



California Environmental Protection Agency

AIR RESOURCES BOARD

**2005 Annual Report on
State Regulation on Emissions Trading Methodology
(H&SC Section 39607.5)**

May 2005

Purpose of Report

California Health and Safety Code (H&SC) §39607.5 requires the Air Resources Board (ARB) to: (1) adopt an emissions trading methodology for use by local air pollution control air districts (local air districts), (2) post on its web site, at a minimum by January 1 each year, actions taken by ARB to implement this section, and (3) perform a periodic review of those trading programs implemented by local air districts.

This report provides a summary of the actions taken by ARB to implement §39607.5 and the 2004 rulemaking status of local air district implementation of the trading programs subject to ARB's regulation. Last year's Annual Report can be viewed by going to <ftp://ftp.arb.ca.gov/carbis/reports/l2071.pdf>.

State Regulation on Emissions Trading

In 1997, pursuant to the requirements of H&SC §39607.5, ARB adopted a state trading regulation¹ (state regulation) that establishes a trading methodology for stationary, mobile, and area source credits, consistent with air quality plans to achieve and maintain state and federal ambient air quality standards. Ambient air quality standards have been established for ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, and lead. Hydrocarbons and nitrogen dioxide are contributing pollutants (precursors) to the formation of ozone and particulate matter.

The state regulation is a general framework with criteria for local air district programs; it is not a model rule that can be directly adopted by a local air district to implement an interchangeable credit program. Therefore, while the regulation establishes the concept of an "interchangeable credit," the details of how such credits would be generated, banked, and used or traded must be specified in each local air district's rules.

The state regulation identifies general requirements and criteria that local air districts must meet in certifying, calculating, banking, and using emission credits. The state regulation ensures that emission credits represent real reductions in air pollutants, that reductions are surplus to any reductions already required, and that reductions are not "double counted" or credited more than once.

Consistent with ARB's regulation, local air district rules, and federal requirements, interchangeable credits can be used by the credit generator, traded for use by another source to meet its emission reduction requirements, or retained and "banked" for future trading and/or use. Credits can potentially be used in lieu of the installation of control equipment, to offset new source emissions, to remedy the emissions impacts of equipment breakdowns, or can be retired for an environmental benefit.

¹Title 17 California Code of Regulations Sections 91500 through 91508.

A key principle established by the regulation is that of “equivalency”—the use of interchangeable credits must not result in greater emissions than would otherwise have occurred on an annual or seasonally adjusted basis.

To the extent consistent with state and federal requirements, the state regulation allows limited trading of hydrocarbon emission credits that may include toxic compounds, provided certain safeguards are observed. These safeguards include restricting the generation or use of credits from emissions that exceed air toxic risk thresholds specified by local air districts, and requiring public disclosure of credit uses that could result in increased air toxics-related health risk.

Review and Current Status of Local Air District Trading Programs Under State Law

California H&SC §40920.6(c) requires local air districts to allow the use of credits to comply with best available retrofit control technology² (BARCT) requirements if the credits also comply with applicable local air district rules. In order to accommodate this requirement within their regulatory structure, four local air districts have adopted trading regulations: South Coast Air Quality Management District (South Coast District), Sacramento Metropolitan Air Quality Management District (Sacramento District), Bay Area Air Quality Management District (Bay Area District), and San Joaquin Valley Air Pollution Control District (San Joaquin Valley District).

ARB has commented on and provided technical assistance to each local air district that has developed and adopted a trading program under H&SC §39607.5 to ensure that each regulation meets the requirements of state law. Where the local air district regulations were intended as a revision to its State Implementation Plan (SIP), ARB forwarded them to the United States Environmental Protection Agency (U.S. EPA) after determining that the regulations complied with federal requirements.

The following sections summarize changes that were made to the regulatory trading programs adopted by the four local air districts, reviewed by ARB, and/or approved by U.S. EPA in 2004. Table A provides this summary in tabular format.

South Coast District

The South Coast District has several credit rules and trading programs currently in effect. These include credit rules that allow the interchangeable use of specified area and mobile source credits in lieu of BARCT for permitted stationary sources. These rules include credit generation procedures for agricultural pumps, marine vessels and marine hotelling operations, truck/trailer refrigeration units, and truck stops.

