

Ventura County Air Pollution Control District
Annual Equivalency Demonstration Program

Rule 26.11, “New Source Review – ERC Evaluation at Time of Use”

Annual Report
April 1, 2016

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Introduction

Section C.5 of District Rule 26.11, “New Source Review – ERC Evaluation at Time of Use”, requires the Ventura County Air Pollution Control District (District) to provide an annual report on its annual equivalency demonstration program to the U. S. Environmental Protection Agency (EPA). The purpose of the annual equivalency demonstration program is to demonstrate that, as a whole, the District new source review rule requirements for emission offsetting are equivalent to the EPA new source review rule requirements.

The District new source review rules require any facility that emits more than five (5) tons per year of reactive organic compounds (ROC) or nitrogen oxides (NO_x) to provide emission offsets for any ROC or NO_x emission increase. The District rules allow banking of emission reduction credits (ERCs), which can then be used as future emission offsets. The District rules require that the emission reductions used to create ERCs be surplus to all requirements at the time they are *banked*.

EPA new source review rules require any facility that would increase emissions more than twenty-five (25) tons per year of ROC or NO_x to provide emission offsets for the emission increase. EPA policy requires, however, that emission reductions used to offset the emission increase be surplus to all requirements at the time they are *used*.

Under the equivalency demonstration program, all ROC and NO_x ERCs provided to the District are examined to determine what portion of the original emission reduction is surplus at the time of use. On an annual basis, the total amount that is surplus is compared to the total amount of ROC and NO_x emission offsets required by new major sources and major modifications to sources. If the annual equivalency demonstration program report shows a positive balance, no action is required. If the annual equivalency demonstration program report shows a program deficiency, the District will require that emission offsets for major new sources and major modifications be surplus at the time of use until an annual report shows that the program deficiency is resolved.

This report is the most current annual report on the equivalency demonstration program. The report covers all ERCs provided for Authorities to Construct issued, and all ERCs surrendered, in Calendar Year 2015. The report indicates the status of these transactions as of January 1, 2016.

Emission Reductions Required by the Clean Air Act

District Rule 26.11 requires staff to determine, for each emission reduction credit used or surrendered, the amount of that emission reduction that is surplus to any emission reductions required by the federal Clean Air Act. In a Memorandum of Understanding dated February 11, 2003, EPA and the District agreed that the following list of emission reductions are required by the federal Clean Air Act and, therefore, are not surplus emission reductions.

- A. Any emission reduction required by a stand-alone federal requirement or regulation, including, but not limited to, Acid Rain, New Source Performance Standard, Reasonably Available Control Technology, and Maximum Achievable Control Technology, whether or not the requirements are part of the State Implementation Plan (SIP) or a local attainment plan.
- B. Any emission reduction relied upon by a permitting authority for attainment purposes, or contained in an approved attainment plan, including emission reductions relied upon for Reasonable Further Progress calculations. Reference 40 CFR 51.165(a)(3)(ii)(G).
- C. Any emission reduction whose original emission is not included in the District's emission inventory. Reference 40 CFR 51.165(a)(3)(ii)(C)(1).
- D. Any emission reduction based on a source-specific or source category-specific SIP provision used to comply with CAA requirements.
- E. Any emission reduction required by a condition of a permit issued to comply with CAA new source review requirements. Any emission reduction required by a permit condition placed on a permit solely: 1) to make the reduction federally enforceable to meet federal creditability criteria for use of the reduction as an offset for new source review purposes, or 2) to assure compliance with a state or local requirement that is not federally enforceable shall not be included in this class. Reference 40 CFR 51.165(a)(3)(ii)(G).
- F. Any emission reduction based on a source-specific emission limitation resulting from an Environmental Protection Agency enforcement case.

Pursuant to Rule 26.11.B.1, the evaluation is not required for any emission reduction credits provided by the applicant as temporary emission reduction credits pursuant to Rule 26.4.F.4.

Emission Reduction Credits Based on Projects Occurring Prior to 1990

Paragraph C in the above list states that any emission reduction whose original emission is not included in the District's emission inventory is not considered surplus. The District's portion of the State Implementation Plan is based on a 1990 inventory of actual emissions. Thus, any actual emissions from emission reduction projects that occurred prior to 1990 are not explicitly in the District's baseline emission inventory.

