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AIR RESOURCES BOARD
Office of Air Quality and Transportation Planning

Initial Statement of Reasons for Rulemaking

Public Hearing to Consider Statewide Regulation That Provides a Methodology to Calculate the Value of Interchangeable Emission Reduction Credits

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I. INTRODUCTION

The California Health and Safety Code (H&SC) section 39607.5 requires the Air Resources Board (ARB) to develop and adopt a methodology for use by air pollution control districts (districts) to calculate the value of credits issued for surplus (i.e., not otherwise required) emissions reductions from stationary, mobile, and area sources when the credits are used "interchangeably". The purpose of the proposed regulation is to facilitate the use of emission credits as a compliance alternative for meeting certain district control requirements, consistent with district plans to achieve and maintain state and federal ambient air quality standards (district air quality plans).

Various district emission credit programs already exist, primarily for purposes of mitigating the emission impacts of new growth from industrial sources of pollution. Through the use of surplus emission reductions, or credits, such "New Source Review (NSR)" programs ensure that economic growth is accommodated without further increasing air emissions. These long-standing programs are a core element of district stationary source control programs and are required by state and federal law.

In addition, legislation enacted in 1993 authorizes districts to develop emissions trading programs as an attainment strategy to help make progress toward attaining state and federal air quality standards. In these programs, emission credits are only traded among the air pollution sources subject to the program. The South Coast District's "RECLAIM" trading program falls into this category. Such programs replace the adoption of source-specific rules with facility-wide requirements that achieve equivalent reductions from participating sources. Thus far, the South Coast has been the only district in California to adopt a trading program that serves as an attainment strategy.

More commonly, some districts have allowed the limited use of credits as an alternative means to comply with district rules. The use of credits in these programs replaces emission reductions that would have occurred through compliance with certain district technology or performance-based regulatory requirements (e.g., Best Available Retrofit Control Technology or BARCT). These types of credit programs do not, in and of themselves, further reduce overall emissions because credits are used in lieu of already required emission reductions. District credit programs may allow surplus emission reductions that occurred at a different location and time to be substituted for emission reductions that are required of a stationary source. While this provides needed compliance flexibility, credit programs must be carefully designed to ensure that air quality is not adversely affected on a regional or localized basis.

A fundamental principle for credit generation and use is that credits must be based on emission reductions that are surplus, in other words, not already required by an existing requirement or air quality plan. State and federally required air quality plans include existing requirements and also identify additional actions that will be taken to achieve the emission reductions needed to attain and maintain air quality standards. Thus, air quality plans and the control measures to be adopted pursuant to these plans become the benchmark for determining which emission reductions are surplus.

In terms of expanding credit use, districts have generally focused on allowing the use of mobile source credits, in addition to stationary source credits, to meet certain district rule requirements. For example, credits generated from mobile sources have been used to provide temporary credits to offset emissions growth from new sources, to defer compliance with source-specific rules, or to supplement emissions allocations in the RECLAIM program. However, a universal trading program that allows the interchangeable use of all certified credits for both attainment and alternative compliance purposes has not been implemented by any district. The South Coast is in the process of developing a comprehensive trading rule that would encompass both types of trading programs.

ARB staff have proposed a state regulation that provides a general framework for the trading of emission credits at the district level. As such, the proposed regulation establishes a uniform credit currency to standardize and facilitate credits exchanged in the trading market (i.e., pounds of a pollutant generated in a specific year). The proposed regulation also identifies general requirements and criteria that districts must meet in certifying, calculating, banking, and authorizing the use of credits. This methodology is designed to ensure that credits are granted only for emission reductions that are real, properly quantified, permanent, enforceable, and surplus to applicable federal, state, and district requirements and adopted air quality plans. The proposed regulation provides districts the flexibility to maintain a distinct NSR program to ensure the availability of credits needed to accommodate industrial growth. Finally, the proposed regulation calls for annual performance audits by districts to ensure implementation of trading programs continues to comply with applicable state and federal requirements.

II. PUBLIC PROCESS TO DEVELOP PROPOSED REGULATION

In developing the proposed regulation, ARB staff built upon state and federal requirements related to emission credits and considered the real world experience of ARB and air districts in addressing these requirements. In addition, ARB staff held several public workshops and consultation meetings with air districts, environmental groups, and industry representatives throughout the process.

Scoping sessions were held in March and June 1996 with affected industries, environmental organizations, and districts. Workshops on the draft regulation were held in September 1996 and March 1997 in both El Monte and Sacramento. Meeting notices went out to over 400 individuals and organizations. Two consultation meetings were held with the California Air Pollution Control Officers Association (CAPCOA) in October 1995 and December 1996. Meetings were also held with representatives of the California Council for Economic and Environmental Balance (CCEEB) and the Regulatory Flexibility Group, two associations of key industries that could be affected by emissions trading. These meetings were held in August and October 1995, and January and February 1997. Potentially affected industries include petroleum, aerospace, gas and electric utilities, sanitation districts, manufacturers and users of coatings and solvents. Environmental organizations that participated in the meetings and workshops included the Natural Resources Defense Council (NRDC), the Environmental Defense Fund (EDF), and the Coalition for Clean Air.

In addition, affected industries and the South Coast District were kept apprised of rule development status during focus group meetings held at the District in 1996 to develop an area source credit rule and an intercredit trading program.

III. NEED FOR PROPOSED REGULATION

The proposed regulation was developed to meet the requirements of Assembly Bill 1777 which was enacted in September 1995, and codified in H&SC sections 39607.5 and 39617. Section 39607.5, the subject of this proposed rule and staff report, requires ARB to adopt a methodology for use by districts to calculate the value of emission reduction credits when those credits are used interchangeably.

In developing the methodology, ARB must ensure that it results in the maintenance and improvement of air quality. The methodology must also provide for the use of interchangeable credits in market incentive programs that are adopted as part of a district's attainment plan pursuant to H&SC section 39616.

ARB is required to ensure that any credit calculation methodology does not result in double-counting of emission reductions and that credits are not discounted solely as result of trading if the district applied a discount when a credit was granted.

Finally, this statute requires the ARB to consider the following factors:

- how long the credit should be valid
- whether opportunities for banking may exist
- how to provide flexibility so credits remain interchangeable and negotiable until used
- how to ensure any credit trading across district or air basin boundaries maintains and improves air quality in both areas

State law requires districts to allow the use of emission reduction credits in lieu of BARCT, provided all applicable requirements are met (H&SC section 40920.6(c) & (d)). Under these provisions, credits that are surplus, permanent, quantifiable, and enforceable and comply with federal and state law and district rules can be used to meet BARCT requirements. These provisions also allow marketable emission reduction credits under a program that complies with HS&C section 39616 (requirements for attainment-based trading programs) to be used to meet BARCT requirements if such credits also comply with all other district requirements pertaining to credits. Because this statute is not self implementing, districts will need to adopt new rules to comply with section 40920.6(c) & (d). These district rules, in turn, will need to comply with this proposed regulation.

Finally, California's clean air plan--the State Implementation Plan (SIP)--relies on new technologies to deliver future emission reductions. Credit trading programs that allow the generation and use of surplus reductions can lead to the accelerated turn-over of

older, higher-emitting equipment and be a means to encourage advances in clean technologies.

A statewide regulation provides a framework that can facilitate development and approval of consistent district credit and trading programs. All district rules needed for attaining federal air quality standards are submitted to ARB and ultimately to U.S. EPA for approval and incorporation into the SIP. District rules, which are developed in compliance with the statewide regulation, should be more easily and quickly approved. A degree of statewide uniformity also saves resources on the part of air agencies and helps affected businesses which interact with multiple air districts throughout California.

IV. DISCUSSION OF PROPOSED REGULATION

In this chapter, we provide a plain English discussion of the staff's proposed regulation. The discussion in this chapter is intended to satisfy the requirements of Government Code 11346.2(a)(1), which requires that a non-controlling "plain English" summary of the regulation be made available to the public.

How is the proposed regulation structured?

The proposed regulation has three elements:

- Purpose & Definitions
- Credit Exchange Function
- Criteria and Methodology for Credit Generation & Use

Purpose and Definitions

The purpose of the proposed regulation is to provide for the use of interchangeable credits as a compliance alternative for meeting specified district requirements. District programs that allow emissions trading as a component of an attainment strategy are already subject to criteria and requirements in state and federal law. ARB staff is not proposing additional regulatory requirements for those types of programs.

In terms of definitions, the proposed regulation would require districts to apply relevant definitions included in their own district rules, with a few exceptions. The intent is to avoid inconsistencies with existing district programs.

The proposed regulation would define an "interchangeable credit" to be an emission reduction generated from a stationary, mobile, or area source (emission reductions from "indirect sources" would fall within one of these three categories) that could be used in a variety of district programs. The credits could be used by the generator, traded for use by another source, or retained in the bank for future use. While the regulation establishes the concept of an interchangeable credit, the details of how such credits would be generated, banked, and used or traded would be specified in district rules. The proposed statewide regulation establishes only the general framework criteria for district programs; it is not a model rule that can be directly adopted by a district to implement an interchangeable credit program.

Credit Exchange Function

The proposed regulation establishes a uniform exchange mechanism for stationary, mobile, and area source credits. The regulation would also establish a uniform currency, expressed in pounds of pollutant in the year generated. Districts would certify and register interchangeable credits in a district bank prior to use. While banked, a credit would retain its full value. At the time of use, credits will be subject to prevailing federal, state, and district requirements. Credits could be used within the time period specified by districts for stationary sources and by ARB for mobile sources and consumer products under ARB jurisdiction. Districts could also maintain a separate pool of credits for NSR purposes in order to ensure the availability of credits needed to accommodate future growth.

Criteria and Methodologies for Credit Generation and Use

The proposed regulation establishes general requirements that districts must meet when developing rules governing the generation and use of interchangeable credits. The requirements are intended to ensure the validity of certified credits and to protect the integrity of air quality plans, so that progress towards achieving clean air is not compromised. The key principle established by the regulation is that of equivalency--the use of interchangeable credits must not result in greater emissions on an annual basis than would otherwise have occurred. This assessment of equivalency must be undertaken by each district and must take into account the seasonal nature of each air pollutant problem.

