BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

ALAMEDA COUNTY
Tom Bates
Margaret Fujioka
Scott Haggerty
Nate Miley

CONTRA COSTA COUNTY
John Gioia
David Hudson
Karen Mitchoff
Mark Ross

MARIN COUNTY
Katie Rice

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
John Avalos
Edwin M. Lee
Eric Mar
(Vice-Chair)

SAN MATEO COUNTY
David J. Canepa
Carole Groom
(Chair)

SANTA CLARA COUNTY
Cindy Chavez
Liz Kniss
(Secretary)
Jan Pepper
Rod G. Sinks

SOLANO COUNTY
James Spering

SONOMA COUNTY
Teresa Barrett
Shirlee Zane

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

March 24, 2015

Mr. Michael J. Tollstrup
Chief, Project Assessment Branch
California Air Resources Board
PO Box 2815
Sacramento, CA 95812

Subject: **2014 Report to California Air Resources Board on Interchangeable Emission Reduction Credits**

Dear Mr. Tollstrup:

In accordance with District Regulation 2, Rule 9, Section 411, the District is pleased to enclose a report on our Interchangeable Emission Reduction Credits (IERC) program. Table 1 of this report is a summary of all IERC banking activity in the Bay Area from 2000 through 2014. This table is also published on the District's website to serve as the IERC banking register that is required by Regulation 2, Rule 9, Section 408 (http://hank.baaqmd.gov/pmt/emissions_banking/ierc_summary.htm).

If you have any questions regarding this report, please call Greg Solomon, Supervising Air Quality Engineer, at (415) 749-4745.

Very truly yours,

Jim Karas, P.E.
Director of Engineering

JK:GDS:gs

Enclosure

cc: Ms. Deborah Jordan
Director, Air Management Division
U.S. Environmental Protection Agency, Region IX

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

2014 REPORT TO THE CALIFORNIA AIR RESOURCES BOARD

BAAQMD REGULATION 2, RULE 9

INTERCHANGEABLE EMISSION REDUCTION CREDIT PROGRAM

February 2015

Prepared by: Greg Solomon, Supervising Air Quality Engineer

Reviewed by: Sanjeev Kamboj, Air Quality Engineering Manager

Approved by: Jim Karas, Director of Engineering

Introduction

This is a status report regarding the Interchangeable Emission Reduction Credit (IERC) program for the Bay Area Air Quality Management District (District). This report provides an update to the previous report, including IERC use through December 2014. This report demonstrates that the use of IERCs, in the aggregate, results in no greater annual pollutant-specific emissions than would have occurred in the absence of the District's IERC program.

Background

IERCs are banked and used in accordance with District Regulation 2, Permits; Rule 9, Interchangeable Emission Reduction Credits (Reg. 2-9). The purpose of this rule is to provide a mechanism for a facility to reduce emissions, and use those emission reductions in lieu of compliance with another District Best Available Retrofit Control Technology (BARCT) rule. Reg. 2-9 is limited to emission reductions of nitrogen oxides.

In accordance with Section 411 of Reg. 2-9, this report includes the following:

- The quantity of IERCs generated and used;
- The extent to which IERCs were used to comply with BARCT, by rule and source category;
- The impact that IERC use had on annual emissions, relative to the District emission inventory and Clean Air Plan;
- A demonstration that the use of IERCs, in the aggregate, results in no greater annual emissions than would have occurred in absence of Regulation 2, Rule 9; and
- An evaluation of the IERC rule as an alternative means of compliance with applicable District rules.

Quantity of IERCs Generated and Used

Table 1 contains a summary of all of the IERC banking certificates that have been approved by the District, or are pending approval. Table 2 summarizes the amount of IERCs that have been used for compliance with a District Best Available Retrofit Control Technology rule. IERCs have been used by petroleum refineries for compliance with District Regulation 9, Rule 10 (Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries) and by power plants for compliance with Regulation 9, Rule 11 (Nitrogen Oxides and Carbon Monoxide from Utility Electric Power Generating Boilers).