In its portion of the SIP, the District created a projected emission inventory using the baseline emission inventory and a set of growth factors and control factors. No specific line item was included for emissions growth due to the use of ERCs that derived from emission reduction projects occurring prior to 1990. It could be argued that the use of these ERCs is implicitly included as some portion of the set of growth factors. However, the overall growth in emissions from stationary sources resulting simply from applying the growth factors to the baseline stationary source inventory is negative. That is, applying the growth factors alone results in an overall emissions decrease.

Thus, the District staff concludes that it cannot be reasonably argued that the original emissions from any emission reduction project that occurred prior to 1990 are included in the District's emission inventory. As a result, no ERCs that derived from emission reduction projects that occurred prior to 1990 are considered to represent emission reductions that are surplus at the time of use.

Permit Applications For Which Emission Offsets Were Provided

District Rule 26.11 requires that District staff evaluate each ROC and NO_x emission reduction credit that is provided by an applicant pursuant to the emission offset provisions of District Rule 26.2.B to determine how much of the credit is surplus as of the date the Authority to Construct was issued.

Table 1 lists all Authorities to Construct, issued in calendar year 2015, for which permit applicants were required to provide emission offsets pursuant to District Rule 26.2.B. Table 1 identifies the permit applications, both Authorities to Construct and associated Permits to Operate. Each permit application is identified by its five digit facility number and associated three digit application number. The dates are the dates the permits were issued. If the application number and issuance dates are the same for the Authority to Construct and the Permit to Operate, it indicates that the District issued one document that served as both permits, that is, a combined Authority to Construct and Permit to Operate.

The ERC Certificates used to provide emission offsets are identified by a four-digit number as the Authority to Construct ERC and the Permit to Operate ERC.

Frequently, a portion of an ERC Certificate is sold. The District then updates the transaction records for the original ERC Certificate and issues a new ERC Certificate for the portion sold, with a new ERC number. The surplus analysis discussed below requires an examination of the original emission reduction that was the basis for the emission offset provided by the permit applicant. In order to facilitate that analysis, Table 1 lists the original ERC Certificate number following each Authority to Construct ERC number and Permit to Operate ERC number.

If an emission reduction credit is both generated and used as part of the same project, the District refers to the credit as an internal emission reduction credit. On some occasions in the past, no ERC Certificate number was assigned to an internal emission reduction credit. Table 1 does not include any such transactions for 2015. In most cases today, a unique ERC number is used for cases where an emission reduction credit is both generated and used as part of the same project.

Finally, Table 1 lists the total amount of ROC and NO_x emission offsets in tons per year provided to the District from each ERC Certificate or internal emission reduction credit.

Table 1 lists information for both Authorities to Construct and associated Permits to Operate because, in some cases, the information could be different. If the Permit to Operate information differs from the Authority to Construct information, the memorandum of understanding requires that the differences be discussed in the annual report.

None of the applications referenced in Table 1 were applications for major new sources or major modifications of either ROC or NOx that were subject to EPA new source review rules.

Table 1 - 2015 Permit Applications For Which Emission Offsets Provided

Authority to Construct Date	Facility Number	AC App Number	A to C ERC	Original ERC	A to C ROC	A to C NOx	Permit to Operate Date	PO App Number	P to O ERC	Original ERC	P to O ROC	P to O NOx
9/29/2015	00997	660	1187	1187	0.00	0.02						

Note: All ROC and NOx numbers are in units of tons per year.

Surrendered Emission Reduction Credit Certificates

District Rule 26.11 requires that District staff evaluate each ROC and NOx emission reduction credit that is permanently surrendered by the registered owner, without being used pursuant to Rule 26.2.B, to determine how much of the credit is surplus as of the date the emission reduction credit is surrendered.

During calendar year 2015, there were no ERC transactions based on the surrender of a portion of an ERC Certificate.

Analysis of Provided and Surrendered Emission Reduction Credits

As discussed above, District staff has concluded that emission reductions that derived from projects that occurred prior to 1990 cannot currently be considered surplus to all requirements of the federal Clean Air Act. District staff, therefore, reviewed the District files for all original ERC Certificates listed in Table 1 to determine which certificates were issued for emission reductions that occurred prior to 1990.

Table 2 lists the Authority to Construct applications from Table 1 that provided emission offsets from projects that occurred prior to 1990. Only Authority to Construct information from Table 1 was used since the Permit to Operate information in Table 1 is the same as the Authority to Construct information. None of the ROC or NOx provided to the District through these Table 2 transactions are surplus to all requirements of the federal Clean Air Act. Note that there are no Pre-1990 projects for 2015.