To ensure that only valid credits are certified, districts must adopt calculation protocols based on criteria specified in the regulation. Consistent with state and federal law, emission reductions used to generate interchangeable credits must be real, permanent, enforceable, surplus, and quantifiable. Emission reductions must also be calculated using the most stringent of historic actual emissions, applicable requirements, the district's air quality plan, or the federally approved State Implementation Plan for the area. The proposed regulation requires that district calculation protocols be formally adopted after public notice and comment. The protocols must include specific technical elements that address emission factors, emission rates, operating parameters, emission certification standards, emission baselines in air quality plans, and other technical information. These requirements for calculation protocols should ensure that the necessary information is available to determine that emission reductions meet the established criteria--real, permanent for the term of credit generation, enforceable, surplus, and quantifiable.

Finally, the proposed regulation would require districts that adopt and implement an

interchangeable credit trading program to prepare an annual report that describes the quantity of credits that were generated, how these credits were used, and actions taken to comply with the equivalency requirements of the statewide regulation. The report would also identify any changes to the interchangeable credit trading program.

What exchange mechanism is proposed?

The proposed regulation would define an ”interchangeable credit” and specify a uniform credit ”currency” expressed as pounds of pollutant in year generated. An interchangeable credit would include emission reductions generated by stationary, mobile, or area sources. Once certified by a district, these credits could be used according to district rules without regard to how the credit was generated. This would facilitate the flow of credits between attainment and compliance based trading programs (e.g., in the South Coast), as well as facilitate the use of stationary, mobile, or area source credits as a compliance alternative to certain district rules (e.g., BARCT). The exchange mechanism provides for a uniform currency for stationary, mobile, and area source credits; however, the processes of creating credits or using credits are distinct and subject to the applicable federal, state, and district requirements.

How would districts certify credits?

A district would certify a credit when it determines that the following criteria have been met: (1) the credit is **quantifiable** because the source generating the credit used approved calculation methods as specified in the adopted protocol to quantify the emissions value of the credit; (2) the credit is **enforceable** through adopted rules, quantification protocols, and permit conditions or other enforceable instruments; and (3) the credit is **surplus and permanent for the duration of the credit’s generation** because throughout this period, the reduction was not required by any adopted local, state or federal rule, regulation, or by any measure in an approved air quality plan. If the control level in the most recent locally approved air quality plan is less stringent than the level in the applicable SIP, then the reduction must be surplus to the approved SIP.

In calculating the value of credits, districts would use technical protocols specific to the type of credit being generated. The proposed regulation identifies the elements that must be included in district protocols to ensure that credits are valid. These include calculation procedures that take into account emission rates, operating periods, activity levels, emission inventory updates, existing requirements, timelines for future requirements in

district plans, technical uncertainty and other relevant technical data. Districts would be required to use ARB calculation methodologies for mobile sources and consumer products under ARB regulatory authority.

Protocols would be required to provide a mechanism to ensure and verify that reductions occurred over the full credit generation period. Credits could not be certified until after the emission reduction had occurred. All credits, including those generated over several years, would be quantified and annualized in one year increments. Credits could be used no earlier than the activation date set by the district for each year of a multi-year credit.

How would credits be banked?

Interchangeable credits would be banked prior to use. "Banked" means that the credits have been certified and registered so their use can be tracked. Consistent with current law pertaining to credits used to offset new industrial growth, however, emission reductions proposed to offset simultaneous emission increases within the same stationary source would not need to be banked. Once a credit is certified and registered in the district's bank, the credit could be released for immediate use or held in the bank for use at some future date. Banking provisions in a district interchangeable credit trading program would have to comply with the banking requirements of state law (H&SC sections 40709 through 40714.5), the State regulation, and applicable federal requirements.

As discussed below, the proposed regulation would require district programs to ensure that use of banked credits does not result in greater emissions than would otherwise have occurred. The regulation gives districts discretion to establish appropriate time periods for the life of banked credits from stationary sources; ARB would determine appropriate credit life for mobile sources and consumer products under ARB jurisdiction.

How does the proposed regulation ensure that use of credits will not increase emissions when used in lieu of meeting district control requirements?

Districts would be required to ensure on an annual basis that the use of interchangeable credits does not result in a net emissions increase. These provisions were included to comply with H&SC section 39607.5 that requires ARB's methodology to result in maintenance and improvement in air quality.

To prevent the use of credits from resulting in emission increases, the proposed regulation contains three fundamental safeguards: (1) credits must be generated in accordance with adopted and enforceable technical protocols to ensure they are real and

well quantified; (2) credits that are generated in a given year must be surplus to existing requirements and measures in air quality plans for that year (i.e., there can be no double counting of emission reductions already accounted for); and (3) at a minimum, the district's downward trend in emissions must be maintained at the same level with the use of credits as that required by the approved plan so there is no backsliding on air quality progress (program equivalency).

The program equivalency requirement means that district rules must ensure that annual emissions of each pollutant, based on the district's portion of the adopted air quality plan, are no greater than would otherwise have occurred. A district must track the use of credits and report annually on its findings and any corrective actions taken. The equivalency determination must also take into account the seasonal nature of each air pollutant affected (exceedance season), so that the use of credits will not exacerbate public exposure to unhealthful pollution levels. The proposed rule ensures that, while equivalency is determined on an annual basis, there will be no increases during the seasons when a pollutant's concentrations are highest (e.g., ozone in summer and fall).

On a source-specific basis, existing permitting programs should ensure that an *increase* in emissions sufficient to trigger NSR is mitigated with appropriate requirements, including the application of BACT and offsets. In addition, district programs must ensure that trading does not result in forgone emission decreases from hazardous air pollutants. To address such concerns the proposed regulation would require districts to assess and consider the potential localized impacts of using credits. In no case can emissions of toxic air contaminants be allowed to increase as a result of credit use.

On what basis would emission reductions be deemed surplus for purposes of establishing interchangeable credits?

An emission reduction is considered surplus for credit purposes if, during the period of generation, the reduction is not required by any applicable permit, rule, regulation, law, ordinance, or measures in the locally approved air quality plan. The proposed regulation's definition of surplus requires the emission reduction to exceed the prevailing control level for the affected source category in the most recent local air quality plan or the approved SIP, whichever is most stringent for the time period that the credit is being generated.

When districts adopt air quality plans, they commit to adopt and implement legally-enforceable measures by date certain to achieve specific emission reductions. Credits can be granted only for surplus reductions achieved prior to the implementation date indicated in the plan. A source cannot generate credits through a reduction that would have otherwise occurred if the district had fully met its plan or SIP commitments; this

could occur if a rule is not adopted pursuant to a plan commitment, has a delayed adoption or compliance date, or fails to achieve the level of control specified in the plan. This restriction on credit generation could be lifted if the district replaces the needed plan reductions by implementing a new measure that achieves equivalent reductions.

Will the proposed regulation affect existing NSR programs?

New Source Review (NSR) is a federal and state air pollution control permit program that enables continued industrial growth in nonattainment areas, provided such growth is accompanied by a net air quality benefit. Once an emissions increase from a source triggers NSR, that business must apply the best available control technology (BACT) and mitigate, or "offset", any remaining emissions. This could be done with surplus emission reductions (emission reduction credits or "ERCs") from other emission sources that are reduced at the same time as, or "contemporaneous" with, the operation of the new source.

These surplus reductions have been created through the accelerated application of new controls, or, in many cases, through shutdowns of equipment or an entire facility. Typically, at the time of its generation, the emissions value of an ERC is discounted to the level of the most stringent future control requirement that the air quality plan would have required of the source. ERCs used in district NSR programs have no specified lifetime; in reality, most have the same lifetime as the source to which it is applied. When ERCs change hands the value may be reassessed based on prevailing requirements.

For a variety of reasons, districts may prefer to maintain a separate pool of credits for NSR purposes. The primary reason is to ensure that credits are available for new and expanding businesses. In addition, NSR credits are of a permanent duration and NSR programs are long-standing and complex. There is no need to revisit the NSR programs that have been developed and refined over many years. The proposed regulation is designed to ensure that districts do not have to change their existing NSR programs. Credits that are used only to meet NSR requirements would not be affected by the proposed regulation. However, if a district allows the use of ERCs in a compliance-based trading program, they must be included and accounted for in the air quality plan prior to use.

The provisions of the proposed regulation regarding the generation of credits apply only to credits generated after the effective date of the proposed regulation. This applies to all interchangeable credits and to ERCs that will be used interchangeably.

What actions must districts take to comply with the State regulation?

The proposed regulation would apply to any district that chooses to adopt, implement, or amend a rule or regulation that authorizes the interchangeable use of emission reduction credits for purposes other than NSR offsets. In addition, because H&SC section 40920.6 requires districts to allow the use of credits in lieu of applying BARCT under specified circumstances, districts will need to adopt new rule provisions which authorize at least this level of compliance-based credit use. Credits used in lieu of BARCT must comply with all requirements of state and federal law and applicable district rules and regulations.

Districts with existing interchangeable emission credit trading programs that do not comply with one or more provisions of the regulation would have up to 12 months to comply from the date the State Board adopts the regulation. Credits that are in use prior to adoption of the State regulation and comply with district requirements would not be affected.

What are the opportunities for use of interchangeable credits?

A number of compliance-based trading alternatives are possible within the general framework of the proposed regulation. State law requires districts to allow the use of credits in lieu of BARCT as described above.

Each district is responsible for authorizing any additional eligible credit use. For instance, districts could authorize the interchangeable use of credits for NSR offsets, and for sources subject to attainment strategies that involve credit trading, like the South Coast's RECLAIM program. Emissions trading could also be used to mitigate excess emissions caused by equipment breakdowns and variances.

Consistent with state and federal law, interchangeable credits could not be used in lieu of Best Available Control Technology (BACT). BACT is the fundamental control technology requirement for new sources of air pollution. Application of BACT to new sources has resulted in some of the most cost-effective emission reductions achieved by air pollution control programs. It is much easier and less costly to design a new source with the cleanest available technology than it is to retrofit a source at some future date.

Federal requirements also restrict the use of credits to meet federal Clean Air Act requirements affecting Lowest Achievable Emission Rates, New Source Performance Standards, and Maximum Achievable Control Technology.

Does the proposed regulation require that district programs allowing use of interchangeable credits result in a direct environmental benefit?

The proposed regulation does not require that districts achieve a direct environmental benefit when allowing use of interchangeable credits. However, districts have the discretion to do so and may want to consider it given the resources required to develop and implement credit programs.

ARB staff does not propose requiring a direct environmental benefit because the primary purpose of the rule is to facilitate use of interchangeable credits as a compliance alternative. However, an indirect environmental benefit may occur since providing increased compliance alternatives assists in implementing the measures in the clean air plan. In addition, the existence of credit programs as compliance options may stimulate early emission reductions and the development of new technologies needed for long-term attainment strategies.