Table 1 -- IERC Banking Certificates

~~Strikeout~~ formatting indicates the quantity of IERCs that was cancelled after issuance of IERC certificate

Cert. No.	Company	App #	Credit Generation Period (CGP)	Original Amount (Tons NOx)	Current Balance (Tons NOx)	Comments
1-A	**Exxon**	19971	1997	172.7	0	Reissued to Valero as Cert. #5-A
1-B	Exxon	19971	1998	38.5	0	Reissued to Valero as Cert. #5-B
2-A	**Shell**	27765	11/7/98 – 4/30/99	62.3	0	Reduced to 9.5 per settlement agreement, used for ACP
3-A	Shell	439	various – 9/26/99	113.2	0	80.24 tons used for ACP1 (7/00-6/01), balance refunded as Cert. 3-B
3-B	Shell	439	various – 9/26/99	32.96	0	Refund of balance of Cert. # 3-A, 32.96 tons used for ACP2 (7/01-6/02)
4-A	Shell	27536	1/6/97 – 1/5/98	~~8.8~~	0	Cancelled per settlement agreement
4-B	Shell	27536	1/6/98 – 1/5/99	~~9.08~~	0	Cancelled per settlement agreement
5-A	**Valero**	19971	1997	172.7 (~~94.62~~)	0	Used 51.34 for ACP1 (7/00-6/01) Year 1; used 26.74 tons for ACP2 (7/01-6/02); Surrendered 94.62 as part of 100 ton settlement agreement of 7/1/02
5-B	Valero	19971	1998	38.5 (~~5.38~~)	0	Surrendered 5.38 tons as part of 100 ton settlement agreement of 7/1/02; balance re-issued as Cert. 5-D
5-C	Valero	19971	1999	130.9	0	Used 130.9 for ACP3 (7/02-6/03)
5-D	Valero	19971	1998	33.12	0	Refund balance of Cert. 5-B; Used 33.12 for ACP3 (7/02-6/03)
6-A	**PG&E Potrero**	22441	1997	~~145.9~~	0	Cancelled per Settlement Agreement
6-B	PG&E Potrero	22441	1998	~~233.7~~	0	Cancelled per Settlement Agreement
6-C	PG&E Potrero	22441	1999	~~31.8~~	0	Cancelled per Settlement Agreement
6-D	Mirant Potrero	7069	4/17/99 – 3/31/00	224.93 (application cancelled)	0	Mirant requested 224.93 Tons IERCs. IERC banking application cancelled. IERCs not approved.
6-E	Mirant Potrero	6473	4/1/00 – 12/31/00	70.91	0	15.02 tons used ACP1 (2/04-1/05); 9.60 tons usedACP2 (2/05-1/06); Balance expired 12/31/05
6-F	Mirant Potrero	6473	2001	94.21	0	0.01 ton usedACP2 (2/05-1/06); Balance expired 12/31/06
6-G	Mirant Potrero	6473	1/1/02 – 9/30/02	34.32	0	Expired 9/30/07
6-H	Mirant Potrero	6473	4/1/00 – 12/31/00	15.89	0	Balance from Cert. 6-E – Expired 12/31/05
7-A	**PG&E Hunters Pt.**	22504	1997	~~409.5~~	0	Cancelled per Settlement Agreement
7-B	PG&E Hunters Pt.	22504	1998	~~455.3~~	0	Cancelled per Settlement Agreement
7-C	PG&E Hunters Pt.	22504	1999	262.7 (~~162.7~~)	0	162.7 tons surrendered per Settlement Agreement; Balance of 100.0 tons to be re-issued as Cert. 7-D
7-D	PG&E Hunters Pt.	22504	1999	100.0	0	<100 tons used ACP1 (2004); Expired 12/31/04
7-E	PG&E Hunters Pt.	7375	2000	125.25	0	62.26 tons used ACP2 (2005); Balance expired 12/31/05

