectiveness. The data shown for RTC holding reductions are 1.7 tons per day, where in Appendix B, the total emission reductions available for cost-effectiveness purposes is 0.46 tons per day. This is the case with other source categories.

    Response: There is difference in the emission reductions used for deriving emission reductions, as opposed to calculating cost-effectiveness. The 1.7 tons per day came from the AQMP method using the 2003 AQMP inventory currency. 1.7 tons per day were not used in deciding the total reductions, rather is provided to illustrate percentage contribution to total reductions by control measures. The aggregated remaining emissions projected by AQMP were the basis to estimate RTC holding reductions. The 0.46 tons per day utilizes information based on allocation data to derive cost-effectiveness, which are in the same currency as RTCs in the market.

Specific Proposals

54. Comment: Industry representatives have suggested using a market-driven method using RTC price levels as a surrogate to determine when BARCT has been met. The method suggests small, incremental reductions in allocations allowing adequate time for the market to react. The industry proposal is to remove 2 tons per day of NOx RTCs from the program in each of compliance years 2007 and 2008 on an across-the-board basis. This proposal is intended to address the concern about market impacts if too large a reduction is taken too quickly.

In addition, the industry proposal would have the AQMD continue to develop rules and protocols authorizing the generation of RTCs from the reduction in emissions from mobile and area sources, by extending the sunset dates in existing rules and adopting appropriate additional rules. Staff is supportive of additional credit generation rules and will work with others to identify opportunities for surplus, quantifiable, credit generation.

Response: It would be difficult to demonstrate BARCT and equivalency with command and control using a market-driven method and BARCT equivalency because this method does not factor in a date by which controls may be achieved. Also, other market factors impact price, not just BARCT. With each AQMP, an evaluation would occur. By allowing the market to settle each time an adjustment is made, the program would always be attempting to catch up to BARCT. Appendix C contains a summary, based on key proposal elements, of industry's proposal as it compares to that recommended by the environmental community's and staff's. Staff is supportive of additional credit generation rules and will work with others to identify opportunities for surplus, quantifiable, credit generation.

55. Comment: The environmental community has proposed that RTCs be reduced according to the AQMP method without the 10% adjustment (10.2 tons per day), implemented across-the-board, with reductions occurring over a five year period starting in 2006 and ending 2010. Reductions from 2006 to 2009, inclusive would be equivalent to 2 tons per day and the remaining 2.2 tons per day in 2010. In addition, there would not be a last year RTC price backstop, therefore, all reductions would be credited to the SIP, and there would be no exemptions. The environmental community prefers that the power plants remain separate from the remainder of the RECLAIM universe due to the amount of excess RTCs that would be brought back into the market. However, if they are to be included, then they would recommend that the power plant trading restrictions remain in place until reductions occur and that the facilities RTC holdings be reduced with all other facilities' RTC holdings.

    Response: Staff proposal is based on an overall assessment of BARCT for all equipment under RECLAIM. The 10 percent adjustment is designed to address market uncertainty. Without the 10% adjustment, the remaining RTC holdings after reductions would equal projected emissions (the reader is referred to Comment # 7 of Response to Comments Section A). Staff has modified its proposal to account for the additional lead time necessary plan and install control equipment and is now proposing to start reductions in 2007, to be completed in 2010. The proposed programmatic reductions to RTC holdings are designed to meet the same reductions as would have been achieved under command-and-control in compliance year 2010. In June 2003, the Governing Board made a finding that bringing power plants back into RECLAIM would not adversely affect the market or impact California's energy needs. However based on comments received, the staff proposal delayed the initial reductions from 2006 to 2007. In order to capture reductions already made by power plants and to prevent excess credits from coming into a market that already has RTCs traded less than $1/pound during the reconciliation period, certain trading restrictions would still be placed on power plants.

