Review of the San Joaquin Valley Emission Reduction Credit System

Enforcement Division
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CALIFORNIA
AIR RESOURCES BOARD

Permitting New or Modified Sources

- Federal New Source Review (NSR) for new and expanding businesses
  - Avoid significant increase in emissions on a regional basis
  - Allow for economic growth
- California law gives authority for permitting to air districts
- ERCs are the currency of offsets – "banked" emission reductions
  - Shutdown of a facility
  - Installation of emission controls beyond regulatory 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 NOx
- New Source Review Rule
  - Applied greater level of stringency than federal requirements
  - Allowed time-of-issuance ERC value

District 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 when the local program is more stringent overall.
- Must annually demonstrate equivalency with federal requirements.

How the District Bank Maintains Equivalency

Business Reduces Emissions Beyond Rules

Deposits ERC In Bank

ERC Retains Full Value As District Strengthens Rules

New/Expanded Business Applies for Permit

Business Offsets Emissions Increases Using Full Value ERCs from Bank

District Calculates Actual Values of ERCs Used

District Closes Gap Between Actual and Full ERC Value with Additional Offsets and Records in Equivalency Database

Equivalency Maintained

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Equivalency Maintained

Evaluation of ERC Banking Actions

- 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)
- Identified issues with transparency, timeliness, and 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: emission reductions from shutdown defined as the date of permit surrender or date equipment is in inoperable and unmaintained condition and the owner cannot demonstrate intent to operate, whichever is earlier
- CARB staff concludes policy and rule should be aligned for consistency.

Surplus - Examples

- Determine if credited reductions are above and beyond requirements
- Issues are complex and span decades – surplus is unclear in four of 52 cases reviewed
- 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 value by 80%

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

District NSR Program and Equivalency

- Prior to 2010 District program clearly more stringent than federal requirements
- Ozone attainment status bumped-up to extreme in 2010
  - Increased stringency of federal requirements
  - Eliminated most differences between SJV and federal program
- District maintained ERC time-of-issuance value
- District identified additional reductions to make up the difference between time-of-use and time-of-issuance value

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

Overview: Electrification Projects and Orphan Shutdowns

- Electrification projects
  - Replacement of diesel engines with electric 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 early 2000's.
- Diesel irrigation pumps replaced with electric 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

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 NOx and VOC credit
  - Most appear to have been over-credited

General 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

- 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.

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.
- Coordinate routine review of permitting actions and rule and policy development with local air districts.

Next Steps

- District will initiate public process and begin addressing report findings
- District will submit updated equivalency demonstration in November 2020
- Staff will participate in the public process, work with District to address commitments, and report back to the Board
- Recommendation: Board adopt Resolution 20-11 directing staff to work with the district to implement staff recommendations and district commitments and annually report to Board on progress