Cert. No.	Company	App #	Credit Generation Period (CGP)	Original Amount (Tons NOx)	Current Balance (Tons NOx)	Comments
7-F	PG&E Hunters Pt.	12482	2001	124.49	0	20.28 tons used for ACP3 (2006); Balance expired 12/31/06
8-A	**Shell**	1820	5/1/99 – 4/30/00	151.4	0	10.42 tons used for ACP2 (7/01-6/02), balance refunded as Cert. 8-D
8-B	Shell	1820	various – 8/27/00	342.6	0	315.95 tons used for ACP3 (7/02-6/03), balance of 26.65 tons re-issued as Cert. 8-F
8-C	Shell	1820	8/28/00 – 6/30/01	241.3	0	241.3 tons used for ACP4 (7/03-6/04), balance is zero.
8-D	Shell	1820	5/1/99 – 4/30/00	140.98	0	Balance from Cert. 8-A. 140.98 tons used for ACP3 (7/02-6/03), balance is zero.
8-E	Shell	6979	7/1/01 – 6/30/02	443.2	0	5.0 tons used for ACP4 (7/03-6/04). Balance re-issued as Cert. 8-G.
8-F	Shell	1820	Various – 8/27/00	26.65	0	Balance from Cert. 8-B. 26.65 tons used for ACP4 (7/03-6/04).
8-G	Shell	6979	7/1/01 – 6/30/02	438.2	0	Balance from Cert. 8-E. 152.51 Tons used for ACP5 (7/04-6/05). Balance re-issued as Cert. 8-J.
8-H	Shell	10368	7/1/02 – 6/30/03	266.4	0	Used 4.1 tons for ACP6 (7/07 – 6/08). Balance expired 6/30/08
8-I	Shell	10368	7/1/03 – 3/31/04	84.3	0	4.11 tons used for ACP8 (7/07-6/08). Balance expired March 31, 2009
8-J	Shell	6979	7/1/01 – 6/30/02	285.69	0	Balance from Cert. 8-G. 128.18 tons used for ACP6 (7/05-6/06). 114.77 tons used for ACP7 (7/06-6/07). Remainder of 42.74 tons expired 6/30/07.
8-K	Shell	14858	4/1/04 – 6/30/04	24.0	0	9.03 tons used for ACP9 (7/08 – 6/09). Balance expired 6/30/09
8-L	Shell	14858	7/1/04 – 60/30/05	257.9	0	41.34 tons used for ACP 10 (7/09-6/10). Balance expired 6/30/10
8-M	Shell	16772	7/1/05 – 7/1/06	297.1	0	1.86 tons used for ACP 11 (7/10-6/11). Balance expired 6/30/11
8-N	Shell	16772	7/1/06 – 7/1/07	335.1	0	0.04 tons used for ACP 12 (7/11-6/12). Balance expired 6/30/12
8-O	Shell	21415	7/1/07 – 6/30/08	324.1	0	2.28 tons used for ACP 13 (7/12-6/13). Balance expired 6/30/13
8-P	Shell	21415	7/1/08 – 6/30/09	437.4	0	0.11 tons used for ACP – 14 (1/14 – 3/14). Balance expired 6/30/14
8-Q	Shell	25198	7/1/09 – 6/30/10	394.5	394.5	Expires 6/30/15
8-R	Shell	25198	7/1/10 – 6/30/11	468.3	468.3	Expires 6/30/16
8-S	Shell	25198	7/1/11 – 6/30/12	506.6	506.6	Expires 6/30/17
9-A	**Chevron**	19696	11/1/96 – 10/31/97	~~112.87~~	0	Cancelled per Chevron request