Table 2 - 2015 Applications Using Offsets Derived From Pre-1990 Projects

Authority to Construct Date	Facility Number	AC App Number	A to C ERC	Original ERC	A to C ROC	A to C NOx
NONE						
Total					0.00	0.00

Note: All ROC and NOx numbers are in units of tons per year.

Table 3 lists the Authority to Construct applications from Table 1 that provided emission offsets from projects that occurred in 1990 or later. For each of these transactions, District staff analyzed the original ERC Certificate on a case-by-case basis as required by District Rule 26.11.B and Section III.C of the memorandum of understanding. The analysis process is discussed in more detail below.

Based on the analysis, District staff calculated a ratio of the currently surplus emission reductions to the emission reductions originally granted (ER1/ER2) for ROC and an ER1/ER2 ratio for NOx for each original ERC Certificate. Table 3 contains these ratios and a calculation of the portion of each emission reduction credit provided to the District that is currently surplus using the calculation procedure in District Rule 26.11.B.4.

Table 3 shows the total amount of ROC and NOx credits provided to the District and the total amount of ROC and NOx credits that are considered surplus.

Table 3 - 2015 Applications Using Emission Offsets Derived From 1990 or Later Projects

Authority to Construct Date	Facility Number	AC App Number	A to C ERC	Original ERC	A to C ROC	ER1/ER2 ROC	Surplus ROC	A to C NOx	ER1/ER2 NOx	Surplus NOx
9/29/2015	00997	660	1187	1187	0.00	0.00	0.00	0.02	1.25	0.03
Total					0.00		0.00	0.02		0.03

Note: All ROC and NOx numbers are in units of tons per year.

Analyses of Original ERC Certificates

District staff conducted an analysis of each original ERC Certificate on a case-by-case basis as required by District Rule 26.11.B and Section III.C of the memorandum of understanding. The analyses are included in Appendix A of this report. Each analysis includes the ERC Certificate number, the date the Certificate was originally issued, and a brief description of the project that resulted in an emission reduction.

Each analysis includes an Emission Reduction Calculation Summary Table that contains the size of the original real, quantifiable, permanent and enforceable emission reduction; the size of the real, quantifiable, permanent and enforceable emission reduction corrected for any concerns noted during this re-analysis; the amount of the emission reduction that is currently surplus (i.e., ER1 as defined in District Rule 26.11.B.2); and the amount of the District emission reduction credit granted for the emission reduction taking into account any discounting done by the District and not required by EPA emissions banking rules (i.e., ER2 as defined in District Rule 26.11.B.3).

Each analysis includes a discussion of why the emission reduction is considered real and quantifiable. The District generally defines a real emission reduction as one based on actual emissions. The District defines a quantifiable emission reduction as one for which you can establish a reliable basis for calculating the reduction. Generally, District staff considers an

emission reduction real and quantifiable if the emission reduction is calculated using emission factors derived from a source test on the equipment and two years of actual throughput data.

In some cases, it is considered acceptable to substitute standard emission factors for emission factors derived from a source test if source testing is difficult. In two cases, it is standard practice to substitute permitted emissions for actual emissions. The first case is if the permitted emissions for the equipment were originally offset with emission reduction credits (District Rule 26.6.E.4). The second case is if the permitted emissions are less than the calculated actual emissions.

Each analysis includes a discussion of why the emission reduction is considered permanent and enforceable. Generally, District staff considers an emission reduction permanent and enforceable if the equipment involved requires a Permit to Operate in the District and the Permit to Operate has either been surrendered or had conditions added to enforce the emission reduction.

Each analysis includes a discussion of the current calculation procedures that District staff would use to calculate a real, quantifiable, permanent and enforceable emission reduction from the project that generated the emission reduction credit if different than the calculation procedures originally used. Generally, District calculation methods have not changed significantly in the last several years.

Each analysis includes a discussion of what portion of the emission reduction would be considered surplus under the definition of surplus in the memorandum of understanding. Generally, the current District prohibitory rule applicable to the equipment governs what portion of the emission reduction would be considered surplus.

Each analysis includes a discussion of what portion of the emission reduction was granted as an emission reduction credit by the District after applying the discounts required at the time the credit was granted by District Rule 26.4.C (or equivalent rules prior to October 22, 1991) and any discounts required after the credit was granted by District Rule 26.4.D.1 or District Rule 26.4.D.2 (or equivalent rules prior to October 22, 1991).

Corrections to Prior Year Balances

The memorandum of understanding requires the District to determine if any Permit to Operate information for permits issued during the report year differs from the Authority to Construct information used in prior year reports. The annual report is required to include a discussion of any correction to prior year balances of ROC and NO_x caused by any differences identified.

