



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

**EMISSION OFFSET PROGRAM
FEDERAL EQUIVALENCE DEMONSTRATION**

Regulation 2-2-423

2007 Report for Years 2004, 2005, and 2006

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EMISSION OFFSET PROGRAM FEDERAL EQUIVALENCE DEMONSTRATION 2007 Report for Years 2004, 2005, and 2006

Summary

This is the 2007 annual offset equivalence report required by Regulation 2-2-423, which covers calendar years 2004, 2005 and 2006. The Bay Area Air Quality Management District's (District) emissions offset program¹ is shown by this report to be at least equivalent to federal offset requirements.

Federal offsets are required from new major facilities² and major modifications at major facilities³ for all non-attainment pollutants. As part of the District's New Source Review (NSR) program, emission offsets are required from both major and non-major facilities and modifications.

Background

Federal guidelines require Emission Reduction Credits (ERCs) be real, permanent, quantifiable, enforceable, and surplus. This is achieved by adjusting ERCs considering the following:

- A District rule that is required for federal attainment demonstration purposes;
- A District rule has been approved into the State Implementation Plan (SIP);
- New Source Performance Standard (NSPS); and
- Maximum Achievable Control Technology (MACT) Standard⁴

The U.S. EPA recognizes that under the District program, ERCs generated at time of banking meet these federal guidelines. Since the District program does not adjust ERCs again at the time of use, EPA guidelines allow an alternative demonstration of offset equivalency. Pursuant to Regulation 2-2-423⁵, the District is required to make an annual demonstration that the quantity of offsets provided for all new or modified sources, less adjustments to those offsets for federal purposes, exceed the quantity of offsets required under federal law for new major facilities and major modifications at major facilities.

¹ Regulations 2-2 and 2-4 as adopted on June 15, 1994 and approved by U.S. EPA as part of the State Implementation Program (SIP) on January 26, 1999 (64 FR 3850)

² For the purposes of this demonstration, a major facility is a facility that has the potential to emit 100 tons per year or more of POC or NOx.

³ For the purposes of this demonstration, a major modification of a major facility is a modification at an existing major facility that will increase the facility's emissions by 40 tons per year of POC or NOx (Regulation 2-1-204).

⁴ National Emission Standards for Hazardous Air Pollutants (NESHAPS) require application of technology-based emissions standards referred to as Maximum Achievable Control Technology (MACT). Post-1990 NESHAPS are also referred to as MACT standards. (Regulation 2-2-221)

⁵ See Appendix A

District staff makes an annual demonstration, with a 3-year look back, that the District's emission offsets program exceeds federal offset requirements for non-attainment pollutants from new major facilities and major modifications at major facilities. For the District, the applicable non-attainment pollutants are precursor organic compounds (POC) and oxides of nitrogen (NO_x).

The District requires more facilities to obtain offsets than are required by federal law. Under federal law, offsets are required at a 1.15 to 1.0 ratio for a new major facility or a major modification at an existing major facility. In addition to these federal requirements, District Regulation 2-2-302 requires offsets at a 1.15 to 1.0 ratio for all facilities with a potential to emit (PTE) of 35 tons per year or more of NO_x or POC. The District also requires offsets at a 1.0 to 1.0 ratio for all facilities with a PTE between 10 and 35 tons per year of NO_x or POC. For this latter category, the District provides the POC and NO_x credits from the District Small Facility Banking Account (SFBA).

Equivalency Procedure

District staff uses the following procedure to determine offset equivalency. In the ensuing discussion, the term *major NSR project* is used to collectively refer to a new major facility and a major modification of an existing major facility.