Cert. No.	Company	App #	Credit Generation Period (CGP)	Original Amount (Tons NOx)	Current Balance (Tons NOx)	Comments
9-B	Chevron	19696	11/1/97 – 12/31/97	~~18.81~~	0	Cancelled per Chevron request
10-A	**Valero**	4398	2000	554.1	0	Used 299.39 for ACP3 (7/02-6/03). Balance of 254.71 re-issued as Cert. 10-C
10-B	Valero	4398	2001	1284.2	0	240.9 tons deducted. Balance of 1043.3 tons re-issued as Cert. 10-D Expires 12/31/06
10-C	Valero	4398	2000	254.71	0	254.71 tons used for ACP4 (7/03-6/04),.
10-D	Valero	4398	2001	1043.3	0	211.49 tons used for ACP4 (7/03-6/04),. Balance of 831.81 tons re-issued as Cert. 10-E
10-E	Valero	4398	2001	831.81	0	506.51 tons used for ACP5 (7/04-6/05). Balance of 325.3 tons re-issued as Cert. 10-F
10-F	Valero	4398	2001	325.3	0	325.3 tons used for ACP6 (7/05-6/06)
10-G	Valero	11890	2002	950.2	0	Expires 12/31/07; 177.92 tons used for ACP6 (7/05-6/06). Balance of 772.28 tons re-issued as Cert. 10-I
10-H	Valero	11890	2003	483.8	0	Used 204.6 tons for 2nd half of ACP8 (1/08–6/08). Used 168.7 tons for 1st half of ACP9 (7/08–12/08). Balance expired 12/31/08.
10-I	Valero	11890	2002	772.28	0	Expires 12/31/07; 479.2 tons used for ACP7 (7/06–6/07). Balance of 293.08 tons re-issued as Cert. 10-M
10-J	Valero	15662	2004	589.4	0	192.4 tons used for 2nd half of ACP9 (1/09–6/09). 167.0 tons used for 1st half of ACP10 (7/09–12/09). Balance expired 12/31/09
10-K	Valero	15662	2005	537.2	0	168.5 tons used for 2nd half of ACP10 (1/10–6/10). 163.7 tons used for 1st half of ACP11 (7/10–12/10) Balance expired 12/31/10
10-L	Valero	15662	2006	556.0	0	168.5 tons used for 2nd half of ACP11 (1/11–6/11). 137.9 tons used for 1st half of ACP12 (7/11–12/11) Balance expired 12/31/11
10-M	Valero	11890	2002	293.08	0	Balance from Cert. 10-I. 230 tons used for 1st half of ACP8 (7/07 – 12/07). Balance expired 12/31/07.
10-N	Valero	18880	2007	608.7	0	147.6 tons used for 2nd half of ACP12 (1/12–6/12). 153.6 tons used for 1st half of ACP13 (7/12–12/12) Balance expired 12/31/12
10-O	Valero	19792	2008	617.4	0	124.4 tons used for 2nd half of ACP13 (1/13-6/13). 127.3 tons used for 1st half of ACP14 (7/13-12/13). Balance expired 12/31/13
10-P	Valero	23390	2009	515.8	0	147.8 tons used for 2nd half of ACP14 (1/14-6/14). 149.9 tons used for 1st half of ACP15 (7/14-12/14). Balance expired 12/31/14
10-Q	Valero	23390	2010	548.3	548.3	Expires 12/31/15