Districts that pursue emissions trading as part of a market-based attainment strategy will realize a direct environmental benefit. Since the strategy will achieve new emission reductions, there is no need to require an additional environmental benefit in this case.

In terms of federal approval of district rules, U.S. EPA may require compliance-based trading programs to discount credits by a specific percentage to show a direct environmental benefit. Should that be the case, districts that submit trading rules to U.S. EPA as a SIP revision may need to incorporate an environmental discount into the credit calculation methodology. That action could be taken at the district level and would not be inconsistent with the proposed regulation.

How does the proposed regulation address potential localized impacts of credit use?

The proposed regulation requires that districts assess and consider potential localized impacts that use of interchangeable credits may have on the public's exposure to air pollutants. The use of credits in lieu of reducing emissions at particular facilities has the potential to redistribute emissions and affect public exposure on a localized basis within a region.

The potential impact of the use of credits, compared to the application of controls, will be affected by the nature of credit generation and use in a particular region. Not enough is known about the potential impacts to establish detailed statewide requirements. However, to ensure that use of credits does not result in localized public health impacts, ARB staff proposes that districts be required to assess and consider the potential

impacts as part of the public process. In no case would the proposed regulation allow increases in toxic emissions.

How does the State rule account for federal requirements?

There are limitations on using emission reduction credits to meet federal requirements. Unless the district has a SIP-approved rule governing the use of interchangeable credits, credits cannot be used to demonstrate compliance with federally enforceable Title V permit requirements or source-specific SIP requirements. Without U.S. EPA approval, a major source could potentially be subject to federal enforcement action even if the source were in compliance with applicable state and district requirements.

ARB staff believes that the proposed regulation conforms with minimum federal requirements governing market-based programs and emissions trading. However, U.S. EPA is currently developing national guidelines for federally-approvable compliance-based trading. If U.S. EPA specifies additional trading-related requirements, local rules may need to be revised to be federally-approvable. For purposes of the proposed regulation, only mandatory, legally binding national regulations are considered requirements.

Since the proposed regulation would provide a flexible framework for district rules, districts should be able to respond to future federal requirements without the need for a change to this regulation. District trading programs that are used in conjunction with an approved SIP will be reviewed by ARB, as part of its SIP oversight responsibility, for compatibility with applicable state and federal requirements. As appropriate, ARB would transmit the necessary district rules to U.S. EPA for incorporation into the SIP.

How will the proposed regulation facilitate implementation of the California Ozone SIP?

The proposed regulation is intended to help stimulate the development of new, cleaner technologies and the accelerated turn-over of older, higher emitting vehicles, products and processes. This helps achieve early emission reductions and should encourage investment in innovative technologies which are needed to achieve air quality standards.

Compliance-based trading provides businesses with an incentive to install cleaner equipment or to use more effective emission controls than required by district rules or control measures in the adopted plan. These credits can then be transferred to other companies that have higher control costs. Providing this opportunity may stimulate the development of a credit market based on the expected demand for credits to comply with district requirements, especially in long-term nonattainment areas.

How has ARB considered the factors specified in AB 1777?

The proposed regulation reflects consideration of each of the factors identified in AB 1777. These factors were discussed in the workshop process and public comments were taken into account. The most complex issue involved how long banked credits should be valid. One aspect of this issue is that many emissions will naturally diminish or disappear over time and there is concern about granting long term credits for early reductions of these kinds of emissions. One example is motor vehicle scrappage. ARB's mobile source credit guidelines recommend a limited credit life since scrapped vehicles have a limited remaining life, which is reflected in the motor vehicle emission inventory in district air quality plans. In 1997, the ARB will consider regulations specific to motor vehicle scrappage programs which are expected to incorporate this factor in the methodology for calculating credits for scrapped vehicles. The appropriate lifetime for other kinds of mobile source credits such as engine retrofits is likely to differ, so it is necessary to address this issue based on the nature of the emission reduction to be achieved. The same applies for stationary and area sources. The appropriate lifetime will vary depending upon the type of action taken to reduce emissions.

There is general agreement that there need to be opportunities for banking of credits. Banking of credits is viewed as important for incentivizing early emission reductions and investment in new technologies. The proposed regulation provides for banking of interchangeable credits consistent with the banking provisions of state law. At the same time, districts are provided the flexibility to tailor a banking program to meet their needs. The proposed regulation does not prescribe or limit how districts would provide for banking of interchangeable credits beyond the current requirements in state and federal law. The banking provisions also address the issue of providing a mechanism so that credits remain interchangeable and negotiable until used.

Another factor ARB is to consider is how to ensure that credit trading across districts or air basin boundaries maintains and improves air quality in both areas. This issue was discussed in the workshop process in the context of HSC Section 40709.6(a), which allows such trades under specified circumstances. ARB staff believes that state law adequately addresses this issue and is not proposing any additional regulatory requirements.

V. DISCUSSION OF COMMENTS ON PRELIMINARY DRAFT REGULATION

As indicated earlier, preliminary scoping meetings on rule alternatives were held in October 1995 and March 1996 with districts and the interested public. Workshops on proposed rule concepts were held in June 1996, and on a preliminary draft regulation in September 1996 and March 1997. ARB staff considered the following comments in developing the proposed regulation. In addition, ARB staff met with districts, environmental groups and industry representatives throughout the process to address technical concerns and policy-related issues.

Scope of the Regulation

Early in the process, several commenters raised the question of the appropriate scope for the proposed regulation. Southern California Edison, Southern California Gas Company, and the California Council for Environmental and Economic Balance (CCEEB) commented that the regulation should address only the concept of credit exchange--not credit generation and use.

Several districts questioned whether a regulation was actually necessary, suggesting that ARB could comply with the statute by issuing emissions trading guidance. Another concern was that districts not be required to adopt credit programs. Districts also stressed the importance of allowing flexibility so that credit programs could better meet local needs while still ensuring clean air objectives.

NRDC and the Coalition for Clean Air issued joint comments that expressed concern that the initial draft of the proposed regulation was not sufficiently protective of the attainment plan control strategy and could lead to increased emissions.

In determining the appropriate scope of the proposed regulation, ARB staff considered the factors established in AB 1777, the varying needs of different air districts, the status of district rulemaking related to interchangable credits, and the need to improve and maintain air quality consistent with air quality plans.

A minimum regulation that addresses only credit exchange, but not generation and use of credits, would not provide the safeguards called for in AB 1777 that are necessary to assure the integrity of air quality plans. On the other hand, it is clear from public comments that a detailed statewide “model rule” to be adopted by all districts is not appropriate. No single rule would meet all districts’ needs. As a result, ARB staff are proposing a regulation that establishes important safeguards while allowing districts to design credits programs that meet their needs. On the issue of guidance rather than regulation, ARB staff believes that AB 1777 requires adoption of the methodology as a

regulation. Finally, the proposed regulation does not require districts to adopt credit programs beyond the requirements of state law (e.g., H&SC section 40920.6) regarding BARCT.

Use of Credits to meet BARCT

NRDC and the Coalition for Clean Air commented that the State regulation should specify that a source cannot use credits to remove existing control equipment or switch to more polluting products. Rather, facilities should only be allowed to use credits for the purpose of avoiding compliance with future control requirements.

The proposed regulation is consistent with requirements in state law pertaining to the use of credits to meet BARCT requirements and other prohibitory rules. It does not distinguish between existing and future BARCT requirements. However, if credits are used to remove existing control equipment or reduce its efficiency, NSR could be triggered, requiring offsets and BACT. The proposed regulation specifies in section 91506(a) that districts are to adopt rules that comply with H&SC section 40920.6(c) and (d). These provisions of State law require that districts allow the use of credits in lieu of BARCT, provided the credits comply with state and federal law and applicable district requirements as well as criteria regarding the demonstrated cost of compliance. The proposed regulation would establish safeguards to ensure that as districts implement H&SC section 40920.6(c) and (d), there are no adverse impacts on air quality (see discussions on equivalency on page 9 and localized impacts on page 12).

Use of Existing ERCs as Interchangeable Credits

Some commenters questioned whether existing banked ERCs could be used as interchangeable credits and used for purposes such as meeting BARCT requirements.

If a large number of banked ERCs were used in lieu of meeting control requirements for BARCT, there is a potential for exceeding the current emission levels and impeding progress that would otherwise have occurred. For that reason, districts must include banked ERCs in their attainment plans if ERCs are to be used in lieu of BARCT.

Credits from Sources under State and Federal Jurisdiction

The Western States Petroleum Association (WSPA), the City of Los Angeles, and the Regulatory Flexibility Group commented that the State regulation should allow for district

trading programs that are open to all sources without constraint, including those directly regulated under state and federal authority (e.g., mobile sources).

The proposed regulation applies to all categories of sources, stationary, mobile, or area, unless otherwise restricted by state or federal requirements. The proposed regulation provides for the quantification and certification of surplus emission reductions from mobile sources and consumer products under ARB jurisdiction.

Definition of Surplus and Emission Baseline

Commenters acknowledged the need to use existing requirements and air quality plans as the basis for determining whether a credit is surplus as required by state and federal law. NRDC and Coalition for Clean Air commented that in the case where a district's adopted rule or plan is less stringent than the federally approved SIP, the SIP should serve as the benchmark. A similar comment was that the emissions baseline for calculating credits should be the lower of actual and permitted emission rates. Several commenters also indicated that the regulation should clarify how changes to baseline emissions would be accounted for in credit generation protocols and updates to air quality plans.

The proposed regulation requires that emission reductions be calculated using the most stringent of historic actual emissions, applicable requirements, the district's air quality plan, or federally approved SIP. This concept is applied in the proposed regulation in the definition of surplus and in the criteria for district calculation protocols.

Credit Expiration Date

Comments on expiration dates covered a wide range of opinion and included the following: no credits should have expiration dates, not all banked credits should have expiration dates, expiration dates should vary depending on the source generating the credit and the potential impact of use on future emission levels, expiration dates should be considered only for cases in which the life of the generating source is limited (e.g., car scrapping).

ARB staff is proposing that expiration dates be established by each district as part of the technical protocol adoption process, based on the nature of the emission reduction. Districts and ARB would establish appropriate expiration dates for credits generated from sources under their respective jurisdictions, consistent with their portions of air quality plans.

Environmental Benefit

NRDC and the Coalition for Clean Air commented that market trading programs should apply an "offset factor" or "discount" to ensure there is no environmental detriment from the program. The actual offset amount should be established after a market analysis is performed to determine at what level a region would achieve the maximum environmental benefit while still creating an incentive for businesses to participate in the program. Several other commenters indicated that such discounts would be a disincentive for investment in new technologies.