- Identify any new major NSR project that received a Permit to Operate (P/O) in the most recent year (2006) of the reporting period. If a major NSR project received a P/O in a previous year (2004 or 2005), that project has already been addressed in a prior report and does not need to be re-evaluated in this report.
- If there is no major NSR project that received a P/O in 2006, then there is no new analysis needed to demonstrate equivalency. If there is a new major NSR project, continue with the procedure, as follows.
- Compile a list of all permit applications for which offsets were required. This includes both major and non-major new source review (NSR) projects.
- For each major NSR project identified in the first step, review the permit application to determine from which banking certificate(s) the emission reduction credits (ERCs) were provided.
- Review original banking application(s) for ERCs that were used to offset the major NSR project. Determine the basis for the original ERCs, and any federally enforceable rules in effect at the time of deposit.
- RACT-adjust the original ERCs for the following types of federally enforceable rules that were in effect at the time of use of the ERCs (when the P/O was issued for the major NSR project):
 - District rule that is required for federal attainment demonstration purposes;
 - New or modified District rule that has been adopted into the SIP;
 - New Source Performance Standard (NSPS) rule;
 - Maximum Achievable Control Technology (MACT) rule.

- For each major NSR project, subtract the RACT-adjusted ERCs from the total offsets needed, to determine the offset shortfall for that project.
- If a shortfall is identified, review ERCs and contemporaneous on-site emission reductions⁶ from non-major projects. RACT-adjust these reductions as discussed above.
- Equivalency is achieved when RACT-adjusted offsets from non-major projects meet or exceed the shortfall.

New Major Facilities and Major Modifications During the Reporting Period

Between 2004 and 2006, there was one permit to operate issued for a major NSR project. This was for the Metcalf Energy Center, Plant #12183. Under Application No. 27215, emission offset credits were provided and a permit to operate was issued on July 27, 2006. The emission increases and emission offset decreases for POC and NOx for Metcalf are listed in Table 1.

Offset Equivalency Demonstration for Metcalf Energy Center

Table 1 shows all banking certificates used to offset emissions from the Metcalf project and summarizes the hypothetical RACT adjustments of the original ERCs. It shows the original basis at the time of credit generation and the projected RACT adjustment at time of credit use. Details of the RACT adjustment analysis for each ERC are provided in Appendix B. The following are two examples of the analysis summarized in Table 1:

Analysis of Potential Shortfall

Glorietta Foods (Banking Application #30051):

32.24 tons per year of NOx credits were obtained from the shutdown of industrial boilers at Glorietta Foods. The RACT adjustment made at the time of original credit issuance was based on 30 ppmvd NOx @ 3% O₂. The current District RACT rule, Regulation 9, Rule 7, still requires the same NOx standard. No RACT adjustment is required at the time of credit use for these credits.

Quebecor (Banking Application #18791):

95.44 tons of POC per year, as a NOx substitute, were obtained from over control of emissions. A new MACT standard supplanted the original voluntary abatement emission reduction. The RACT adjustment required at the time of credit use for these credits reduced them to zero. This represents a federal RACT shortfall of 95.44 tons per year. In addition, 26.53 tons per year of POC credits were also obtained from Quebecor. These must also be reduced to zero and represent an additional 26.53 tons per year shortfall.

The total shortfall after analysis of the ERCs used for the Metcalf project was 95.44 and 26.96 tons per year of NOx and POC respectively.

⁶ A contemporaneous on site emission reduction is a verified reduction that has not been banked but would have qualified for banking.

Analysis of ERCs from Non-Major Projects

Tables 2 and 3 show a summary of all POC and NOx credits surrendered for 2004 to 2006. Offsets from non-major facilities were reviewed until the amount of ERCs was enough to cover the shortfall. Eleven (11) applications from non-major projects were reviewed to cover the shortfall for the Metcalf project. The findings are summarized in Table 4. Details from of the RACT adjustment analysis for each of the non-major ERC applications are provided in Appendix C. Additional analysis from many other non-major projects was not needed.

Conclusion

Staff has demonstrated that the District's offset program is at least equivalent to federal requirements for the reporting period 2004 to 2006. Emission offset credits provided by non-major facilities and non-major modifications at these facilities more than compensate for any hypothetical RACT adjustments for federal purposes at the time of credit use.