Cert. No.	Company	App #	Credit Generation Period (CGP)	Original Amount (Tons NOx)	Current Balance (Tons NOx)	Comments
11-A	**Conoco-Phillips**	14856	1/1/04 – 12/31/04	2.18	0	2.18 tons used for 2007 IERCs. Expired 12/31/09
11-B	Conoco-Phillips	14856	1/1/05 – 12/31/05	6.29	0	2.37 tons used for 2007 IERCs. 3.92 tons used for 2008 IERCs. Expired 12/31/10
11-C	Conoco-Phillips	14856	1/1/06 – 6/10/06	3.04	0	3.04 tons used for 2008 IERCs. Expired 6/10/11
11-D	Conoco-Phillips	17092	6/11/06 – 6/10-07	7.43	0	0.19 ton used for 2008 IERCs. Balance of 7.24 re-issued as Cert. 11-F Expired 6/10/12;
11-E	Conoco-Phillips	17092	6-11-07 – 11/30/07	2.41	0	1.63 tons used for 2009 ACP. 0.77 tons used for 2010 ACP. Expired 11/30/12
11-F	Conoco-Phillips	17092	6/11/06 – 6/10-07	7.24	0	Refund of Cert. 11-D; 7.24 tons used for 2009 ACP. Expired 6/10/12
11-G	Conoco-Phillips	20614	11/27/07 – 11/20/08	5.06	0	2.60 tons used for 2010 ACP. Balance of 2.46 re-issued as Cert. 11-J. Balance expired 11/20/13
11-H	Phillips66	20614	11/21/08 – 3/31/09	2.05	0	1.71 tons used for 2014 ACP. Balance expired 3/31/14
11-I	Phillips66	21645	4/1/09 – 2/23/10	6.418	0	0.37 tons used for 2nd quarter 2014 ACP. Balance of 6.052 tons re-issued as Cert. 11-N. Expired 2/23/15
11-J	Phillips66	20614	11/27/07 – 11/20/08	2.46	0	1.97 tons used for 2011 ACP. 0.17 ton used for 2012 ACP. 0.13 ton used for 2013 ACP. Balanced expired 11/20/13 (No IERCs needed after Nov. 20 for 2013 ACP)
11-K	Phillips66	26278	2/24/10 – 2/23/11	2.92	2.92	Balance expires 2/23/16
11-L	Phillips66	26278	2/24/11 – 2/23/12	3.40	3.40	Balance expires 2/23/17
11-M	Phillips66	26278	2/24/12 – 2/23/13	2.74	2.74	Balance expires 2/23/18
11-N	Phillips66	23167	4/1/9 – 2/23/10	6.052	0	1.248 tons used for 2014 ACP. Balance expired 2/23/15

Table 2 -- IERCs Used for Alternative Compliance Plans

Company	1st ACP Start Date	IERCs (Tons) (ACP period dates/calendar year)														
Shell	7/1/00	**80.24** (7/00-6/01)	**52.88** (7/01-6/02)	**456.93** (7/02-6/03)	**272.94** (7/03-6/04)	**152.51** (7/04-6/05)	**128.14** (7/05-6/06)	**114.77** (7/06-6/07)	**4.11** (7/07-6/08)	**9.03** (7/08-6/09)	**41.34** (7/09-6/10)	**1.86** (7/10-6/11)	**0.04** (7/11-6/12)	**2.28** (7/12-6/13)	**0.01** (7/13-12/13)	**0.11** (2014)
Valero	7/1/00	**51.34** (7/00-6/01)	**26.74** (7/01-6/02)	**463.41** (7/02-6/03)	**466.05** (7/03-6/04)	**506.51** (7/04-6/05)	**503.22** (7/05-6/06)	**479.2** (7/06-6/07)	**434.6** (7/07-6/08)	**361.1** (7/08-6/09)	**335.5** (7/09-6/10)	**332.3** (7/10-6/11)	**285.4** (7/11-6/12)	**278.1** (7/12-6/13)	**127.3** (7/13-12/13)	**295.7** (2014)
PG&E	1/1/04				**<100** (2004)	**62.26** (2005)	**20.28** (2006)									

Mirant	2/04				**15.01** (2/04-1/05)	**9.62** (2/05-1/06)										
Phillips66	1/07							**4.55** (2007)	**7.15** (2008)	**8.9** (2009)	**3.4** (2010)	**1.97** (2011)	**0.17** (2012)	**0.12** (2013)	**3.33** (2014)	

Extent of IERC Use to Comply with BARCT

To date, five facilities have used IERCs to comply with District BARCT rules. Three petroleum refineries (Shell, Valero and Phillips66 - previously named ConocoPhillips) have used IERCs to comply with District Regulation 9, Rule 10, Nitrogen Oxides and Carbon Monoxide from Boilers, Steam Generators and Process Heaters in Petroleum Refineries (Reg. 9-10). Shell and Valero have used IERCs for fourteen years. For the first two years of this period, Valero's Alternative Compliance Plan was under appeal, and therefore, was not formally approved. However, Valero tracked emissions and surrendered IERCs as if the ACP was in effect.

On July 1, 2002, Reg. 9-10 became more stringent, and the refineries had to increase the use of IERCs. Since that time, the Shell and Valero refineries have averaged 108 and 404 tons of IERCs used per year, respectively. As can be seen from Table 2, Shell's IERC use has declined from a high of 457 tons (7/02 – 6/03) to nearly 0 tons. Valero's IERC use has decreased more slowly, with a high of 506 tons (7/04 – 6/05) to 295 tons (2014).