² BARCT is an emissions limitation or standard that applies to existing stationary sources of air pollution. Under state law, BARCT serves as part of a comprehensive control strategy to achieve clean air in areas that violate California’s air quality standards.

The South Coast District also implements the Regional Clean Air Incentives Market (RECLAIM), a cap-and-trade program that allows the trading of nitrogen oxide (NOx) and sulfur oxide (SOx) emissions among over 350 industrial facilities.

RECLAIM was adopted by the South Coast District in 1993, approved by ARB in 1994, and approved as a SIP revision by U.S. EPA in 1998. The purpose of RECLAIM is to reduce NOx and SOx emissions through a market-based permit program for stationary sources. RECLAIM is designed to provide facilities with the flexibility to seek the most cost-effective solution to reduce regional emissions. The program replaced a series of existing command-and-control rules and control measures specified in the South Coast District's 1991 Air Quality Management Plan.

The South Coast District also administers an Air Quality Investment Program (AQIP). AQIP allows sources subject to South Coast District rules to voluntarily invest in the development of new and clean technologies that can be used to generate credits and ultimately expand their commercial applicability.

- Regulation XX, NOx/SOx RECLAIM

2004 Status:

With the energy crisis of 1999 and the high demand for electricity, RECLAIM program participants experienced a sharp and sudden increase in the price of NOx RECLAIM trading credits (RTC) due to a much higher than normal need for credits by power producing facilities. In order to lower and stabilize RTC prices arising from the trading spikes, the South Coast District adopted RECLAIM rule amendments in 2003 and 2004. These changes had the effect of increasing credit supply and reducing demand by restricting the ability of the power producers in the RECLAIM program to purchase RTCs owned by other participants in the market. During this period, the South Coast District made additional rule changes to RECLAIM that clarified recordkeeping requirements and strengthened equipment breakdown rules.

- Amendments to Rule 2007 (adopted by the South Coast District and approved by ARB and U.S. EPA in 2004) allow power producers to use their RTCs to meet their facility cap, and to sell or transfer those credits that they already own that fall below their emissions allocation for post-2003.
- Amendments to RECLAIM Rules 2011 and 2012 (adopted by the South Coast District and approved by ARB and U.S. EPA in 2004) clarify emissions monitoring and recordkeeping requirements for equipment operated at RECLAIM facilities.
- Amendments to Rule 2015 (adopted by the South Coast District and approved by ARB in 2004) establish a procedure to monitor breakdown emissions and to mitigate any emissions not covered by RTCs. U.S. EPA has proposed to

approve these changes.

Although 2003/2004 rule changes corrected the RECLAIM trading problems associated with the 1999 energy crisis, other revisions are essential to continue reducing emissions. State law requires all market-based incentive programs to be equivalent to or better than the command-and-control programs they displace. This requirement applies to emission reductions and cost, both at adoption and on an ongoing basis. State law also requires that such programs not impede attainment of the state's more stringent ambient air quality standards.

The standard for judging overall equivalency is a comparison of the market-based program's requirements to the emission reductions that could be achieved by applying BARCT to the same sources. This is to ensure that market-based programs such as RECLAIM do not delay or hinder progress otherwise required under the California Clean Air Act. State law further requires the South Coast Air Basin, as an "extreme" nonattainment area for the state ozone air quality standard, to include in its plan all feasible measures that can be implemented within ten years of the adoption date of its most recent plan. Finally, under state law, the South Coast District is specifically required to mandate the use of BARCT for existing power plants (power producers), if ARB determines that to do so is necessary to carry out the District's air quality plan.

The South Coast Air Basin requires substantial reductions from all sources, including those under RECLAIM, to meet federal and state air quality standards. In its 2003 Air Quality Management Plan and the 2003 SIP, the South Coast District committed to revise the RECLAIM program to achieve additional NOx emission reductions to help attain ozone and particulate standards. The South Coast District Board adopted amendments in January 2005 that will achieve an additional 6.8 tons per day of NOx by 2010. ARB will review this revision for submittal to U.S. EPA as a SIP revision upon receipt of the complete rule package from the South Coast District.

- Rule 2501, Air Quality Investment Program

2004 Status:

U.S. EPA has yet to take action on this 1997 rule, citing approvability issues. The program is being implemented for state-only requirements in the South Coast District.