Table 1 - Metcalf Energy Center AN 27215 Offset Summary with RACT Adjustments

Pollutant Increase	Increase (tons/yr)	Offset Ratio	Pollutant Decrease	Decrease (tons/yr)	RACT Adj. (ton/yr)	Original Basis	RACT at Time of Credit Use Basis	Surrendered Certificate	Emission Reduction Location	Bank Applic. No.
NOx	1.14	1.15	NOx	1.31	0.00	AP-42 emission factor for coffee roaster 0.1 lb/MM BTU	No change to any rule affecting NOx from coffee roaster	635	Folger Coffee Company South San Francisco, CA	14192
NOx	5.58	1.15	NOx	6.42	0.00	AP-42 emission factor for natural gas 0.1 lb/MM BTU	No change to Reg. 9-7 emission standard of 30 ppm at 3% O2	685	Frito Lay San Jose, CA	6306
NOx	5.65	1.15	NOx	6.5	0.00	360 lb/MM ft ³ , based on source test emission data	No change to any rule affecting NOx from asphalt dryer	686	Raisch Products San Jose, CA	13928
NOx	28.03	1.15	NOx	32.24	0.00	Reg. 9-7-301: 30 ppm @ 3% O2 for natural gas combustion	Reg. 9-7-301: 30 ppm @ 3% O2 for natural gas combustion	717	Glorietta Foods San Jose, CA	30051
NOx	82.99	1.15	NOx (from POC ERCs)	95.44	-95.44	85% overall capture / destruction efficiency from printing abatement	NOx offsets provided from POC ERCs - NESHAP Subpart KK - 92% overall capture/ destruction efficiency (no credit allowed)	743	Quebecor San Jose, CA	18791
NOx Totals	123.40			141.91	-95.44					

POC	0.1	1	POC	0.1	0.00	0.47 lb/ton POC emissions based on source test data	No change to Reg. 8-2 affecting POC from coffee roaster	635	Folger Coffee Company South San Francisco, CA	14192
POC	0.91	1	POC	0.91	-0.43	5.5 lb/MM ft ³ nat. gas (AP-42) Gasoline storage & loading Cold cleaner VOC = 6.65 lb/gal	No change Reg. 8-2 for combustion No change to Reg. 8-7 emission standard Cold cleaner VOC reduced to 0.42 lb/gal	685	Frito Lay San Jose, CA	6306
POC	0.46	1	POC	0.46	0.00	5.5 lb/MM ft ³ nat. gas (AP-42)	No change to a rule affecting POC emissions from natural gas combustion in a boiler	717	Glorietta Foods San Jose, CA	30051
POC	26.53	1	POC	26.53	-26.53	85% overall capture / destruction efficiency from printing abatement	NESHAP Subpart KK - 92% overall capture/ destruction efficiency (no credit allowed)	743	Quebecor San Jose, CA	18791
POC Totals	28.00			28.00	-26.96					

Table 3 - Summary of NOx Offsets for 2004 through 2006

Total NOx from SFBA for 2004 - 2006: 282.505

Color Legend:
Credits from Small Facility Banking Account
Credits used for new Major Facility or Major Modification
Emission Reductions > 5 TPY

2006 NOx >= 35 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
10	14354	18.400		1.15	10.600	765
10	14354			1.15	5.733	917
10	14354			1.15	4.827	955
51	14663	0.240	0.240	1		
591	13736	0.350		1.15	0.403	969
591	14243	2.500				
2254	13632	13.692	13.692	1		
12183	27215	123.400		1.15	1.310	635
12183	27215			1.15	6.420	685
12183	27215			1.15	6.500	686
12183	27215			1.15	32.240	717
12183	27215			1.15	1.810	743
12183	27215			1.15	93.630	743
12626	2695	28.603	12.536	1		
12626	2695			1.15	0.221	682
12626	2695			1.15	18.256	703
12626	13009	4.998		1.15	5.748	882
12626	14443	2.688		1.15	3.091	971
14628	14917	0.152		1.15	0.175	915
		195.023	26.468		190.964	

2005 NOx >= 35 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
10	12975	0.185		1.15	0.213	904
16	11293	0.620		1.15	0.713	920
		0.805	0		0.926	

2004 NOx >= 50 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
1179	8501	13.163				157
2266	7841	49.196	19.626			157
		62.359	19.626			42.733
						Small Facility Bank Subtotal 42.733