Phillips66 has only used IERCs since January of 2007, and has used significantly less IERCs than the other two refineries have used. Phillips66 averaged 3.7 tons for the 8-year period through 2014.

Two electric utilities (PG&E Hunters Point and Mirant Potrero) have used IERCs to comply with Regulation 9, Rule 11, Nitrogen Oxides and Carbon Monoxide from Utility Electric Power Generating Boilers. PG&E Hunters Point averaged 27.9 tons of IERCs used per year over three years. Mirant Potrero averaged 12.3 tons of IERC used per year over two years. Neither facility uses IERCs any longer.

Impact of IERCs on Annual Emissions, Relative to the District Emission Inventory and Clean Air Plan

For any calendar year in which more IERCs were generated than were used, the IERC program clearly reduced annual emissions, relative to the emission inventory. In other words, there were more actual emission reductions (IERCs generated) than IERCs used. Emission decreases were not deferred. This is the case for calendar years 2000-02, 2004, 2006-11. As you can see from Table 3, the amount of IERCs generated exceeds the amount of IERCs used in each of those years.

Table 3 -- IERC Generation & Use Relative to Emission Inventory (all values Tons NOx)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
IERCs Generated	1158	1868	1339	673	772	672	879	944	1003	736	548	487	253	0	9
IERCs Used	83	88	557	790	679	731	639	486	386	412	336	310	304	252	299

For a year in which more IERCs are used than are generated, we must compare actual emissions and IERC use with the emission inventory. This is to ensure that the emission inventory adequately accounts for the difference between the amounts of IERCs used and generated. This is the case for calendar years 2003, 2005, 2012, 2013 and 2014.

Table 4 summarizes IERC use, actual emissions and the emission inventory for sources that generate IERCs, as well as the banking allowances contained in the inventory. For 2000 and 2001, the emission inventories are based on the 2001 Ozone Attainment Plan. For 2002 through 2010, the emission inventories are based on the 2005 Bay Area Ozone Strategy. For 2011 through 2014, the emission inventories are based on the 2010 Clean Air Plan.

Table 4 -- Actual Emissions Relative to Emission Inventory (all values Tons NOx)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Actual Emissions	3044	2262	1765	1942	1806	1590	1313	1302	1184	1125	1043	1040	354	443	359
Emission Inventory	3177	2816	1793	1359	1542	1329	1190	1190	1190	1190	1258	1357	1405	1405	1405
Banking Allowance	2774	5475	4234	4234	4891	5584	5584	5584	5584	5584	4526	4416	4416	4416	4416
Cumulative ERCs Used	252	531	993	1246	1364	1686	1809	2055	2262	2267	2305	2363	2363	2407	2408

For 2003, 2005, 2012, 2013, and 2014 the comparison of IERCs versus the emission inventory is done using the following test:

(Emission inventory + Inventory banking allowance) $\geq$ (Actual emissions + IERCs generated +ERCs used)?

If the sum of the emission inventory plus the inventory banking allowance is greater than or equal to the sum of actual emissions plus IERCs generated plus ERCs used, then the inventory contains sufficient buffer to account for the difference between IERCs used and generated.

Using the data provided in Tables 3 and 4, the above equation holds true for calendar years 2003, 2005, 2012, 2013 and 2014. Therefore, the emission inventory contains sufficient buffer to account for the difference between IERCs used and generated.

2003: Is (1359 + 4234 tons) $\geq$ (1942 + 673 + 1246 tons)? Yes

2005: Is (1329 + 5584 tons) $\geq$ (1590 + 672 + 1686 tons)? Yes

2012: Is (1405 + 4416 tons) $\geq$ (354 + 253 + 2363 tons)? Yes

2013: Is (1405 + 4416 tons) $\geq$ (443 + 0 + 2407 tons)? Yes

2014: Is (1405 + 4416 tons) $\geq$ (359 + 9.1 + 2408 tons)? Yes

Since the above equation is true for each year, the emission inventory includes a sufficiently large banking allowance to account for the fact that more IERCs were used than generated in 2003, 2005, 2012, 2013 and 2014. Therefore, there is no adverse impact relative to the inventory.