Response to Comments – Section C

Summary of Comment Letters Received
Comment Period From October 22 through November 12, 2004

On October 28, 2004, staff held a third public workshop, to solicit additional public input regarding staff's proposal. Documents were made available to the public on October 22, 2004 with a request for comments no later than November 12, 2004. During this period, staff received several comment letters. Since many of the comments received during this period repeat previous comments for which responses have already been provided, Sections A and B, the comments summarized below are only those received in writing during the comment period or verbally at the workshop that are different than those which staff has previously responded.

General Comments and Comments on Specific Rules

1. Comment: We have been, and continue to be, in support of the RECLAIM concept and believe it has been effective in achieving real emission reductions. This is supported by comments made by EPA in their November 2002 evaluation of the RECLAIM program. It the report, the agency states that "EPA continues to believe, as it has since 1992, that SCAQMD's approach effectively achieves the goals of making the environment whole and deterring noncompliance". Also, that "RECLAIM's experience seems to demonstrate that cap and trade can work with Clean Air Act New Source Review".

   Response: Staff appreciates the comment.

2. Comment: We believe that any contemplated reduction requires a review of the rule that would include the original baseline, historical performance and current and actual potential to reduce emissions and then make adjustments to each facility's baseline appropriate to the data. Reduction in emissions should be fair to all facilities and based on actual reported emissions to provide a level starting point for all affected facilities. Whatever the future program goals are for RECLAIM NOx, we urge the District to require each facility to contribute equitably to achieving the goals of the regulation, and any necessary allocation reductions would be derived from a new baseline that reflects actual reported emissions.

   Response: One of the legal requirements for the program is to match emission reductions with what would have occurred under command and control. The 2003 AQMP is the basis for this comparison. The 1997 base year actual emissions are used in the AQMP, and growth and control factors are applied. These considerations have been evaluated as part of the rule development process. The determination of the programmatic adjustment is based on base-year emissions grown and adjusted to represent new BARCT levels. This is consistent with the original program design for determining command-and-control equivalency.

   The commenter appears to be suggesting facility-specific reductions. This approach may seem to be more equitable (in the form of RTC holding reductions) for those facilities that have already made efforts to achieve BARCT at their facility or are already at BACT

than the across-the-board approach. However, it would raise other issues that are difficult to address, including selection of appropriate activity levels for the facilities in question; demonstrating programmatic equivalency to command and control; including RTCs held by brokers who do not own or operate any equipment at any given time; accounting for facilities holding RTCs for future use not representing current emissions; and including facilities transferring RTCs to another facility or third party if that would result in a lower rate of reduction. This approach also fails to recognize the trading activities that have taken place since the inception of the program.

The primary focus of the rulemaking is to demonstrate compliance with state requirements.

3. Comment: We believe the rule amendment process should take a very deliberate development course that fully considers all of the process elements for allocation reduction now and for the future. This includes a periodic review of the program to avoid the potential for large scale baseline reductions. An effective and equitable development course means allowing for more time than is currently scheduled, not rushing to meet some arbitrary deadline, and not relying on correcting deficiencies after the amended rule has been adopted. EPA stated in their 2002 RECLAIM assessment that "any changes made to RECLAIM at this stage in the program must be taken in small steps and should not involve dramatic regulatory modifications", "that regulatory change can destabilize the market and make long-range planning difficult', and that "modifications should be taken gradually and should be market-based". The path we are going on for the next five or more years should be clear and well defined to everyone involved.

   Response: Staff agrees in principle with the commenter's position. Staff believes that the annual and other regularly scheduled reports to the Governing Board and Stationary Source Committee provides ample notification of any proposed changes to RECLAIM. In addition, the rulemaking process for RECLAIM has entailed numerous meetings over the last year. The control measure for RECLAIM RTC reductions was first incorporated into the 2003 AQMP during a 2-year plan development process and the rule development process has been over a year. In addition, the staff proposal provides a two-year lead time for any reductions in RTCs while the latest compliance report indicates that there are 6.6 tons per day excess RTCs in the program. The affected facilities have several years in planning their compliance options. Staff does recognize the significance of market stability and the state law requirements for BARCT and command and control equivalency. Staff has identified cost-effective controls available to the RECLAIM facilities. The staff proposal provides a 10% mark-up for market uncertainty and contains a price trigger mechanism to ensure orderly transition to lower the emissions.