During calendar year 2015, there were two (2) ROC transactions and one (1) NO_x transaction that had corrections from two prior Authorities to Construct. The transactions require a correction of -0.84 tons per year of ROC and -0.01 tons per year of NO_x as shown in Table 4.

Conclusion

Table 4 summarizes all emission reduction credits used or surrendered in the District in calendar year 2015. Table 4 shows that 0.00 tons per year of ROC credits and 0.02 tons per year of NOx credits were used or surrendered. Table 4 further shows that 0.00 tons per year of ROC credits and 0.03 tons per year of NOx credits were surplus at the time of use.

No permit applications for major new sources or major modifications were processed during the calendar year 2015. Thus, no emission reduction credits were required for major new sources or major modifications.

The annual equivalency demonstration program had a positive year-end balance of 61.80 tons per year of ROC and 38.30 tons per year of NOx at the end of calendar year 2014. There was a total correction to prior year balances of -0.84 tons per year ROC and -0.01 tons per year NOx as discussed above. The annual equivalency demonstration program, therefore, has a positive year-end balance of 60.96 tons per year of ROC and 38.32 tons per year of NOx at the end of calendar year 2015.

The District has, therefore, demonstrated that the District new source review rule requirements for emission offsetting are equivalent to the EPA new source review rule requirements for the reporting period. New major sources and major modifications shall be exempt from the provision in Rule 26.2.B.2.d that all emission reduction credits provided be surplus at the time of use for both ROC and NOx until the submission of the next annual report.

Table 4 - 2016 Annual Equivalency Demonstration Program Summary For 2015

	Total ROC	Surplus ROC	Total NOx	Surplus NOx
Applications Using Pre-1990 Project ERCs	0.00	0.00	0.00	0.00
Applications Using 1990 or Later Project ERCs	0.00	0.00	0.02	0.03
Surrendered Pre-1990 Project ERCs	0.00	0.00	0.00	0.00
Surrendered 1990 or Later Project ERCs	0.00	0.00	0.00	0.00
Total Reductions for Calendar Year 2015	0.00	0.00	0.02	0.03
Total Surplus Reductions From Prior Years		61.80		38.30
Correction to Prior Year Balances		(0.84)		(0.01)
Total Surplus Reductions at End of 2015		60.96		38.32

Note: All ROC and NOx numbers are in tons per year

Ventura County Air Pollution Control District
Annual Equivalency Demonstration Program

Appendix A
Analyses of Original ERC Certificates

ERC Certificate Analysis

Project Description:

Shutdown and removal of two (2) Jet Engine Test Cells at the Naval Base Ventura County – Naval Air Station at Point Mugu; one inside Building 758 and one inside Building 759. The Jet Engine Test Cells were used to perform functional tests on jet engines (that had been removed from the aircraft) during maintenance or repair activities. These engines typically burned JP-8 liquid fuel during the test.

Emission Reduction Calculation Summary:

	ROC	NOx
Emission Reduction – Original Calculation	0.26 tpy	3.12 tpy
Emission Reduction – Current Calculation	0.26 tpy	3.12 tpy
EPA Surplus Emission Reduction (ER1)	0.26 tpy	3.12 tpy
District Emission Reduction Credit (ER2)	0.21 tpy	2.50 tpy

Analysis:

Real and Quantifiable – Pursuant to the emission reduction calculation method in Rule 26.6.E.3, the emission reduction for the Jet Engine Test Cells was originally calculated using Navy developed emission factors (based on source testing) and the actual fuel use and hours of operation data for the two year period (pursuant to Rule 26.6.C) of January 1, 2001 to December 31, 2002.

Permanent and Enforceable – Jet Engine Test Cells such as these cannot be operated in the District without a Permit to Operate. The Permit to Operate for the Jet Engine Test Cells was surrendered when the emission reduction credit certificate was issued.

Current Calculations – The District currently uses the same calculation methods for calculating emission reductions from Jet Engine Test Cells like this.

EPA Surplus Emission Reduction – No ROC or NOx rules applied to the Jet Engine Test Cells. Therefore, the emissions reductions were demonstrated to be surplus.

District Emission Reduction Credit – Pursuant to Rule 26.4.C.1, the original emission reduction was discounted by the greater of BACT or 20% when the ERC Certificate was issued. The original emission reduction was discounted by 20% as there were no established BACT levels for ROC and NOx from Jet Engine Test Cells.