



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUL 17 2012

Douglas Wheeler
Hanford LP
4300 Railroad Avenue
Pittsburg, CA 94565

RE: Notice of Final Action - Emission Reduction Credits
Project Number: C-1120248

Dear Mr. Wheeler:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Hanford LP for emission reduction generated by the shutdown of a coke fired electrical generation facility that was previously located at 10596 Idaho Avenue in Hanford, CA. The quantity of ERCs to be issued is 65,719 lb-NOx/year; 91,347 lb-SOx/year; 13,509 lb-PM10/year; 65,478 lb-CO/year; and 798 lb-VOC/year.

Enclosed are the final ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the ERC Certificates was published on April 26, 2012. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on April 24, 2012. A summary of the comments received and the District responses to those comments can be found in Attachment H of the enclosed final emission reduction credit banking application review.

Comments received by the District during the public notice period resulted in a correction to the PM10 emission factor that was used to calculate the historical actual PM10 emissions from the coke fired boiler dating from December 2009 through November 2010; which resulted in an overall increase in 35 lb/year of PM10 emission reduction credits that will be issued within this project. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

Also enclosed is an invoice for the engineering evaluation fees pursuant to District Rule 3010. Please remit the amount owed, along with a copy of the attached invoice, within 60 days.

Seyed Sadredin

Executive Director/Air Pollution Control Officer

Northern Region

4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)

1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
Tel: (559) 230-6000 FAX: (559) 230-6061
www.valleyair.org

Southern Region

2700 M Street, Suite 275
Bakersfield, CA 93301-2373
Tel: (661) 326-6900 FAX: (661) 326-6985

Mr. Douglas Wheeler
Page 2

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,


David Warner
Director of Permit Services

DW:ddb

Enclosures



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUL 17 2012

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

RE: Notice of Final Action - Emission Reduction Credits
Project Number: C-1120248

Dear Mr. Rios:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Hanford LP for emission reduction generated by the shutdown of a coke fired electrical generation facility that was previously located at 10596 Idaho Avenue in Hanford, CA. The quantity of ERCs to be issued is 65,719 lb-NOx/year; 91,347 lb-SOx/year; 13,509 lb-PM10/year; 65,478 lb-CO/year; and 798 lb-VOC/year.

Enclosed are copies of the final ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

Notice of the District's preliminary decision to issue the ERC Certificates was published on April 26, 2012. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on April 24, 2012. All comments received following the District's preliminary decision on this project were considered.

Comments received by the District during the public notice period resulted in a correction to the PM10 emission factor used to calculate the historical actual PM10 emissions from the coke fired boiler dating from December 2009 through November 2010 which resulted in an overall increase in 35 lb/year of PM10 emission reduction credits that will be issued within this project. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

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Mr. Gerardo C. Rios
Page 2

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

DW:ddb

Enclosures



San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT

JUL 17 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

RE: Notice of Final Action - Emission Reduction Credits
Project Number: C-1120248

Dear Mr. Tollstrup:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Hanford LP for emission reduction generated by the shutdown of a coke fired electrical generation facility that was previously located at 10596 Idaho Avenue in Hanford, CA. The quantity of ERCs to be issued is 65,719 lb-NOx/year; 91,347 lb-SOx/year; 13,509 lb-PM10/year; 65,478 lb-CO/year; and 798 lb-VOC/year.

Enclosed are copies of the final ERC Certificates and a copy of the notice of final action to be published approximately three days from the date of this letter.

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Comments received by the District during the public notice period resulted in a correction to the PM10 emission factor that was used to calculate the historical actual PM10 emissions from the coke fired boiler dating from December 2009 through November 2010; which resulted in an overall increase in 35 lb/year of PM10 emission reduction credits that will be issued within this project. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

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Mr. Mike Tollstrup
Page 2

If you have any questions, regarding the above response, or require additional clarification, please contact Mr. Jim Swaney at (559) 230-5900.

Sincerely,

A handwritten signature in black ink, appearing to read "David Warner", with a long horizontal flourish extending to the right.

David Warner
Director of Permit Services

DW:ddb

Enclosures

**NOTICE OF FINAL ACTION
FOR THE ISSUANCE OF
EMISSION REDUCTION CREDITS**

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Hanford LP for emission reduction generated by the shutdown of a coke fired electrical generation facility that was previously located, at 10596 Idaho Avenue in Hanford, CA. The quantity of ERCs to be issued is 65,719 lb-NOx/year; 91,347 lb-SOx/year; 13,509 lb-PM10/year; 65,478 lb-CO/year; and 798 lb-VOC/year.

Comments received by the District during the public notice period resulted in a correction to the PM10 emission factor that was used to calculate the historical actual PM10 emissions from the coke fired boiler dating from December 2009 through November 2010; which resulted in an overall increase in 35 lb/year of PM10 emission reduction credits that will be issued within this project. These changes were minor and did not affect the basis for issuance of the above referenced ERCs.

The application review for Project #C-1120248 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the **SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 1990 EAST GETTYSBURG AVENUE, FRESNO, CA 93726.**



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate C-1164-1

ISSUED TO: HANFORD L P
ISSUED DATE: July 9, 2012
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For VOC Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
202 lbs	211 lbs	201 lbs	184 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.



Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate C-1164-2

ISSUED TO: HANFORD L P
ISSUED DATE: July 9, 2012
LOCATION OF REDUCTION: 10596 IDAHO AVE
 HANFORD, CA 93230

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
16,831 lbs	17,879 lbs	16,453 lbs	14,466 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO



David Warner, Director of Permit Services



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate

C-1164-3

ISSUED TO: HANFORD L P
 ISSUED DATE: July 9, 2012
 LOCATION OF REDUCTION: 10596 IDAHO AVE
 HANFORD, CA 93230

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
14,947 lbs	16,905 lbs	15,766 lbs	17,860 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.