4. Comment: Power producers are concerned that the level of RTC holding reductions would result in insufficient RTCs being available in the event of another energy crisis or emergency in the South Coast Air Basin. Although the final years reduction would not be implemented if the price of RTCs exceeded $15,000/ton, there is no mechanism that would allow power plants to continue operation after exceeding their allocation without penalty, which could affect the reliability of the power grid by reducing available generating capacity. CEC has recognized that severe weather in 2006 and beyond could cause reserves to fall below 7%, the level needed to maintain stability.

Even though power producers have already installed BACT or BARCT, there may be a need for additional RTCs during an energy crisis or emergency situation. The options appear to be: 1) limit operations so as not to exceed allocations; and 2) buy RTCs through the market, the question is whether sufficient RTCs will be available.

The following proposal is made:
1. Allow excess RTCs to be banked over the next two compliance years only for use in the case of an emergency as defined in Rule 118 and/or an energy crisis as declared by the Governor or federal government. Banked RTCs can only be traded among other power producers and any unused RTCs remaining would be retired.
2. Allow power producers back into the RECLAIM market with full trading privileges to allow additional flexibility and have time to cover their potentially short positions in future years.
3. Power producers support AQMD's concept of establishing an AQIP for facilities at BARCT or BACT where power producers have the option of paying a set dollar per pound to cover any shortfalls during an emergency and/or declared energy crisis.

Response: The commenter is suggesting that power producers be able to exceed their allocations without compensating for the exceedances. This is not appropriate, as unmitigated excess emissions constitute a violation. Regarding emergencies, the reader is referred to the response to Comment #4 of Response to Comments Section A and Comment #8 of Response to Comments Section B. Please see Comments #'s 3 and 4 of Response to Comments Section A for a summary of Staff's proposal regarding power plant reentry into the full RECLAIM market. Relative to the carryover of RTCs, the reader is referred to the response to Comment #18 of Response to Comments Section B. With regards to the CEC forecast, i.e., to grid-wide reserves, the reader is referred to the response to Comment # 7 of Response to Comments Section B. As to the AQIP, this is not a part of staff's proposal at this time. An AQIP will be considered when viable credit generation opportunities have been identified.

Allocation Reductions

5. Comment: The amount of SCAQMD Staff's first phase of the proposed shave of 4 tons/days is not opposed. However, the proposed second phase of the shave of an additional 3.8 tons/day is opposed. Growth in the Basin is estimated to be 1.5% per year and this assumption is used, in part, to calculate the amount of the RECLAIM shave. The power sector growth is estimated to be 2.5% per year. However, the California Energy Commission (CEC) expects the power sector growth to be as high as 6% per year. The CEC has also released data that predicts an electricity shortage in California as early as 2006 for a typical 1-in-2 year without additional electrical generation capacity or growth. This growth, and growth of the Basin's economy could be negatively altered by the lack of NOx credits for business expansion and modernization. In addition, the California Air Resources Board has recommended that the RECLAIM program be reevaluated for BARCT equivalency during each triennial AQMP cycle. The District has indicated its intention to follow this practice in the future. In our view, these triennial reevaluations will allow for programmatic adjustments to be made while simultaneously tracking the liquidity of the RECLAIM market and advances in emission control technology, therefore preventing any irreversible damage to the economy of the region.

Response: Staff does recognize that the growth for peak demand is about 6 percent, which relates to necessary capacity to avoid rolling blackouts but disagree that growth assumptions for power producers should be 6% for annual generation. The reader is referred to Comments # 2 and 3 of Response to Comments Section A. In addition, the reader is referred to Comment # 7 of Response to Comments Section B. Relative to the reevaluation of BARCT, this is a proactive process to account for new technological development over time, so as to not delay implementing BARCT as required by state law.

