

Review of the San Joaquin Valley Emission Reduction Credit System

Presented by the Enforcement Division
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Clean Air Act Framework in California

- Federal law establishes permitting framework
- California law
 - Delegates permitting to local air districts
 - Establishes CARB's role in reviewing district programs
- Permitting framework has been in place for 40 years
- Permitting required for new and expanding businesses
 - Avoid significant increase in emissions on a regional basis
 - Allow for economic growth

Permitting New or Modified Sources

- Sources apply for an Authority to Construct (ATC) permit
- Part of process to get a permit is called New Source Review (NSR)
 - Best available control technology
 - Offsets
- ERCs are the currency of offsets – “banked” emission reductions

New Source Review and Local Regulations

- Permitting is complex and varies between air districts as a function of attainment status, local rules/regulations, and policies
- Local rules specify
 - NSR procedures and requirements
 - Process for ERC application and review

Emission Reduction Credit (ERC)

- Banked emission reduction resulting from
 - Shutdown of a facility
 - Installation of emission controls beyond regulatory requirements
- Facility applies for ERC, which is reviewed to legal criteria
 - Real
 - Quantifiable
 - Surplus
 - Permanent and Enforceable
- District issues ERC certificate
 - Can be split, sold, or traded

Requirement to Demonstrate Equivalency

- The way an ERC is valued in the San Joaquin Valley is different than under the standard federal program
- Federal law allows for this difference if the local program is more stringent overall.
- Must demonstrate equivalency with federal requirements.

Goal of ERC System Review

- To review the SJVAPCD ERC system, including the equivalency determination, and explain it in the context of the broader District program for reducing emissions from stationary sources including New Source Review (NSR), permitting, and regulatory requirements.
- Recommendations focus on improvements moving forward.

Working with the District

- Provided electronic access to hundreds of documents and to District databases
- District staff responsive to requests for clarification
- Report identifies findings
- District is committed to address them
 - Public process
 - Specific actions
- CARB staff will partner moving forward

District Commitments - Process

- Beginning with the 2020 equivalency demonstration
 - Hold public workshop before submitting equivalency report to District Governing Board
 - Enhance Equivalency Demonstration for transparency
- Convene a public advisory working group to assist in developing solutions related to the District's offset equivalency system.

District Commitments – Specific Actions

- New equivalency tracking database and documentation.
- Adjust AG-ICE projects to reflect appropriate load-factors, and incorporate adjustments into 2020 equivalency demonstration.
- Analyze orphan shutdown projects identified by CARB, and make adjustments for inclusion in 2020 equivalency demonstration.
- Update District policies and train staff to ensure orphan shutdown calculations are consistent with District NSR criteria.

San Joaquin Valley ERC Review Outline

Part 1 - Description of ERC Banking System

Part 2 - Evaluation of ERC Banking Actions

Part 3 - Examination of Federal Offset Equivalency
Demonstration

Part 4 - Review of Authority to Construct Projects for
Application of Offset Requirements

Introduction to Air District

- Originally eight individual county air districts
 - Each with different rules and requirements
- Unified in 1992
 - Uniform set of rules and regulations
 - Regulatory program strengthened over time
 - Stationary sources currently represent 15% of Valley NO_x
- New Source Review Rule
 - Applied greater level of stringency than federal requirements
 - Allowed time-of-issuance ERC value

ERC Value

- Time-of-Issuance
 - The value of an emission reduction when generated.
- Time-of-Use
 - The value of an emission reduction when used
 - Reflects the value the emission reduction would have after adjusting for regulations adopted after emission reduction occurred.
- Example: 10 tons/year ERC in 1990 from a boiler
 - Time of issuance – 10 tons/year
 - Time of use – 2 tons/year after boiler rule adopted in 1999 and requiring an 80% reduction in emissions is applied

Demonstrating Equivalency

- Under federal program, project applicants must offset with sufficient ERCs valued at time of use.
- Under District program
 - Project applicants must offset with sufficient ERCs valued at time of issuance.
 - District must identify additional reductions to cover the difference between time-of-use and time-of-issuance values
 - District equivalency demonstration submitted annually to US EPA
- Equivalency system approved by CARB and EPA
- District has never failed to show equivalency.