IERC Use Results in No Greater Annual Emissions due to Regulation 2, Rule 9

There are no greater emissions than would have occurred in the absence of Regulation 2, Rule 9, as long as there are sufficient IERCs available to be used for compliance with BARCT rules.

Pursuant to the California Air Resources Board's IERC guidance rule, IERCs *must* be banked (formally approved) prior to being used. Prior to banking an IERC, a facility must first achieve a real emission reduction. After the emission reductions actually occur, the facility is granted IERCs. Once granted, the facility may use the IERCs in lieu of BARCT compliance. IERCs are valid for 5 years from the end of the credit generation period. Therefore, this 5-year period is treated as *contemporaneous* with the time period in which the IERCs are used. The underlying principle is that an early reduction at one source is preferable (or at least equivalent) to a later reduction required by a BARCT rule for a different source. A reduction that occurred in a previous year can be carried over and used in a subsequent year. Therefore, as long as there are sufficient early reductions (banked IERCs) to offset later BARCT reductions that are deferred (by using IERCs), the rule works, and there are no more emissions than would have otherwise occurred in the absence of Regulation 2, Rule 9.

Evaluation of the IERC Rule as an Alternative Means of Compliance with Applicable District Rules

Regulation 9 Rule 10

The Shell and Valero petroleum refineries have used IERCs to comply with Regulation 9 Rule 10 (Reg. 9-10) since 2000. The use of IERCs has been a significant part of each refinery's compliance strategy for Reg. 9-10, and has allowed these refineries to delay the installation of NOx controls that would otherwise have been required on their furnaces by Reg. 9-10. These refineries are expected to continue using IERCs, but at reduced rates.

Over the last 13 years, Shell's IERC use has declined from 457 to almost zero in the most recent ACP period. Shell has continued to install additional NOx controls on their furnaces, so they are now at the point where they need relatively few IERCs to comply with Reg. 9-10.

Over the same 13-year period, Valero's IERC use has averaged 374 tons per year, ranging from a high of 506 tons (2004-05) to 278 tons (2012-13). Valero has generated IERCs from their CO Boilers (sources S-3 and S-4). In 2011, Valero replaced their existing CO Boilers with new CO Boilers that are subject to New Source Review and Best Available Control Technology (BACT) requirements. The new CO Boilers have more stringent NOx limits. Consequently, Valero's ability to generate additional IERCs has been reduced. To generate IERCs from the new CO Boilers, Valero will have to operate them at NOx emission rates below the new, more stringent BACT limit. Even if Valero can do this, the magnitude of IERCs generated will be significantly smaller. With their ability to generate additional IERCs curtailed, Valero will have to either find alternate sources of IERCs, or add more NOx controls to their furnaces to enable them to comply directly with Reg. 9-10. The District expects the latter to be the likely scenario.

Phillips66 refinery began using IERCs in 2007. Phillips66 averaged 3.7 tons per year for the period 2007 through 2014. Based on usage, IERCs are not a significant part of Phillips66's compliance strategy for Reg. 9-10. Rather, IERCs are used only occasionally to alleviate what would otherwise be relatively minor exceedances of the Reg. 9-10 emission standard.

Regulation 9 Rule 11

PG&E Hunters Point and Mirant Potrero power plants have used IERCs to comply with Regulation 9, Rule 11 (Reg. 9-11). Neither facility uses IERCs now. PG&E Hunters Point used IERCs from 2004 through 2006. The use of IERCs allowed PG&E Hunters Point to continue operating without installing additional NOx control, until the facility shut down in 2006. Mirant

Potrero used IERCs in 2004 and 2005, but no longer needs IERCs for compliance with Reg. 9-11.

Conclusion

Based on the above discussion, this report demonstrates that the use of IERCs, in the aggregate, results in no greater annual pollutant-specific emissions than would have occurred in the absence of the District's IERC program.