6. Comment: The emission reductions used for the cost effectiveness calculations should be the same emission reductions used for calculating the shave. The Staff report states "The 1997 baseline inventory reported by the facilities provides a more recent equipment profile in the RECLAIM universe and captures the NSR activities since 1994. This is similar to the original RECLAIM program that used 1991 AQMP, which used 1987 as the base year." However, it is important that equipment inventories in any BARCT analysis accurately reflect current emission levels and existing emission control equipment, including equipment that meets current and proposed BARCT standards. The District states that one of the criteria used for evaluating BARCT is whether a stand-alone rule would be considered – we note that any such rule would be based on current emission levels and would reflect current controls. The District's use of the AQMP method to determine BARCT is inconsistent with the method used to determine the reductions of RTC holdings, and does not properly reflect the current inventory of NOx control equipment installed at facilities.

   Response: The staff proposal relies on the AQMP method to determine the appropriate ending allocation for 2010 that would demonstrate equivalency to command and control. As a result, the AQMP method provides the remaining emissions by 2010 (i.e, 24.07 tons per day) from which a 10% increase was applied to derive the 2010 ending allocation (i.e., 26.47 tons per day). Because the AQMP inventory is based on reported actual emissions in 1997 and projected to 2010, it represents a different currency that the same reductions in the AQMP currency cannot be applied to the RECLAIM program. In determining BARCT staff uses the same currency as the RTC allocations and estimates the reduction potential based on the last BARCT evaluation (i.e., year 2000 Tier I emission factors) and the same throughput facilities selected for their year 2000 allocation calculations. If staff were to follow the commenter's suggestion to examine the current emission levels and estimate the reduction potential, the starting point would be a programmatic emission level of 27.6 tons per day. If applying the 4 tons per day reductions as industry stakeholders recommended the remaining emissions would be 23.6 tons per day, slightly lower than the AQMP methodology. This illustrates that emission reductions should be used in the same currency as the baseline emissions. The staff methodology is appropriate because it uses the RECLAIM currency in determining the appropriate BARCT, for the RECLAIM universe and matches the remaining emissions (with 10% adjustment) as predicted in the AQMP to demonstrate equivalency to command and control.

7. Comment: The use of RTC prices during the reconciliation period is used in the Preliminary Draft Staff Report to conclude that there are excess RTCs in the market (P. 55). Companies use RTC stream prices to evaluate the availability of RTCs and future investment options. Prices during the reconciliation period remain low due to the effects of the 2009 and 2009.1 regulations and should not be used to form conclusions with regard to excess RTCs in the market.

Response: The intent of the staff report statement was to demonstrate the availability of excess RTCs in the market and their low cost during the reconciliation period is a demonstration of their abundance. This is confirmed by the amount of unused RTCs each year. With the exception of the California energy crisis, there have bee excess RTCs in each of the compliance years ranging from 15 to 20 percent, which is contributed to by all sectors. The RTC stream prices for 2010 and beyond ranges between $3 to $4 per pound at this time. It also indicates that there are additional cost-effective control opportunities in the market.

Credit Set Asides and Non-Tradable Credits

No further comments received on this topic.

Exemptions from Further Reductions

8. Comment: The across-the-board reduction of RTC holdings is opposed. From 1994 to 2003, my facility's RTC holdings were reduced by 95%. Due to an expensive and aggressive program of equipment replacement, the emissions from our oil and gas equipment have been reduced to zero due to electrification (gas fired IC Engines were replaced with electric motors or removed from service). In order to keep the facility economically viable, a project for natural gas enhancement will require the use of the remaining initial allocation for future years. All of the equipment at the facility meets or will meet BACT and the RTCs are needed to meet Rule 2005(f) NSR requirements, which require the full amount of RTCs be held all year and may only be sold during the compliance year's final reconciliation period. The reduction of future holdings will require the purchase of RTCs since there are no other means to further reduce NOx emissions without reducing or ceasing oil and gas production operations.

   Response: Full electrification of IC engines may exceed BARCT for this source category and, as reflected in the response to Comment #26 in Response to Comments Section A, staff is proposing criteria by which a facility's initial allocation would be exempt from the reductions. Staff suggests the commenter examine this criteria, as the facility may meet the requirements for exemption.