District NSR Program and Equivalency

- Ozone attainment status bumped-up to extreme in 2010
- Reclassification eliminated substantial advantage relative to federal offset requirements.
- District maintained ERC time-of-issuance value
- District identified additional reductions to offset the difference between time-of-use and time-of-issuance value

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Evaluation of ERC Banking Actions – Approach

- Evaluated 52 emission reduction projects representing 201 individual banking certificates
- Reviewed emission calculations and engineering evaluations
- Focused on whether or not projects
 - Conformed to local, state, and federal requirements
 - Met evaluation criteria (real, quantifiable, surplus, permanent, and enforceable)

Evaluation of ERC Banking Actions – Findings

- Transparency
- Timeliness
- Surplus

Transparency - Examples

- Half of projects lacked sufficient supporting documentation
- Shutdown of two floating roof tanks in 2017
 - Use of alternative baseline period for reductions not explained
 - Information not sufficient to document / replicate reductions
- Shutdown of sugar manufacturing facility
 - Information not sufficient to document applicant reduction claims

Timeliness

- ERC applications must be submitted within 180 days of date emission reduction occurred
- District policy: permit surrender dictates date emission reduction occurred; or in inoperable and unmaintained condition and the owner cannot demonstrate intent to operate
- CARB staff concludes policy and rule should be aligned for consistency.

Surplus - Examples

- Issues are complicated – surplus is unclear in four cases
- ERC application for installation of required BACT controls
 - Credit for BACT allowed in District rule at the time
- ERC application for shutdown of oil mill for seed processing
 - ERC granted in March 2001
 - US EPA toxics rule adopted April 2001 – reduced time of use value by 80%

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Equivalency Demonstration Review - Approach

- Determine whether equivalency database accurately reports information and calculates equivalency
 - Evaluate data system functionality
 - Review data system, and individual project inputs
 - Replicate calculations
 - Analyze if numerical values are correct and input accurately

Equivalency Demonstration Review – Findings

- Equivalency database is not self-contained, and lacks technical documentation.
 - Stranded records and data handling discrepancies
 - No evidence of effect on equivalency demonstrations
- Opportunities enhance transparency of equivalency demonstration report.
- Equivalency demonstration relies on electrification projects and orphaned shutdowns

Reliance on Electrification Projects and Orphan Shutdowns

- Electrification projects
 - Replacement of diesel engines with electrical irrigation pumps
- Orphan shutdowns
 - Emission reductions from shutdown facilities not claimed as ERCs
- Calculation methods did not assure accuracy.

Electrification Projects

- Agricultural Internal Combustion Engine (Ag-ICE) program from mid-2000s.
- Diesel irrigation pumps replaced with electrical pumps
 - District claimed only a portion of emission reductions
- Emission reductions are over-credited by at least 35%
 - Load factor
 - Carl Moyer funding
 - Other issues

Electrification Projects – Load Factor

- Staff randomly selected 10 projects
 - District used 100% load factor
 - Carl Moyer methods should be used to reflect real-world activity
 - This results in at least a 35% over-credit to emission reductions

Electrification Projects – Carl Moyer Funding

- CARB sampled 10 projects
 - We found 6 of 10 in Carl Moyer project databases
- We found half of all projects may be partially Moyer funded
- Reductions claimed for equivalency not otherwise claimed in State Implementation Plan
- Carl Moyer sets requirements on how reductions can be used

Electrification Projects – Other Issues

- Permitting action requirement
 - District rule requires additional creditable reductions to be banked or generated as a result of permitting action
- Permanence criteria
 - Reductions need to be permanent

Orphan Shutdowns

- District calculation procedures are reasonable and appropriate, but need to be followed.
- Six petroleum storage tanks
 - Shutdown – not claimed as ERC
 - Permit cancellation in 2010
 - Tanks had not operated since 2001
 - Facility-wide Title V permit (2009) allowed maximum of 50 VOC t/yr
 - District claimed 528.8 tons VOC/year in 2011
- Reviewed 10 other projects for NO_x and VOC credit
 - Most appear to have been over-credited

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Authority to Construct Project Review - Approach

- Selected 30 Authority to Construct (ATC) permits
 - Drawn from 7,200 ATC projects issued in 2016-2018
 - Half at random
 - Half from a list of facilities requested by community groups
- Review
 - Evaluate engineering analyses to replicate results
 - Determine if legal and regulatory requirements were followed

Authority to Construct Project Review - Findings

- Analysis suggests the District applies NSR program consistent with its rules and policies.
- Transparency
 - Half of projects reviewed would have benefitted from providing additional information to replicate or verify engineering calculations.

Conclusions and Next Steps

Overall Findings

- ERC system needs to be transparent to public and industry and more rigorous.
- Implementation procedures and policies need to be upgraded.
- Assumptions in the equivalency demonstration need to be reviewed and revised as appropriate.

District Commitments - Process

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CARB Commitments

- Participate in District's public process and work to address commitments.
- Begin discussion with CAPCOA, districts and stakeholders to better understand how NSR programs are implemented, and opportunities for optimization.
- Reinvigorate routine review of permitting actions and rule and policy development at local air districts.

Next Steps and Recommendations

- Staff will present the results of the ERC review to the CARB Board on June 26, 2020
- District will initiate public process and begin addressing report findings
- District will submit updated equivalency demonstration in November 2020
- CARB will participate in the public process, work with District to address commitments, and report back to the Board