The proposed regulation does not include a mandatory discount in order to achieve a direct environmental benefit because it provides for an alternative means for complying with District requirements--it is not an attainment strategy. The benefits will come with full implementation of all adopted measures in the SIP. Districts, however, still have the option to require an environmental discount. In addition, U.S. EPA may require such a discount as part of its economic incentive program requirements.

Federal Requirements

The Sacramento AQMD suggested that the regulation include language which allows a "RACT adjustment" on use if required by U.S. EPA. The Yolo-Solano and Monterey Bay Unified Districts recommended that the State regulation specify that credits cannot be used by federal major sources unless the district has a SIP-approved rule that allows the use of credits in lieu of RACT.

The proposed regulation would allow a district to apply any adjustments or discounts required by U.S. EPA. Also, ARB staff recognizes that sources using credits to comply with source-specific rules may be subject to federal enforcement action until U.S. EPA approves a district rule revision that allows the use of credits to comply with RACT. This restriction applies to <u>all</u> rules which are forwarded to U.S. EPA for SIP approval and is not unique to alternative compliance rules. There is no need to address this fact in the proposed regulation itself.

BACT Requirements

The Regulatory Flexibility Group, Southern California Gas Company, and WSPA commented that although federal law currently restricts the use of credits to comply with federal BACT and LAER requirements, the statewide regulation should "keep the door open" on this issue. All indicated that emission credits should be allowed to be used for

compliance with BACT requirements if such use is more cost-effective than meeting control technology requirements.

Santa Barbara County APCD, NRDC, and the Coalition for Clean Air commented that the proposed regulation should specifically restrict using credits in lieu of BACT.

The proposed regulation specifies that interchangeable credits may not be used to comply with control technology requirements for new sources (i.e., BACT/LAER). First, neither federal nor State law authorizes the use of credits in lieu of BACT. Second, with California's persistent air quality problems, there is no rationale for foregoing cost-effective clean technology when designing new sources. The use of clean technology for new sources is an essential core element of district stationary source programs. In addition, application of BACT has resulted in some of the most cost-effective reductions achieved in California. The regulation is consistent with the BACT requirements of federal law, district air quality plans, and California's continuing need to apply the cleanest available cost-effective control technology.

Shutdown Credits

NRDC and the Coalition for Clean Air commented that the use of shutdown credits for purposes other than NSR offsets, as allowed under the proposed regulation, could result in increased emissions in the air basin.

ARB staff believes that the proposed regulation is sufficiently protective to avoid unmitigated increases from the use of shutdown credits in lieu of BARCT because the proposed regulation requires that: (1) permanent ERCs that are used for purposes other than NSR must be included and accounted for in the air quality plan prior to use; and (2) districts demonstrate that emissions in the aggregate will be no greater on an annual basis as would have occurred in lieu of trading.

Nevertheless, ARB staff is concerned that use of these credits to comply with BARCT could limit the pool of NSR credits available to new and expanding companies. Therefore, while the proposed regulation does not prohibit the use of shutdown credits to comply with BARCT, ARB staff strongly encourages districts to consider preserving shutdown credits for new sources.

Interchangeable Use of RECLAIM Trading Credits

Southern California Edison commented that it is unnecessary to delay allowing the use of RECLAIM credits as interchangeable credits because the program has already been approved according to relevant State requirements governing attainment-based trading

programs.

NRDC and Coalition for Clean Air commented that allowing non-bankable RECLAIM credits into the non-RECLAIM market is problematic, especially since many will be generated from shutdown credits.

The proposed regulation requires the South Coast District to perform a study prior to the interchangeable use of RECLAIM trading credits (RTCs) to ensure all applicable requirements of section 39616(c) of the Health & Safety Code are met. This provision of State law governs market-based incentive programs used as an attainment strategy of the air quality plan. It must be shown, for example, that interchangeable use of RTCs will not delay or hinder the attainment of air quality standards. If the District and ARB determine that the RECLAIM credits comply with these requirements as well as the criteria in the proposed regulation for the generation of credits (i.e., real, surplus, quantifiable, permanent, and enforceable), these credits would be fully interchangeable.

Air Toxics Issues

Santa Barbara County APCD commented that "offsets" from any source are not an acceptable basis to meet either federal or state air toxic requirements. NRDC and the Coalition for Clean Air also commented that the state regulation should not allow inter-pollutant trading that results in adverse health impacts of air toxics in local communities.

NRDC and the Coalition for Clean Air also commented that the State regulation should specifically require that district trading programs address potential increases in toxic emissions from facilities which purchase volatile organic compound (VOC) credits. These commenters indicated that the restriction on the use of credits to meet MACT requirements was not sufficient to protect against the development of toxic hot spots from trades under a market program. Instead, each local program must be designed to ensure toxic increases do not occur.

The City of Los Angeles expressed concern that compliance with the State regulation as proposed could lead to substantial increases in volatile organic emissions, some of which may be air toxics, adjacent to residents or sensitive receptors.

The proposed regulation requires that districts assess and consider potential localized impacts associated with credit use. In addition, the proposed regulation prohibits increases in emissions of toxic air contaminants as a result of credit use. The proposed regulation would allow the interchangeable use of credits to meet requirements to control toxic air contaminants *only* if authorized by the applicable federal and state regulations. Currently, neither state or federal provisions allow trading of air toxic

emissions.

The State statutes which require the identification and control of toxic air contaminants require compliance with all control measures with no trading options. Due to the difficulty of addressing such issues as relative toxicity, hot spots, and relative risk, the ARB has not allowed the use of emission credits across emission sources to meet any of the provisions of the various ARB measures to reduce emissions of toxic compounds. In addition, Board-approved Risk Management Guidelines for the permitting of new and modified stationary sources (July 1993) prohibit the use of offsite credits to mitigate potential increases in toxic compound emissions.

Specific district rules also limit the emissions of toxic compounds from stationary sources. These rules address permitting, Hot Spots risk reductions, and emission reductions of toxic compounds. As such, they are a mixture of risk-based and technology-based standards. As with the proposed regulations, trading across sources is not authorized by any of these rules.

The federal Clean Air Act requires the U.S. EPA to develop a program for the reduction of emissions of toxic compounds. As part of its section 112 program, the U.S. EPA must develop technology-based emission standards for over 170 stationary source categories. U.S. EPA has not authorized trading across sources to meet the provisions of the federal air toxics program. While certain technology-based standards allow limited emissions averaging within specified source categories at a particular facility, U.S. EPA regulations and policy guidance addressing alternative rules and programs have clearly prohibited the use of trading across sources to meet federal standards.

Aggregation of Interchangeable Credits

Several districts expressed concern about the concept of aggregating several years of credits for use during a single year. Santa Barbara County APCD and Monterey Bay Unified APCD commented that this provision could produce substantial adverse environmental impacts and jeopardize attainment of federal and state air quality standards.

Under the proposed regulation, districts have the discretion to determine whether interchangeable credits can be aggregated for use in any one year. Further, districts that develop interchangeable credit programs must provide for an assessment of potential localized impacts that use of credits may have on public exposure to air pollution. In

addition, districts must ensure that the use of credits, in the aggregate, results in no greater emissions on an annual basis than would have occurred in lieu of trading.

Inter-District Trading within a Nonattainment Area

The Sacramento AQMD commented that interchangeable credits should be tradeable across district boundaries within a nonattainment area to be consistent with the interchangeable credit program already adopted in the district. Sacramento AQMD also commented that the state regulation should allow any district within a multi-district nonattainment area to process credits that are generated from mobile or area sources that cross over district lines.

The proposed regulation allows the interchangeable use of credits among districts within the same nonattainment area if these districts establish a multi-district banking program.

Program Tracking and Reporting

The Sacramento AQMD commented that state law does not require districts to report on the progress of an interchangeable credit program on a triennial basis and that this requirement in the proposed regulation runs counter to the intent of the legislation to facilitate establishment of interchangeable credit programs.

NRDC and the Coalition for Clean Air commented that the State regulation should require districts with compliance-based trading programs to perform an annual audit of emissions to ensure that the trading program is not resulting in increases in emissions. A triennial audit is not sufficient to ensure that the program stays on track, particularly if banking is allowed.
The proposed regulation requires that districts track and report on their interchangeable credit programs annually. ARB staff believes that the information requested is no more than districts would need to maintain for their own use in order to ensure that the use of interchangeable credits meets the equivalency requirement.

VI. ALTERNATIVES CONSIDERED

ARB staff considered two alternatives in addition to the proposed regulation. The first alternative was to limit the proposed regulation to a rate of exchange for credits traded. The second alternative was adoption of a comprehensive set of requirements that would attempt to address the details of a variety of compliance-based trading programs that a district might choose to develop.

1. Rate of Exchange Regulation

The first alternative considered would have limited rulemaking to a credit exchange function in which the trading unit would be normalized to a universal mass emissions denomination, such as pounds of emissions reduced in a specific year.

In fact, the proposed regulation does include such a provision. However, ARB staff believes that limiting rulemaking to just this provision would not fully satisfy the requirements of AB 1777 and could lead to backsliding on progress towards attainment of air quality standards.

AB 1777 requires ARB is to ensure that the methodology results in the maintenance and improvement of air quality consistent with the requirements of the H&SC. ARB is also required to ensure that any credit calculation methodology does not result in double-counting of emissions. Finally, this statute requires the ARB to consider credit life, banking, and overall trading viability when developing its methodology.

ARB staff also believes that this approach would not clarify the regulatory context of compliance-based trading as it might apply to New Source Review or cap & trade programs; nor would a limited rule address issues governing credit life, federal approvability, or compatibility with attainment plan requirements. Without criteria that establish general requirements for program approvability, there are no identified benchmarks that districts can use. Moreover, a rule without safeguards or benchmarks could open the door to compliance options that are at cross-purposes with an approved attainment strategy or conflict with applicable state and federal requirements.

Finally, section 40920.6, which requires districts to allow retirement of credits in lieu of BARCT, is not self-implementing and will require districts to consider rule changes that encompass the factors that AB 1777 directs ARB to consider.

2. Comprehensive Trading Rule

This alternative would consist of a model rule for compliance-based trading and attempt to address all potential issues related to trading, banking, and specific calculation protocols.

An important feature of emissions trading is the added flexibility given to a permitted source to select the most cost-effective alternative for complying with district rules. A comprehensive "model rule" which addresses all likely issues in all districts would by its nature be overly complex and prescriptive. Additionally, ARB staff believes that the first priority is to address requirements that are essential to the development of emissions trading programs.