Sacramento District

In 1996, the Sacramento District adopted Solutions for the Environment and Economic Development (SEED) Program (Rules 107, 204, 205, and 206). SEED is an alternative compliance program that leases emission reduction credits to new and existing permitted stationary sources. Lease fees are then used to fund innovative emission reduction

programs necessary for Sacramento to attain federal and state ozone standards.

U.S. EPA has not approved the rule, citing deficiencies in the credit calculation protocols and credit audit procedures. Pending action by U.S. EPA on the rule, credits for BARCT substitution should only be used to meet state requirements.

2004 Status:

No new or amended rules have been proposed or adopted.

Bay Area District

In 1998, the Bay Area District adopted an Interchangeable Emissions Reduction Credits regulation (Regulation 2, Rule 9). The regulation allows permitted sources to use NO_x credits to satisfy reductions requirements on BARCT regulations that are not contained in the federally approved SIP. The regulation allows facilities to average (i.e., bubble) emissions within the plant or within a limited contiguous zone in proximity to the plant, provided emissions in the aggregate are equivalent to the required reductions.

The Bay Area District trading program was not intended as a compliance mechanism for SIP measures; therefore, the regulation is being implemented for sources that use credits to comply with state law only.

2004 Status:

No new or amended rules have been proposed or adopted.

San Joaquin Valley District

An alternate compliance rule for BARCT (Regulation IV, Rule 4501) was adopted in 1999. The rule allows permitted sources to purchase credits to achieve reductions required by future-effective BARCT regulations, including those measures that are contained in the federally approved SIP.

U.S. EPA has not approved the rule, citing deficiencies associated with the demonstration that the credits would be surplus to reductions assumed in the SIP, and credit calculation protocols.

2004 Status:

No new or amended rules have been proposed or adopted.

Other Emissions Trading Issues

As indicated previously, H&SC §39607.5 allows the use of interchangeable credits in lieu

of permanent emission reduction credits (ERC) that are used to offset emissions from new or modified industrial sources (New Source Review program). In June 2004, state, federal and local government representatives met with business and industry stakeholders along with environmental groups to explore ways of addressing future growth from new and expanding stationary sources without compromising air quality or the intent of the New Source Review program. Ongoing high demand for emission offsets in California and a continuing need for additional emission reductions to meet health standards are limiting the availability of ERCs that can be used to permit new industrial development.

The conference focused on the major strengths and weaknesses of the New Source Review offsets requirements, and discussed opportunities for improvements to the permit program. Numerous issues and barriers to improvement were identified. Follow-up discussions have not yet been scheduled.

TABLE A

AIR DISTRICT TRADING RULES SUBJECT TO §39607.5

STATUS OF 2004 REGULATORY ACTIONS

| AIR DISTRICT | TRADING RULES | 2004 REGULATORY ACTION | | |
|------------------------------------|---|---------------------------------------|-------------------------------------|-----------------------------|
| | | Local Air District Adoption Amendment | ARB Approval/ Submittal to U.S. EPA | U.S. EPA Approval |
| South Coast District | RECLAIM – Regulation XX³ | | | |
| | -- Rule 2007, Trading Requirements | 12/05/03 9/3/04 | 02/20/04 4/26/05 | 07/26/04 Awaiting action |
| | -- Rule 2011, Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur | 12/05/03 | 02/20/04 | 07/26/04 |
| | -- Rule 2012, Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen | 12/05/03 | 02/20/04 | 07/26/04 |
| | -- Rule 2015, Backstop Provisions | 06/04/04 | 07/29/04 | 12/21/04 |
| Sacramento District | Solutions for the Environment and Economic Development (SEED Program) – Rules 107, 204, 205, and 206 | No changes | N/A | N/A |
| Bay Area District | Interchangeable Emission Reduction Credits – Regulation 2, Rule 9 | No changes | N/A | N/A |
| San Joaquin Valley District | Alternative Compliance in Lieu of BARCT – Regulation IV, Rule 4501 | No changes | N/A | N/A |

³The South Coast District adopted additional revisions in January and April 2005 to further strengthen the RECLAIM program. Once the rulemaking package is complete, we will submit the revisions to U.S. EPA as a SIP revision. These rule changes will be discussed in the 2006 Annual Report.