2006 NOx >= 10 and < 35 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
55	14251	0.499		1.15	0.574	962
606	14637	0.071		1	0.071	157
1257	13407	0.390	0.390	1		
1257	14252	0.100		1	0.100	157
1351	14433	5.900		1	5.900	157
8025	14280	0.197		1	0.197	157
12652	13601	12.030		1	12.030	157
16476	10868	11.340		1	11.340	157
17456	13807	25.900		1	25.900	157
17985	15065	34.400		1	34.400	157
		90.827	0.390		90.512	
						Small Facility Bank Subtotal 89.938

2005 NOx >= 10 and < 35 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
55	13151	0.157		1.15	0.181	949
632	12611	0.900		1	0.900	880
1257	11668	0.300		1	0.300	157
1257	11802	0.017		1	0.017	157
1257	12461	0.388		1	0.388	157
1257	12680	10.506	3.638	1		
1257	12680			1	6.868	157
1257	13048	0.350		1	0.350	157
1257	13084	1.553		1	1.553	157
1257	10374	0.022		1	0.022	157
1257	11367	0.010		1	0.010	157
1257	11448	0.193		1	0.193	157
1784	11596	0.090		1	0.090	157
1784	12555	0.390		1	0.390	157
1840	11375	10.440		1	10.440	157
2478	10508	0.010		1	0.010	157
4618	11386	19.973		1	19.973	157
5095	11404	4.490		1	4.900	157
9013	11388	16.400		1	16.400	157
10960	10934	28.000		1	28.000	157
		94.189	3.638		90.985	
						Small Facility Bank Subtotal 89.904

2004 NOx >= 15 and < 50 TPY						
Plant No.	Appl. No.	Increase	On Site Credit	Offset Ratio	Decrease	Bank No.
265	8466	12.500		1	12.500	157
550	8543	0.255		1	0.255	157
706	8513	0.571		1	0.571	157
1009	9279	4.000		1	4.000	157
1257	8888	0.112		1	0.112	434
1257	9211	1.080		1	1.080	434
1257	9899	0.126		1	0.126	434
1995	8338	2.720		1	2.720	157
2246	9222	19.953		1	19.953	157
2246	9790	19.710	7.559			157
2478	10508	0.110		1	0.110	157
2740	8445	0.220		1	0.220	157
10861	8683	0.020		1	0.020	157
13160	8468	1.920		1	1.920	157
13160	8469	0.700		1	0.700	157
16151	8383	4.810		1	4.810	157
		68.807	7.559			61.248
						Small Facility Bank Subtotal 59.930

Table 4 - Non-Major ERCs used for Metcalf RACT Shortfall

POC										
Plant No.	Appl. No.	On Site Credit	Decrease (TPY)	Bank No.	RACT Adjustment (TPY)	Revised Credits (TPY)				
17559	13774		7.815	958	0	7.815				
17559	15163		16.395	997	0	16.395				
273	12013	28.750			0	28.75				
14628	13228	5.181			0	5.181				
14628	9129		6.809	893	0	6.809				
		33.931	31.019							
		Total POC: 64.950		RACT Adjusted Total: 64.95						
				<table border="1"> <tr> <td>Metcalf POC Shortfall</td> <td>Excess Credits</td> </tr> <tr> <td>26.96</td> <td>37.99</td> </tr> </table>			Metcalf POC Shortfall	Excess Credits	26.96	37.99
Metcalf POC Shortfall	Excess Credits									
26.96	37.99									

NOx										
Plant No.	Appl. No.	On Site Credit	Decrease (TPY)	Bank No.	RACT Adjustment (TPY)	Revised Credits (TPY)				
10	14354		10.600	765	0	10.6				
2254	13632	13.692			0	13.692				
55	14251		0.574	962	0	0.574				
12626	13009		5.748	882	0	5.748				
2266	7841	19.626			0	19.626				
2246	9790	7.559			0	7.559				
		40.877	16.922							
		Total NOx: 57.799		RACT Adjusted Total: 57.799						
				<table border="1"> <tr> <td>Metcalf NOx Shortfall</td> <td>Excess Credits</td> </tr> <tr> <td>95.44</td> <td>-37.64</td> </tr> </table> <p>Remaining NOx shortfall after applying excess POC ERCs from above</p>			Metcalf NOx Shortfall	Excess Credits	95.44	-37.64
Metcalf NOx Shortfall	Excess Credits									
95.44	-37.64									
				0.35 Surplus (TPY)						