Therefore, the proposed regulation only addresses those requirements for the interchangeable use of credits that represent the fundamental minimum requirements affecting credit denomination and banking, generation and use, calculation methodologies, and reporting requirements. ARB staff expect to work with districts that develop credit programs to ensure that the principles and criteria established by the regulation are fully implemented.

VII. POTENTIAL ENVIRONMENTAL IMPACTS

Proposed Finding: The proposed regulation is not expected to result in significant adverse environmental impacts. Pursuant to AB 1777, the methodology provides an alternative means for complying with air pollution emission reduction requirements. As such, the proposed regulation should inherently result in the maintenance and improvement of air quality provided that interchangeable credits are valid and used in ways consistent with air quality plans. The proposed regulation establishes fundamental safeguards to ensure that interchangeable credits are valid and used appropriately.

Air Quality Impacts

Under a compliance-based trading program, a facility or source that voluntarily lowers its emissions to a greater extent than required under applicable rules or regulations could earn a credit equal to the surplus emissions reduced. That credit could then be sold to another source to use as an alternative measure of compliance with applicable rules and regulations or to allow an increase of emissions up to the value of the credit. As a result, there should be no net change in air quality over time as a result of this rule.

The proposed regulation specifies minimum requirements for districts to use when authorizing the interchangeable use of credits to meet district requirements. District rules may be more stringent, except where provisions of the proposed regulation specify otherwise. Because the proposed regulation does not dictate the specific contents of a district trading rule, districts have flexibility in the type and extent of trading program that they adopt. Therefore, the ARB cannot identify the specific potential environmental impacts of the proposed rule at the district level. Any direct impacts resulting from district adoption and implementation of such a program would be separately evaluated by the affected district through applicable state and local environmental review processes. Nevertheless, the ARB did evaluate, to the extent possible, the potential indirect impacts that the proposed State rule might have on district compliance through implementation of a trading program.

Although all of the issues evaluated have air quality implications, most are not expected to result in a measurable adverse impact provided district programs comply with the proposed regulation. Interchangeable credits should not have an adverse impact because they are required to be real, surplus, permanent for the duration of generation, quantifiable, and enforceable. However, the use of credits has a potential for adverse impacts, e.g., aggregating credits for use in one compliance period could result in localized or seasonal air quality impacts that were not anticipated in the air quality plan. It would be the responsibility of the district to determine whether the use of credits in its specific program would result in such a potential impact, and if so, to mitigate the

adverse impacts.

Aggregating Credits

Districts could allow the aggregation of credits for use in any single year. Because credits are generated and registered on an annual basis, a source could purchase several years of credit for use in one year. Under this scenario, there is a potential for adverse environmental impacts.

The proposed regulation addresses this possibility by requiring, at a minimum, "equivalency" from an emissions standpoint. Specifically, districts are required to ensure that the use of interchangeable credits does not result in greater aggregate emissions than would otherwise have occurred on an annual basis. A potential for emission increases exists to the extent that districts do not adequately track or limit use of banked credits and ensure that this requirement is met.

Use of Permanent ERCs

The proposed regulation requires that banked ERCs that are used for purposes other than NSR must be included and accounted for in the air quality plan prior to use. The reason for this requirement is demonstrated in Table 1. A quick look at required BARCT reductions versus existing banked ERCs in several districts in California shows the reason for the concern about their possible use in lieu of BARCT. In a few cases, virtually all of a district's required BARCT reductions could be met with existing banked ERCs. This would mean foregone emission reductions from an actual emissions standpoint. In addition, if the ERCs were not included in the air quality plan and were then used to meet BARCT, the attainment demonstration would be jeopardized. While this is not the most likely scenario, the potential for an adverse environmental impacts exists in some cases.

Table 1
Required BARCT Reductions in 1999 and Banked ERCs for VOC and NOx in Three Districts in California
(in tons per day)

	New BARCT Reductions and Banked ERCs in 1999			
	BARCT Reductions		Banked Credits	
APCD	**VOC**	**NOx**	**VOC**	**NOx**
South Coast	87	13	29	3
Sacramento	13	2	2.4	2.3
San Joaquin	33	20	32	26

Using banked ERCs to meet BARCT requirements also raises concerns about the potential impact on the introduction of new, cleaner technologies. If banked ERCs are used after the year 2000, the advancement of new technologies needed for post-2000 attainment could be slowed.

Banking and the Potential For Benefits From Early Reductions

Providing for the banking of credits may provide incentives for early voluntary emission reductions that would not otherwise have occurred. To the extent these banked credits are not used there is an air quality benefit. The net balance of generation and use of new emission reductions not already accounted for in the air quality plan will determine if there is an "early reduction" benefit as a result of the credit program.

Use of Credits from Exempt Sources

H&SC section 40714.5 requires that, for any emission reduction that occurred since January 1, 1991, or occurs at any time in the future at a source that was and remains exempt from district rules and regulations, the district shall grant credits in the quantity of the emissions reduced at the source, unless otherwise provided by law.

The use of these credits could introduce a significant quantity of emissions back into the air that have not been accounted for in air quality planning inventories. However, until the program is implemented at the district level, it is difficult to specify accurate numbers for who would apply for and receive credits from exempt sources and in what quantities.

While State law requires that certain credits be granted retroactively, the use of these credits would be subject to the same federal, state, local requirements that would apply to other interchangeable credits.

Land Use and Planning

Present or planned land uses in the jurisdiction of local districts would not be affected as a result of the proposed State regulation. Land use considerations are determined by local governments and no land use or planning requirements would be altered by the proposed regulation. The proposed regulation merely provides regulated entities with a voluntary alternative method of reducing costs and increasing flexibility in complying with district rules and regulations.

Population and Housing

Human population within a district's jurisdiction is anticipated to be unaffected by compliance with the proposed regulation. Further, the proposed regulation is not expected to result in the creation of any industry that would significantly affect population growth, or directly or indirectly induce the construction of single- or multiple-family units, beyond that addressed in the socio-economic analyses of the air quality plans. No population relocation or growth inducement is expected from the rule's implementation. The implementation of a compliance-based trading program may have positive economic effects, however, no impacts on population are expected.

Geophysical

The proposed regulation would not require disruption or over covering of soil, changes in topography or surface relief features, the erosion of beach sand, or a change in existing siltation rates. In addition, the proposed regulation will not expose people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards because it does not directly or indirectly require facilities to modify any on-site or off-site geophysical formations to generate credits.

Water

The proposed regulation is not expected to have any direct impacts on water resources. However, certain district trading programs may cause adverse water resource impacts in the event that they result in increased water demand or wastewater discharge. For example, reformulated cleaning solvents from petroleum-based to low VOC aqueous-based solvents could result in increased discharge of wastewater exceeding regulatory

limits. When the districts adopt their credit trading rules, they will perform an environmental impact analysis to comply with CEQA. If a CEQA analysis were to point to the potential for significant impacts due to the trading program, then the district would need to consider alternatives and project specific mitigation measures to reduce adverse impacts on water resources.

Transportation/Circulation

A district compliance-based trading program that complies with the proposed regulation may result in slight transportation impacts. For example, credits could be used in lieu of complying with ridesharing targets. On the other hand, higher than anticipated ridesharing rates could be used as a credit for use to meet other district requirements. This would tend to encourage more effort expended towards exceeding ridesharing goals and would increase circulation and mobility.

Biological Resources

No direct impacts from the proposed regulation were identified that could adversely affect plant or animal species or the resources on which they rely as a result of a district compliance-based trading program that complies with the proposed regulation. Indirect impacts of this rule must be evaluated in the credit trading rule development process of affected districts.

Energy and Mineral Resources

A district compliance-based trading program that complies with the proposed regulation is not expected to deplete non-renewable mineral resources at an accelerated rate or in a wasteful manner. There are no anticipated significant adverse impacts to mineral resources. It is possible that credits could be generated through greater use of alternative fuels. The increased use of alternative fuels or electricity as a result of a trading program should be thoroughly analyzed in a district's EIR for its proposed trading program or for its rule implementing these State-imposed requirements, or in the environmental analysis for district trading program regulations.

Hazards

CEQA analysis of some district rules have indicated that they have the potential to generate adverse hazard impacts in the event that the control technologies result in the use of hazardous materials (e.g., ammonia). However, a district compliance-based trading program that complies with the proposed regulation is not expected to result in a significant increase in potential hazard impacts as compared to existing or future source-

specific rules for the following reasons: (1) the voluntary generation of credits is anticipated to typically occur from over- or early-compliance with source specific rule requirements or possibly from business decisions unrelated to air quality; (2) credits cannot be used in lieu of source-specific compliance with air toxic standards; (3) federal law requires public notification of projects that may result in toxic emission decreases foregone; and (4) district regulations prevent projects or operations that may pose a significant risk from toxic emissions. See discussion on air toxics impacts for further elaboration of this issue as it may relate to localized impacts.

Noise

Some types of air pollution control equipment generate noise. Implementation of a compliance-based trading program, however, is not expected to result in a substantial increase in the use of air pollution control equipment; instead, such controls are likely to be installed in advance of the time such regulations would be required. In the event an interchangeable credit program allows regulated facilities to comply with applicable air quality rules and regulations through means other than installing control equipment, there could be a reduction in potential noise impacts due to air pollution control projects. Therefore, potential adverse noise impacts are not expected to be significant.

Public Services

Air pollution control rules in general have little possibility of adversely affecting public services with the possible exception of fire departments. Potential impacts to fire departments could occur from the increased use of hazardous materials. As already indicated in the "hazards" section above, the proposed regulation will not result in an increase in the use of hazardous materials. Therefore, any voluntary program for the generation of credits is not anticipated to result in adverse public service impacts to any public service agencies.

Solid/Hazardous Waste

The proposed regulation is not anticipated to result in a substantial increase in the generation of solid or hazardous wastes for the reason stated under "Hazards" above. Therefore, potential adverse waste impacts are not expected to be significant.

Aesthetics

A district compliance-based trading program that complies with the proposed regulation is not expected to result in any new construction of buildings and, thus, would not cause

adverse affects to scenic vistas.

Cultural Resources

Significant adverse impacts to cultural resources are not expected because the proposed regulation would not require destruction or alteration of any buildings or sites with prehistoric, historic, archaeological, religious, or ethnic significance.

Recreation

The proposed regulation is not expected to affect recreational opportunities in the state.