9. Comment: The across-the-board reduction of RTC holdings is opposed. From 1994 to 2003, my facility's RTC holdings were reduced by 90%. Emissions from our oil and gas equipment have been reduced to zero due to electrification. Almost all excess RTCs resulting from the reduction have been sold, except for a small amount kept in reserve for growth. All of the equipment at the facility, except those exempted by Rule 219, meets current BACT and a newly installed turbine is expected to meet BACT. These modifications require that we have sufficient RTCs in our allocation to meet permit limits based on PTE, pursuant to Rule 2005(f), not the expected actual emissions. The proposed RTC reductions will require the purchase of RTCs since there are no other means to further reduce NOx emissions without reducing or ceasing oil and gas production operations. RTCs purchased in order to meeting rule requirement will be sold during the reconciliation period at a much lower price. We request that our facility, as well as facilities like ours, that are at or below BARCT levels be exempted from any

further reductions.

Response: Please see the response to the previous comment.

BARCT

10. Comment: Consideration of "new" BARCT is a function, among other things, of the technological feasibility of various controls and the cost-effectiveness of those controls. The cost-effectiveness assessments for the various categories of BARCT were, in most cases, performed using emission reductions that were determined by the difference between the Tier I emission factor and the proposed new BARCT, and the peak activity level used in deriving the year 2000 allocation. The proposed 7.8 ton/day reduction would not be supported by a BARCT analysis that more accurately assessed potential emission reductions and the costs of achieving them. In our view, a target reduction in the order of 4 tons/day would be supportable.

    Response: Staff has presented its BARCT analysis in the staff report in terms of technical feasibility (Section III) and cost effectiveness (Appendix B). Comments were received regarding facility-specific equipment and installation costs, equipment life, and cost effectiveness threshold. Please see staff report Table 5A that lists various emission reduction targets under several BARCT scenarios.

Cost and Cost-Effectiveness

11. Comment: Using a 25-year equipment life for controls on Refinery Heaters and Boilers and FCC Unit is inconsistent with the life of identical control equipment (i.e., SCRs) proposed for other source categories (that have 10 or 15 year assumed lives), and does not properly consider the replacement of this equipment due to additional future controls or technology advancements. The SCAQMD proposes to address this issue via the use of adding "sunk cost" to the next increment of cost-effectiveness. However, the use of sunk cost to the next increment of cost-effectiveness does nothing to correct the faulty equipment life assumptions used in the current cost-effectiveness calculations.

    Response: It is appropriate to account for equipment life greater than 10 years and the associated control costs relative to determining cost-effectiveness. According to manufacturers, the design equipment life for an SCR is 25 years. Staff is using this 25 year design life for all SCR control equipment. Utility boiler data has been updated to include the 25 year cost effectiveness calculation. This calculation had not been included previously because, for the most part, controls have already been added and were shown to be very cost effective at 10 and 15 years.

12. Comment: The Preliminary Draft Staff Report includes a detailed discussion on cost effectiveness of prior rules and AQMP control measures but fails to mention that the average projected cost effectiveness for CMB-10 in the 2003 AQMP was $7,000 per ton. The inclusion of cost ineffective control measures has, therefore, resulted in an average cost effectiveness of $12,600 to $13,000 per ton. This is nearly double the cost targeted in the 2003 AQMP and the proposed BARCT adjustments for large Refinery Heaters and Boilers and FCC units are not cost effective and should not be included in the proposed

BARCT adjustment.

Response: The reader is referred to Comment # 52 of Response to Comments Section B. The AQMP control measure projected cost, as with all control measures, is an estimated figure that would be refined during actual rule development. It was never intended to establish feasible cost-effectiveness. Based on staff's technical analysis, it would be inappropriate to set the cost threshold so low, especially considering the nature (i.e., equipment parameters and emissions) of some of the industries with likely control options.

Protocols

Comments received on this topic have been covered in previous comments in Sections A and B.