

Emission Reduction Credit Program Public Advisory Workgroup

May 6, 2021

Overview



EMISSION REDUCTION CREDIT (ERC) SUPPLY AND DEMAND

OFFSET QUANTITY CONCEPTS EVALUATED

NEXT STEPS

Emission Reduction Credit (ERC) Supply and Demand

ERC Supply and Demand

- District has continued to evaluate the surplus value of the ERC Bank, the generation of ERCs, and the costs of ERCs
- Given current estimates, there are approximately 2.94 tpd of VOC (21%) and 2.42 tpd of NO_x (16%) in the external ERC bank that meet federal surplus requirements
- Approximately 0.48 tpd of federal VOC offsets and 0.29 tpd for NO_x have been required annually (5 year average)
 - 1.1 tpd VOC and 0.36 tpd NO_x annual average since extreme
- Preliminary analysis projects possible future shortage of VOC and NO_x ERCs

Annual Offset Comparison - VOC

Tracking Year	Federal Offset Obligation	District Offsets Required	Test 1 Difference (2-3)
2015-2016	0.41	0.33	-0.08
2016-2017	1.16	0.22	-0.94
2017-2018	0.50	0.19	-0.31
2018-2019	0.19	0.11	-0.08
2019-2020	0.14	0.10	-0.04
Average (tpd)	0.48	0.19	-0.29

Annual Offset Comparison - NOx

Tracking Year	Federal Offset Obligation	District Offsets Required	Test 1 Difference (2-3)
2015-2016	0.67	0.21	-0.46
2016-2017	0.19	0.12	-0.07
2017-2018	0.33	0.20	-0.12
2018-2019	0.22	0.22	0.00
2019-2020	0.05	0.07	0.02
Average (tpd)	0.29	0.17	-0.12

New ERCs Generated

- In 2020, only 2 projects generating:
 - VOC: 0.00099 tpd
 - NO_x: 0.0015 tpd
 - PM₁₀: 0.0017 tpd
- In 2021, only 1 project generating:
 - VOC: 0.000015 tpd
 - NO_x: 0.00019 tpd
 - PM₁₀: 0.0019 tpd

ERC Costs

- Since 2011, VOC ERCs have been sold for approximately \$4,000 - \$5,000 per ton
 - One recent 2021 ERC transaction for surplus VOCs sold for \$28,000/ton
- NOx ERCs have been selling for \$15,000 - \$20,000 per ton over the past few years
 - Two 2021 ERC transactions for small amounts of NOx ERCs sold for \$8,000/ton
- Not yet sufficient transactions to forecast future surplus ERC costs

Offset Quantity Concepts Evaluated

Offset Quantity Concepts Evaluated

- Options to reduce the quantity of federal offsets required or increase the quantity of offsets required under Rule 2201
 - Increase the District Offset Ratios
 - From 1.5:1 to 2.0:1
 - Decrease the Offset Threshold levels
 - From 10 tpy to 5 tpy
 - Decrease the Federal Offset Ratio
 - From 1.5:1 to 1.2:1

Option to Increase District Offset Ratio

- The quantity of offsets required for a project are calculated by determining the emissions increase exceeding the offset threshold (Rule 2201, Section 4.7) and then multiplying that value by an established offset ratio (Rule 2201, Section 4.8)
- Current offset ratios range from 1.0:1 to 1.5:1
- Evaluated the effects of increasing the offset ratio for NO_x and VOC to 2.0:1

Option to Increase District Offset Ratio (cont'd)

- Actual quantity of NOx and VOC offsets required for ATC projects finalized from the previous 5 years (2015 – 2020) were determined by evaluating past ATC projects
- Quantity of offsets required using an offset ratio of 2.0:1 were calculated
- Additional offsets generated is equal to the difference in the offsets required with a 2.0:1 ratio compared to a 1.5:1 ratio

Tracking Year	Additional NOx Offsets Generated (tpd)	Additional VOC Offsets Generated (tpd)
2015-2016	0.07	0.11
2016-2017	0.02	0.06
2017-2018	0.07	0.06
2018-2019	0.07	0.04
2019-2020	0.02	0.03
Average (tpd)	0.05	0.06

Option to Lower the Offset Threshold

- Offsets for NO_x and VOC are triggered when the potential to emit for the facility exceeds established offset thresholds (Rule 2201, 4.5.3)
 - NO_x: 20,000 lb/year (10 tpy)
 - VOC: 20,000 lb/year (10 tpy)
- Additional offsets would be generated by lowering offset thresholds for NO_x and VOC from 10 tpy to 5 tpy
 - Projects at additional facilities would require District offsets

Option to Lower the Offset Threshold (cont'd)

- Identified ATC projects with an increase in NOx or VOC emissions at facilities with a potential to emit between 5 and 10 tpy (2015 – 2020)
- Calculated the quantity of offsets that would have been required by these projects

Tracking Year	Additional NOx Offsets Generated (tpd)	Additional VOC Offsets Generated (tpd)
2015-2016	0.06	0.18
2016-2017	0.02	0.10
2017-2018	0.09	0.04
2018-2019	0.05	0.08
2019-2020	0.04	0.01
Average (tpd)	0.05	0.08

Option to Decrease the Federal Offset Ratio

- 40 CFR 51.165 states offset ratios in extreme nonattainment areas for ozone must be:
 - At least 1.5:1 (except that that ratio may be 1.2:1 if all existing major sources are required to use federal BACT)
- Existing source federal BACT may be equivalent to BARCT level of control
 - BARCT already required under state law for all permitted stationary sources in the Valley
- Any demonstration would need EPA approval
- A reduction in the federal offsets required from federal major modification and new major source projects could be achieved if the federal offset ratio for NO_x and VOC was decreased to 1.2:1

Option to Decrease Federal Offset Ratio (cont'd)

- Actual quantity of NOx and VOC federal offset quantities required for ATC projects finalized from the previous 5 years (2015 – 2020) were determined by evaluating past ATC projects.
- Federal offset obligation was calculated using a 1.2:1 ratio
- Reduction in federal offset obligation is equal to the difference in the federal offset obligation with a ratio of 1.5:1 and the obligation with a ratio of 1.2:1

Tracking Year	Reduction in Federal NOx Offsets Required (tpd)	Reduction in Federal VOC Offsets Required (tpd)
2015-2016	0.13	0.08
2016-2017	0.03	0.23
2017-2018	0.07	0.10
2018-2019	0.04	0.04
2019-2020	0.01	0.03
Average (tpd)	0.06	0.10

Initial Observations

- The evaluated potential changes are not likely to ensure year-to-year equivalency with the federal offsetting obligations
 - Would have even less value in surplus value equivalency as only portion of additional credits required would be surplus
- Need to identify options to generate sufficient quantity of surplus credits to support federal offsetting needs
 - Limited opportunities to generate additional ERCs through traditional means
 - Need to look to non-traditional sources and methods
- Option to reduce the offsetting threshold would likely create hardship for minor sources (shift burden from major sources to minor sources)

Next Steps

- Looking for feedback on the concepts evaluated
- Seeking out additional concepts to generate surplus credits
- Continue to assess the pros/cons of concepts
- Continue to work with EPA/CARB in their review of the District's offset equivalency report

Comments/Questions