VIII. ECONOMIC CONSIDERATIONS

General

The proposed regulation would have no significant adverse impact on California businesses and individuals. Many businesses are likely to benefit from the proposed regulation. The trading program is designed to support and encourage the use of emission reduction credits by eliminating restrictions on trading among stationary, mobile, and area sources. The use of emission reduction credits as a compliance alternative is expected to provide businesses with flexibility in adopting the least-cost measure for meeting district control requirements.

The trading program is expected to lower overall compliance costs for businesses. This is because businesses would only engage in trading if they can comply with the proposed regulation at a cost lower than that of district source-specific rule requirements. The program also provides businesses with incentive to continuously develop new and cleaner control technologies and processes. As a result, ARB staff expects the proposed regulation to have overall positive impacts on California employment, business status, and competitiveness.

Any expenses or costs that may be incurred by districts as a direct result of this regulation should be recoverable through district permit and trading programs which are fee-driven, i.e., administrative costs incurred by districts are borne by facilities that engage in emissions trading through the district permitting process. Therefore, any additional administrative costs resulting from a district's existing or expanded emissions trading program is (a) at the district's initiative; and (b) financed through fees borne by participating permitted sources.

Impact on Cost-Effectiveness and Technological Innovation

The voluntary generation of emission credits is anticipated to occur from over- or early-compliance with source-specific rule requirements or possibly from business decisions unrelated to air quality. It is less likely that a company would generate credits merely for speculation purposes. District implementation of a compliance-based trading program could also provide an added incentive to install cleaner equipment or use more effective emission controls than that required by district or State regulations or control measures, if it fit in with business operational plans. Since compliance-based trading is an alternative to compliance, the magnitude of its benefit to business will depend on the participation of innovative businesses, the number of participants in the market, and the cost estimates performed by the districts when they adopt their rules and regulations as specified in H&SC 40920.6 (d).

The effects of three current emission trading programs on control cost and/or technological innovation is summarized below.

1. RECLAIM

In the first year of RECLAIM's implementation, early data collected from 50 percent of the RECLAIM sources indicated that RECLAIM facilities will be spending 15-30 percent less than the original estimated cost for monitoring equipment without sacrificing the integrity of the emission data. Since trading commenced in 1994, more than $15 million in transactions have been registered in the combined NOx/SOx market. At last count, the average NOx credit prices range from $26/ton for 1994 to about $1,500/ton for 2010 credits. Average SOx credit prices range from $13/ton for 1994 to about $960/ton for 1996 through 1998. This amount is well below today's average cost of NOx reductions under command-and-control, which can amount to as much as $10,000 per ton. However, part of the reason lies in the fact that facility allocations in the early years of RECLAIM were based on pre-recessionary compliance levels, allowing supply to exceed demand. Although trading prices will undoubtedly go up in future as supply and demand curves cross over in the next two years, trends look as if market prices for credits will continue to be lower than originally forecast in 1993.

2. NOx Cap Program in the Northeast U.S.

During a pilot project to test the viability of compliance-based trading, more than 5,000 tons of NOx and VOC (combined) were removed from the air in 1992 and 1993 by several means including energy conservation measures, selective non-catalytic reduction, fuel switching, and process changes.

3. Acid Rain Trading Program

U.S. EPA's market-based system to reduce power plan emissions places a tangible monetary value on emissions avoidance, coupled with emissions trading. This has resulted in a wider range of control options used by utilities in the program since its inception in 1991. In turn, program participants are applying cost-effective solutions that are also cost-beneficial.

Emissions banking in the federal program has led to over-compliance since its inception. On the other hand, short-term permit limits continue in place for regulated units, thus

avoiding the potential of adverse impacts if too many allowances were to be withdrawn at one time.

Appendix A

Proposed regulation on
Interchangeable Air Pollution Emission Reduction Credits

Appendix A

Proposed Regulation to Establish a Statewide Methodology To Calculate the Value of Emission Reduction Credits That Are Used Interchangeably

California Air Resources Board

The proposed regulation would be incorporated as new section 91500 through 91508 of Subchapter 5.5, Chapter 1, Division 3, Title 17, California Code of Regulations, to read as follows:

Subchapter 5.5 INTERCHANGEABLE AIR POLLUTION EMISSION REDUCTION CREDITS

Article 1. Scope and Policy; Definitions

91500. Purpose.

This regulation establishes a statewide methodology for use by air pollution control and air quality management districts (Districts) when calculating the value of emission reduction credits from stationary, mobile, or area sources. As such, this regulation (1) provides a uniform exchange mechanism for stationary, mobile, and area source credits; and (2) provides for the use of credits as a compliance alternative for meeting specified District control requirements. The regulation is intended to ensure that interchangeable credits represent verified emission reductions that are real, permanent, quantifiable, enforceable, and surplus to those emission reductions which are needed to comply with existing requirements and with District air quality plans.

91501. Definitions.

In complying with this regulation, Districts shall apply definitions included in District rules adopted pursuant to section 40709 et seq. of the Health and Safety Code, except as defined below.

(a) "Air quality plan" includes, but is not limited to, attainment, rate-of-progress, and maintenance plans adopted by Districts pursuant to State requirements specified in Chapter 10 (commencing with section 40910) of Part 3 of the Health & Safety Code (the California Clean Air Act), and federal requirements specified in the Clean Air Act governing the State Implementation Plan (SIP).

(b) "Certified" means an interchangeable credit has been evaluated by the air

pollution control officer of the affected District pursuant to the requirements of this regulation and found to comply with all applicable District, state, and federal requirements.

(c) “Credit generation period“ means the period of time, specified by year, in which interchangeable credits are generated.

(d) “Emission reduction duration“ means the length of time during which the action generating the emission reduction credit results in verifiable and surplus emission reductions.

(e) “Interchangeable credit“ means an emission reduction credit generated from a stationary, mobile, or area source that can be used, traded, or banked among programs and/or source categories as specified in this regulation and in accordance with state and federal law.

(f) “Registered“ means that an interchangeable credit has been deposited, withdrawn, or transferred through the act of recording a transaction in a District’s banking register.

(g) “Surplus“ means that the reduction is not required throughout the time of the emission reduction duration by any local, state or federal permit, rule, regulation, law, ordinance or the most recent locally approved air quality plan. If the control efficiency or emission standard in the most recent locally approved air quality plan is less stringent than the control efficiency or emission standard in the applicable SIP for a specific source category, then the federally approved SIP will be used for purposes of determining surplus reductions.

Article 2. Credit Exchange Function

91502. Certified Credits

District certified credits that are generated pursuant to relevant district, state, and federal requirements and calculation protocols can be used interchangeably among programs and/or source categories to meet applicable district requirements to the extent provided by district rules.

91503. Credit Denomination

The value of a credit that is used interchangeably shall be expressed in pounds of pollutant in the year generated.

91504. Banking

(a) Interchangeable credits shall comply with the requirements set forth in Health and Safety Code sections 40709 through 40714.5, and applicable federal requirements governing the creation, banking, and use of credits. Emission reductions proposed to offset simultaneous emissions increases within the same stationary source need not be banked prior to use as offsets, pursuant to section 40709(c).
(b) The District shall specify the earliest year in which an interchangeable credit can be used.

(c) An interchangeable credit cannot be used prior to its certification and registration, or in any instances in which the District determines such use would not comply with section 91506(d).

(d) Credits can be used interchangeably within the time period specified by the District or ARB, consistent with the air quality plan, applicable state and federal requirements and section 91507(b)(6).

(e) While banked, a certified and registered credit will retain its full value. At the time of use, credits will be subject to prevailing federal, state, and district requirements.

Article 3. Criteria and Methodology for Generation and Use of Interchangeable Credits.

91505. Applicability.

(a) The provisions set forth in this subchapter shall apply to any District which adopts, implements, or amends a rule or regulation which provides for the generation and use of interchangeable credits from stationary, mobile, or area sources.

(b) Districts with existing interchangeable credit and trading rules and regulations shall make amendments as necessary to comply with this regulation within nine months of its effective date, unless the District can demonstrate to the satisfaction of the Executive Officer that more time, not to exceed one year total, is necessary.

(c) Districts with market incentive programs authorized by Health and Safety Code sections 39616 and 40440.1 that propose to expand such programs to allow the use of interchangeable credits shall ensure compliance with the criteria set forth in section 39616(c), and this regulation.

(d) Districts may maintain a separate account of emission reduction credits for

new source review offset purposes consistent with sections 40709 et seq. and 40918 through 40920.5 of the Health and Safety Code without complying with the provisions of this regulation.

(e) Credits that are used interchangeably must meet all applicable federal, state, and district requirements, including but not limited to the provisions of this subchapter, the adopted air quality plan, and those pertaining to the generation and use of emission reduction credits.

91506. Generation and Use.

(a) Districts shall adopt rules which, at a minimum, comply with the provisions of this subchapter and with sections 40920.6(c) & (d) and 40709-40714.5 of the Health and Safety Code prior to allowing the use of interchangeable credits to meet District requirements other than the offset provisions of their new source review programs.

(b) Interchangeable credits must be certified by the District in which the generation occurs and registered in that District's emission reduction credit bank prior to use. Districts within the same nonattainment area may establish a multi-district banking program.

(c) Districts, in consultation with the Air Resources Board, shall adopt enforceable technical protocols that define how emission reductions will be calculated for purposes of certifying them as interchangeable credits.

(d) Use of interchangeable credits must, in the aggregate, result in no greater annual pollutant-specific emissions than would have occurred in lieu of trading, consistent with the District's portion of the air quality plan. The assessment of equivalency shall take into account the exceedance season for each affected nonattainment pollutant.

(e) Districts shall ensure compliance with federal, state and District requirements governing credit generation and use through permit conditions or other enforceable instruments.

(f) Districts shall not allow the use of emission reduction credits to comply with the "best available control technology" requirements of sections 40405 and 40918-40920.5 of the Health and Safety Code, or with any technology-based requirements of sections 111, 169, 171 and 173 of the federal Clean Air Act.

(g) Districts may authorize the use of interchangeable credits consistent with any

federal, state, or local requirements applicable to toxic air contaminants, only if allowed by regulations established pursuant to section 39665 et seq. of the Health and Safety Code, and section 112 of the federal Clean Air Act.

(h) Surplus emission reductions that meet the requirements of Health and Safety Code section 40714.5 can be used to create interchangeable credits. If not already accounted for in District air quality plans, baseline emissions from qualifying sources must be included and accounted for in the next update to the plan.

(i) Emission reduction credits from permitted stationary sources that were certified and banked solely for use in a District's new source review program must be included and accounted for in the air quality plan prior to use in an interchangeable credit trading program.