Appendix A

Regulation 2-2-423

2-2-423 Demonstration of Offset Program Equivalence: By March 1 of each year, the District shall submit to EPA a demonstration that offsets provided for all new and modified sources within the District, less adjustments to those offsets for federal purposes occurring between credit generation and use, exceed federal offset requirements for new major sources or major modifications at major stationary sources. Adjustment to emission reductions for federal purposes will be required if any of the following occur between the time the credit is generated and the time the credit is used:

- 423.1 BAAQMD adopts a relevant measure or rule that is required for purposes of federal attainment demonstration requirements.
- 423.2 A relevant rule or measure is approved into the State Implementation Plan applicable in the BAAQMD;
- 423.3 EPA promulgates a relevant final rulemaking for either a New Source Performance Standard or a Maximum Achievable Control Technology Standard.

The demonstration shall include:

- 423.4 Emission increases represented by all authorities to construct new major facilities and major modifications at major facilities issued during the three calendar years preceding the demonstration date;
- 423.5 A list of all emission reductions used to offset those emission increases;
- 423.6 The emission baselines that were used to calculate the emission reduction;
- 423.7 The source type, size and category that had generated the emission reduction credit;
- 423.8 All relevant rules that have been adopted or promulgated since the emission reduction had occurred.
- 423.9 Adjustments to emission reduction for federal purposes for all affected projects.
- 423.10 All of the above for as many non-major projects as are needed to demonstrate equivalence.

If the analysis fails to make the required demonstration, the District shall provide sufficient offsets to make up the difference out of the small facility bank. If the small facility bank does not contain the necessary surplus emission reductions, the District shall obtain the necessary surplus emission reductions.

Appendix B

RACT Adjustments of ERCs Provided by Metcalf

See the following ERC RACT Adjustment Reports for the banking certificates identified above in Table 1.

[B635 – Folger Coffee Company \(B413\)](#)

[B685 – Frito-Lay \(B139\)](#)

[B686 – Raisch Products \(B396\)](#)

[B717 – Glorietta Foods \(B19\)](#)

[B743 – Quebecor \(B589\)](#)

The naming convention of *Bxxx – Plant Name (Byyy)* is used, where:

Bxxx is the banking certificate number that was used to provide offsets for the major NSR project.

Plant Name is the plant where the emission reductions originally occurred.

Byyy (in parentheses) is the banking certificate number for the original bank deposit of the emission credits.

Appendix C

RACT Adjustments of ERCs from Non-Major Projects

See the following ERC RACT Adjustment Reports for the banking certificates and on-site contemporaneous reductions identified above in Table 4.

Banking Certificates

[B765 – Chevron Products Company \(B117\)](#)

[B882 – Exxon-Valero \(B86\)](#)

[B893 – Tesoro Refining and Marketing](#)

[B958 – Pacific Atlantic Terminal LLC \(908\)](#)

[B962 – Continental Can Company \(B59\)](#)

[B997 – Owens Corning \(B49 B112\)](#)

The naming convention of *Bxxx – Plant Name (Byyy)* is used, where:

- *Bxxx* is the banking certificate number that was used to provide offsets for the major NSR project.
- *Plant Name* is the plant where the emission reductions originally occurred.
- *Byyy* (in parentheses) is the banking certificate number for the original bank deposit of the emission credits.

On-Site Reductions

[ONS273 – Pechiney Plastics Packaging \(AN 12013\)](#)

[ONS2246 – Waste Management Alameda \(AN 9790\)](#)

[ONS2254 – Sonoma Co Landfill \(AN 13632\)](#)

[ONS2266 – Browning-Ferris Industries \(AN 7841\)](#)

[ONS14628 - Tesoro Refining and Marketing \(AN 13228\)](#)

The naming convention of *ONSxxx – Plant Name (AN yyyy)* is used, where:

- *xxx* is the plant number where the credit was used.
- *Plant Name* is the plant where the emission reductions occurred.
- *AN yyyy* is the permit application number under which the on-site reductions were used.