(j) Emission reduction credits or market-based trading instruments generated under programs authorized by Health and Safety Code sections 39616 and 40440.1 may be used interchangeably only upon a determination by the District, based upon a study conducted by the District, with the concurrence of the ARB, that the interchangeable use of such credits complies with all applicable requirements, including the criteria in Health and Safety Code section 39616(c).

(k) District rules shall provide for assessment and consideration of potential localized impacts that use of interchangeable credits may have on the public's exposure to air pollution. In no case shall emissions of toxic air contaminants established pursuant to section 39665 et seq. of the Health and Safety Code and section 112 of the federal Clean Air Act be allowed to increase as a result of credit use.

91507. Calculation Methodology.

(a) Interchangeable credits shall be calculated based on a District's adopted calculation protocol. The calculation protocol shall include the elements specified in subparagraph (b) and shall be consistent with the following criteria:

(1) Emission reductions used to generate interchangeable credits shall be real, permanent for the term of credit generation, enforceable, surplus, and quantifiable.

(2) Emission reductions shall be calculated using the most stringent of historic actual emissions, applicable requirements, the District's air quality plan, or the federally approved SIP.

(b) Districts shall provide for enforceable credit calculation protocols and

procedures that contain the following elements:

(1) Calculation methods to determine the amount of reductions being generated as credits, including formulae accounting for emissions rate, operating period, activity level, and technical uncertainty.

(2) Procedures for calculating, certifying, and registering credits in one year increments when credits are generated from multi-year emission reductions.

(3) Procedures for certifying that emission reductions are surplus and available for use as interchangeable credits.

(4) Procedures to incorporate emission inventory updates and changes in source category baselines, air quality plans, and applicable regulatory requirements into the credit calculation protocols.

(5) Methodologies used to determine the time period in which a banked credit is available for use, consistent with the air quality plan.

(6) Provisions for the use of ARB calculation methodologies, emission factors, certification standards, emission baseline data, and timeframes for credit use for mobile sources and for products under ARB regulatory authority.

(7) Provisions for monitoring, recordkeeping, and reporting requirements to verify and enforce credit generation at the specified value over the full generation period.

91508. Program Reporting

(a) Districts shall prepare an annual report on their interchangeable credit trading programs that document the following:

(1) Quantity of interchangeable credits generated and used, by pollutant;

(2) Extent to which emission reduction credits were used, by rule and source category, to comply with Best Available Retrofit Control Technology and how they were accounted for in the air quality plan;

3) Summary of changes made affecting the calculation methodology elements defined in section 91507(b); and,

(4) Actions taken to comply with applicable credit generation and use requirements contained in section 91506.

(5) A finding as to whether use of interchangeable credits complied with section 91506(d) requirements.

(b) As part of the triennial progress assessment of the air quality plan, Districts with interchangeable credit trading programs shall evaluate the performance of the program as an alternative compliance approach to meet applicable District requirements. The evaluation shall include the results of the annual reports and identify what, if any, changes were incorporated into the emission inventory update as a result of program implementation.

Appendix B

ASSEMBLY BILL 1777,
BREWER. AIR POLLUTION: EMISSION REDUCTION CREDITS.

Appendix B

ASSEMBLY BILL 1777 CHAPTERED 10/13/95

CHAPTER 805
FILED WITH SECRETARY OF STATE OCTOBER 13, 1995
APPROVED BY GOVERNOR OCTOBER 12, 1995
PASSED THE SENATE SEPTEMBER 15, 1995
PASSED THE ASSEMBLY SEPTEMBER 15, 1995
AMENDED IN SENATE AUGUST 31, 1995
AMENDED IN SENATE JULY 26, 1995
AMENDED IN ASSEMBLY MAY 30, 1995
AMENDED IN ASSEMBLY MAY 2, 1995
AMENDED IN ASSEMBLY APRIL 17, 1995

INTRODUCED BY Assembly Member Brewer

FEBRUARY 24, 1995

An act to add Sections 39607.5 and 39617 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

AB 1777, Brewer. Air pollution: emission reduction credits.

(1) Existing law authorizes air pollution control districts and air quality management districts to establish a system to bank and use emission reductions to offset future increases. Existing law also authorizes the districts to establish a market-based incentive program to achieve emission reductions.

This bill would require the State Air Resources Board to adopt a methodology for districts to calculate the value of emission reduction credits from stationary, mobile, except as specified, indirect, and areawide sources when used interchangeably. The bill would require the districts to use that methodology, as specified, thereby imposing a state-mandated local program, and would authorize a district to use an alternative methodology, as specified, prior to its adoption by the state board.

(2) Existing law requires the Department of Consumer Affairs and authorizes the districts to establish programs for the repair or replacement of high-emitting vehicles. Existing law requires the state board to develop a methodology for, and to undertake, a uniform

data analysis to provide an accounting of the emission reductions achieved by all those programs.

This bill would require state, district, and local programs for the repair or retirement of those vehicles to provide for the calculation of emission reductions based on actual emissions, as specified, thereby imposing a state-mandated local program.

(3) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

SECTION 1. Section 39607.5 is added to the Health and Safety Code, to read:

39607.5. (a) The state board shall develop, and adopt in a public hearing, not later than June 30, 1997, a methodology for use by districts to calculate the value of credits issued for emission reductions from stationary, mobile, indirect, and areawide sources, including those issued under market-based incentive programs, when those credits are used interchangeably.

(b) In developing the methodology, the state board shall do all of the following:

(1) Ensure that the methodology results in the maintenance and improvement of air quality consistent with this division.

(2) Allow those credits to be used in a market-based incentive program adopted pursuant to Section 39616 that requires annual reductions in emissions through declining annual allocations, and allow the use of all of those credits, including those from a market-based incentive program, to meet other stationary or mobile source requirements that do not expressly prohibit that use.

(3) Ensure that the methodology does not do any of the following:

(A) Result in the crediting of air emissions which already have been identified as emission reductions necessary to achieve state and federal ambient air quality standards.

(B) Provide for an additional discount of credits solely as a result of emission reduction credits trading if a district already has discounted the credit as part of its process of

identifying and granting those credits to sources.

(C) Otherwise provide for double-counting emission reductions.

(4) Consult with, and consider the suggestions of, the public and all interested parties, including, but not limited to, the California Air Pollution Control Officers Association and all affected regulated entities.
(5) Ensure that any credits, whether they are derived from stationary, mobile, indirect, or areawide sources, shall be permanent, enforceable, quantifiable, and surplus.

(6) Ensure that any credits derived from a market-based incentive program adopted pursuant to Section 39616 are permanent, enforceable, quantifiable, and are in addition to any required controls, unless those credits otherwise comply with paragraph (2).

(7) Consider all of the following factors:

(A) How long credits should be valid.

(B) Whether, and which, banking opportunities may exist for credits.

(C) How to provide flexibility to sources seeking to use credits so that they remain interchangeable and negotiable until used.

(D) How to ensure a viable trading process for sources wishing to trade credits consistent with this section.

(E) How to ensure that, if credits may be used within and between adjacent districts or air basins where sources are in proximity to one another, the use occurs while maintaining and improving air quality in both districts or air basins.

(c) If necessary, the state board shall periodically update the methodology as it applies to future transactions.

Appendix C

SENATE BILL 456
KELLEY. AIR POLLUTION: BEST AVAILABLE CONTROL TECHNOLOGY.

Appendix C

SENATE BILL 456 CHAPTERED 10/13/95

Chapter 837
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AMENDED IN SENATE APRIL 17, 1995
AMENDED IN SENATE MARCH 30, 1995

INTRODUCED BY Senator Kelley
(Principal co-author: Assembly Member Goldsmith)

FEBRUARY 16, 1995

An act to add Sections 40440.10, 40440.11, and 40920.6 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

SB 456, Kelley. Air pollution: Best Available Control Technology.

SEC. 3. Section 40920.6 is added to the Health and Safety Code, to read:

40920.6. (c) A district shall allow the retirement of marketable emission reduction credits under a program which complies with all of the requirements of Section 39616, or emission reduction credits which meet all of the requirements of state and federal law, including, but not limited to, the requirements that those emission reduction credits be permanent, enforceable, quantifiable, and surplus, in lieu of any requirement for best available retrofit control technology, if the credit also complies with all district rules and regulations affecting those credits.

Appendix D

SENATE BILL 1098
DILLS. AIR POLLUTION: MARKET-BASED INCENTIVE PROGRAM.

Appendix D

SENATE BILL 1098 CHAPTERED 10/13/95

CHAPTER 856
FILED WITH SECRETARY OF STATE OCTOBER 13, 1995
APPROVED BY GOVERNOR OCTOBER 12, 1995
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AMENDED IN ASSEMBLY JULY 19, 1995
AMENDED IN ASSEMBLY JUNE 22, 1995
AMENDED IN SENATE APRIL 5, 1995

INTRODUCED BY Senator Dills

FEBRUARY 24, 1995

An act to add Section 40714.5 to the Health and Safety Code, relating to air pollution.

LEGISLATIVE COUNSEL'S DIGEST

SB 1098, Dills. Air pollution: market-based incentive program.

(1) Existing law authorizes air pollution control districts and air quality management districts to adopt market-based incentive programs to improve air quality.

The bill would require the districts, as to sources in the South Coast Air Quality Management District and Ventura County until January 1, 1999, and statewide on and after that date, to grant emission reduction credits or marketable trading credits without discount or reduction, except as specified, to sources that are exempt from specified district rules and regulations, thereby imposing a state-mandated local program by imposing new duties on the districts.

The bill would make legislative findings and declarations in that regard.

(2) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified

reason.

SECTION 1. Section 40714.5 is added to the Health and Safety Code, to read:

40714.5. (a) The Legislature hereby finds and declares all of the following:

(1) Because of policy considerations, certain sources of air pollution are exempt from district permitting requirements or are not otherwise controlled by districts.

(2) Emissions from some of these sources can be reduced through cost-effective measures, thereby creating additional emission reduction credits.

(3) An increased supply of emission reduction credits is beneficial to local economies.

(4) The purpose of this section is to provide an incentive to generate additional and fully valued emission reduction credits by encouraging emission reductions from these sources without subjecting them to a district permitting process.

(b) (1) With respect to any emission reduction that occurred since January 1, 1991, or occurs at any time in the future at a source that was and remains exempt from district rules and regulations, the district shall grant emission reduction credits or marketable trading credits without any discount or reduction in the quantity of the emissions reduced at the source unless otherwise provided by law. Emission reduction credits or marketable trading credits issued by the district for those exempt sources may be reduced only when applied to new source review permitting of other stationary sources, or according to any applicable requirement of a marketable trading credit program.

(2) Any credits issued by a district pursuant to this subdivision shall meet all of the requirements of state and federal law, including, all of the following:

(A) That the credits do not result in the crediting of air emissions which are already contemporaneously required by an emission control measure in a plan necessary to achieve state and federal ambient air standards.

(B) That the credits do not provide for an additional discount of credits solely as a result of emission reduction credits trading if a district has already discounted the credit as part of its process of identifying and granting those credits to sources.

C) That the credits do not, in any manner, result in double-counting of emission reductions.

(D) That but not limited to, the credits be permanent, enforceable, quantifiable, and surplus.

(3) Until January 1, 1999, this subdivision applies only to sources within the boundaries of the south coast district or in Ventura County. On and after January 1, 1999, this subdivision applies statewide.

Appendix E

EMISSIONS CREDITS AND TRADING REQUIREMENTS

Appendix E

EMISSIONS CREDITS AND TRADING REQUIREMENTS

The following requirements affect the approvability of generation, trading, and use of interchangeable credits:

FEDERAL LEGISLATION: CLEAN AIR ACT

Sections 172(c)(5) and 173, New Source Review

Provides the regulatory mechanism to allow continued industrial growth while minimizing the amount of emission increases from this growth. The two major components of New Source Review (NSR) programs require sources to apply best available control technology (BACT) or lowest achievable emission rates (LAER). Also establishes statutory mandates for the generation and use emission reduction credits to offset remaining and potential emissions from new sources.

Sections 182(g)and 187, Economic Incentives Program

The Clean Air Act requires states to adopt economic incentive programs (mandatory EIPs) to remedy shortfalls or plan deficiencies in the ozone or carbon monoxide State Implementation Plan (SIP). The Act also provides states with the option of adopting EIPs (discretionary EIPs) as part of the SIP control strategy to demonstrate attainment.

U.S. EPA RULES

Emission Offset Interpretative Ruling (40CFR51 Subpart I, Review of New Sources and Modifications)

Introduced the concept of using surplus emission reductions, or credits, from existing sources to offset emission increases from new sources. This ruling allowed for the generation of credits through controls, equipment or facility shutdowns, or curtailing operations on existing sources. These reductions could be used to offset the emission increases of a new source provided there was a net air quality benefit.

Emissions Trading Policy Statement (December 4, 1986; 51FR233)

Provides a general framework for EPA-approvable emissions trading. Outlines regulatory criteria for qualifying emission reductions as credits, which includes the requirement that to qualify as a bankable credit, reductions must be surplus, permanent, enforceable, and quantifiable. Once qualified, credits can be sold or traded to offset

emission increases of new or modified sources. This policy provides guidance for states to develop model trading rules that would allow specific two-source trades without source-specific SIP revisions, as well as approval criteria for trades submitted as source-specific SIP revisions.

Economic Incentives Program (EIP) Rule (March 16, 1994, 40CFR Part 51, Subpart U, Economic Incentive Programs)

U.S. EPA rule to assist states in the development and adoption of federally approvable EIPs. One type of economic incentive identified in the EIP is emissions trading, in which a source is allowed to meet regulatory rule limits through the use of surplus reductions, or emission reduction credits, from sources outside of the facility. Interchangeable credit trading, or the interchangeable use of credits for compliance with technology-based control requirements, would fall under this category. Using this alternative compliance approach, sources with lower cost abatement alternatives are able to provide the necessary reductions to sources facing more expensive alternatives.

If a district elects to adopt an emissions trading program, it must meet requirements specified in the federal rule. Among these requirements are an assurance by the district that the program will not interfere with any other applicable federal regulatory requirements; a program baseline from which quantifiable emission reductions can be determined; credible, workable, replicable procedures for quantifying emissions and/or emission-related parameters; source-specific requirements, such as monitoring, record-keeping, and reporting, that allow for compliance certification and enforcement; requirements for dealing with technical uncertainty; and a system for ensuring federal and state enforceability of the program. In addition, trading to comply with reasonably available control technology (RACT) requirements must be equivalent or better in the aggregate as source-by-source RACT; RACT trading with non-RACT sources is allowable if there is an exceptional environmental benefit; and credits can be used to meet NSR offset requirements, but there can be no trading of credits to comply with BACT.

STATE LEGISLATION: HEALTH & SAFETY CODE

H&SC sections 40709-40713, Emission Reduction Credit Systems and Banking

Requires local districts to adopt emission reduction credit banking programs as part of NSR permitting program. As part of California's NSR program, affected stationary sources are required to apply the Best Available Control Technology (BACT) to reduce emissions and provide emission reduction offsets to mitigate the impact of emissions from the source remaining after the application of BACT. These emission reduction offsets are sometimes called emission reduction credits. Credits used as offsets for

mitigation purposes must meet certain criteria: they must be surplus to any federal, state, or local laws or regulations; and must be enforceable, quantifiable and permanent. Once created, emission reduction credits may be banked with the district for future use by the source that generated them, used concurrently to offset new projects, or sold to other sources for use as mitigation. In all cases, credits must be generated pursuant to district rules and regulations, and must be reviewed and certified by the district to be used as mitigation. The variety of credit generating programs will depend on the rules in place in each district.

H&SC sections 39616 and 40440.1, Market-Based Trading Programs for Attainment Strategies

Authorizes air pollution control districts to adopt market-based incentive programs as an element of their attainment plans. However, each program must satisfy specific criteria, including that the program: achieve equivalent or greater emission reductions at equivalent or less cost compared with command-and-control rules and future measures; provide a comparable level of enforcement to that of command-and-control; establish a methodology that recognizes and treats equitably facilities which have reduced emissions in advance of program implementation; not result in greater job loss or significant shifts from higher to lower skilled jobs on a district wide basis than under command-and-control; not delay, postpone or hinder compliance with the California Clean Air Act.

Section 39607.5, Statewide Methodology for Calculating the Value of Credits Used Interchangeability

Requires the ARB to develop and adopt a methodology to ensure the interchangeability of emission reduction credits from stationary, mobile, indirect, and areawide sources, including credits issued under market programs. Requires the ARB to consider certain factors in developing the trading methodology related to credit life, inter-temporality, flexibility and viability.

Section 40714.5, Credits For Reductions From Sources Exempt From District Rules

Specifies that emission reduction credits that are created by sources that are exempt from air district permitting requirements shall not be discounted. Provides an exemption for credits applied to new source review permitting of stationary sources and issued according to any applicable requirement of a marketable trading credit program. This provision only affects the South Coast and Ventura air districts until January 1, 1999. After that date, these provisions would apply statewide.

Section 40920.6(c), Use of Retired Credits In Lieu of BARCT Requirements

Requires a district to allow the retirement of marketable emission reduction credits that meet applicable requirements of state and federal law to be used in lieu of any requirement for BARCT if the credit also complies with all district rules and regulations affecting those credits.

Section 39617, Methodologies For Use In Calculating The Value Of Credits From Vehicle Retirement

Authorizes the use of a number of methods for determining the emissions reduced from scrapped vehicles.

STATEWIDE REGULATIONS AND GUIDELINES AFFECTING EMISSIONS TRADING

Article 4, Sections 94540-94555, Title 17 CCR, Consumer Products, Alternative Compliance Plan (1995)

An emissions bubble approach that is designed to limit VOC emissions from consumer products to no more than the emissions that would have occurred from the products under existing VOC standards without the ACP. Credits from surplus reductions can be used by the product manufacturer or sold to a small or one-product business, or sold to another manufacturer who has failed to meet its emission reduction commitments. Such credits would have a lifetime of only one compliance period and used solely to reconcile shortfalls.

Sections 2330-2332, Title 17 CCR, Emissions Formula for Employer-Based Trip Reductions

Provides a formula for use by districts in calculating emissions from alternative strategies to achieve equivalent emission reductions to those associated with employer-based trip reduction regulations.

Mobile Source Emission Reduction Credit (MSERC) Guidelines (November 1993, as amended February 1996)

MSERCs are emission reductions from motor vehicles which go beyond district, state, and federal requirements. ARB's role in developing programs to generate MSERCs has been to issue guidelines on their generation and use. These guidelines are for use by districts as they develop rules governing mobile source credits, and affected sources.

Appendix F

REFERENCES

Appendix F

References

All correspondence from the U.S. EPA, districts, and the public, received during the development of the proposed regulation.

All notices of ARB public workshops and meetings held during the development of the proposed regulation.

California State Implementation Plan, approved by the ARB on November 15, 1995, and approved by U.S. EPA on September 5, 1996.

Code of Federal Regulations (51CFR51.860, Appendix S) regarding the Interpretative Ruling, Emissions Trading Policy Statement, and the Economic Incentives Program.

Mobile Source Credit Guidelines (ARB, as amended February 1996)

Motor Vehicle Emissions Inventory 7G - model and documentation (ARB, October 4, 1996)

Methodology for Estimating Emissions From On-Road Motor Vehicles (ARB, Volume I-VI, November 1996).

Initial Statement of Reasons for Proposed Amendments Pertaining to Hairspray in the California Consume Products Regulation (ARB, February 7, 1997).

Initial Statement of Reasons for Proposed Amendments to the California Regulations for Reducing Volatile Organic Compound Emissions from Consumer Products and Aerosol Coating Products (ARB, October 4, 1996)

Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 1, Antiperspirants and Deodorants, Sections 94500-94506.5, effective February 29, 1996.

Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94507-94517, effective February 29, 1996.

Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 3, Aerosol Coating Products, Sections 94520-94528, effective February 29, 1996.

Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 4, Alternative control Plan, Sections 94540-94555, effective January 8, 1996.

Initial Statement of Reasons for a Proposed Statewide Regulation to Reduce Volatile Organic Compound Emissions from Aerosol Coating Products and Amendments to the Alternative control Plan for Consumer Products and Appendices(ARB, February 3, 1995).

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Final Statement of Reasons for Rulemaking, Public Hearing to Consider the Adoption of Amendments to the Regulation for Reducing Volatile Organic Compound Emissions from Consumer Products -- Phase II, (ARB, January 9, 1992).

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Staff Report and Technical Support Document on the Proposed Regulation to Reduce Volatile Organic Compound Emissions from Consumer Products (ARB, August 1990).

Guidelines to Generate Mobile Source Emission Reduction Credits Through the Conversion of Off-Road Diesel Cycle engines at or Above 50 Horsepower of Low-Emission Configurations (ARB, February 1995).

Guidelines for the Generation of Mobile Source Emission Reduction Credits through the Purchase of New, Reduced-Emission Heavy-Duty Vehicles (ARB, September 1995).