Sayed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate

C-1164-4

ISSUED TO: HANFORD L P
 ISSUED DATE: July 9, 2012
 LOCATION OF REDUCTION: 10596 IDAHO AVE
 HANFORD, CA 93230

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
3,365 lbs	3,665 lbs	3,359 lbs	3,120 lbs

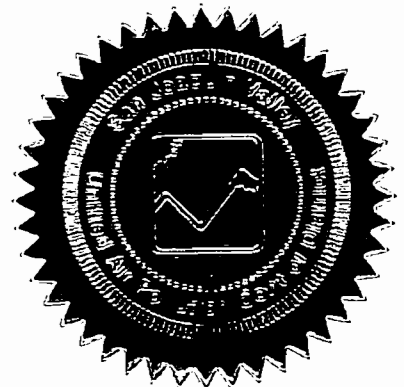
Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.



Seved Sadredin, Executive Director / APCO


 David Warner, Director of Permit Services



Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate

C-1164-5

ISSUED TO: HANFORD L P
 ISSUED DATE: July 9, 2012
 LOCATION OF REDUCTION: 10596 IDAHO AVE
 HANFORD, CA 93230

For SOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
21,847 lbs	24,148 lbs	21,591 lbs	23,761 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO


 David Warner, Director of Permit Services



Emission Reduction Credit Banking Application Review

Shutdown of Coke Fired Electrical Generation Facility

Processing Engineers: Frank DeMaris/Dustin Brown

Lead Engineer: Joven Refuerzo

Date: May 31, 2012

Facility Name: Hanford LP
Mailing Address: 4300 Railroad Avenue
Pittsburg, CA 94565

Contact: Douglas Wheeler
Phone: (925) 431-1443
Email: dwheeler@gwfpower.com

Facility Location: 10596 Idaho Avenue
Hanford, CA 93230

Date Application Received: January 31, 2012
Deemed Deemed Complete: February 29, 2012
Project Number: C-11200248

I. Summary:

Hanford LP ("HLP") has applied for emission reduction credits (ERC) for actual emission reductions (AER) stemming from the shutdown of their stationary source operation. HLP includes a 320 MMBtu/hr coke-fired boiler used to generate electricity and various supporting facilities, including a cooling tower. HLP shut down this source operation on August 22, 2011 and applied for dormant emission unit (DEU) status on September 6, 2011 in order to delay certain recurrent compliance requirements while evaluating the facility's potential for future operation. The application to bank ERC was received on January 31, 2012, and a letter cancelling the permits to operate (PTOs) was received on February 21, 2012 in response to the District's determination that the application was not complete without such a letter. The District accepts that the date of actual emission reductions is the date the facility was shut down, August 22, 2011. The following permit units have been cancelled (copies of cancelled permits included in Attachment A):

C-603-1-11	320 MMBtu/hr coke-fired fluidized bed boiler
C-603-2-2	Kaolin system
C-603-3-2	Gypsum system
C-603-13-4	Synthetic fly ash gypsum silo and loadout system
C-603-14-2	Synthetic bed ash gypsum silo and loadout system
C-603-15-2	Sodium bicarbonate silo
C-603-16-1	15,466 Gal/min cooling tower

Based on the historical operating data prior to the shutdown, the amounts of bankable Actual Emission Reductions (AER) for NO_x, CO, VOC, PM₁₀ and SO_x emissions are as shown in the table below. These values are calculated in Section V of this document:

Table 2: Bankable Emissions Reductions Credits (ERC's)				
Pollutant	Q1 ERC (lb/qtr)	Q2 ERC (lb/qtr)	Q3 ERC (lb/qtr)	Q4 ERC (lb/qtr)
NO _x	16,831	17,879	16,543	14,466
SO _x	21,847	24,148	21,591	23,761
PM ₁₀	3,365	3,665	3,359	3,120
CO	14,947	16,905	15,766	17,860
VOC	202	211	201	184

II. Applicable Rules:

Rule 2301, Emission Reduction Credit Banking

III. Location of Reduction:

HLP is located at 10596 Idaho Ave. in Hanford, California.

IV. Method of Generating Reductions:

HLP received its original authority to construct permit in 1987 and has operated continuously since. The entire facility was shut down on August 22, 2011 and all operating permits (except for one emergency engine, PTO C-603-6-3, which is being transferred to facility C-4140) were cancelled on February 21, 2012.

V. Calculations:

A. Assumptions and Emission Factors

HLP's coke-fired boiler is required to operate and maintain a continuous emissions monitoring system (CEMS) for NO_x, SO_x, and CO. AER for these pollutants is determined from a review of CEMS data (boiler CEMS Summaries included in Attachment E). For PM₁₀ and VOC, AER is calculated by using the most current source test data (boiler source test result summaries included in Attachment D).

It is noted that in December 2009 HLP failed a source test for PM₁₀, and then passed a retest in January 2010. HLP proposed to use only the passing test results in calculating actual emission reductions. As this is the most conservative approach, the District will use the passing source test results from the January 2010 source test in calculating the emissions for the time period in between the failed December 2009 source test and the passed January 2010 source test.

In addition, the coke-fired boiler also fired a small amount of natural gas as an auxiliary fuel. Emissions from natural gas combustion are captured by CEMS data (for NO_x, SO_x, and CO) or by source test data (for PM₁₀ and VOC). Separate emission calculations for pollutants from natural gas combustion is unnecessary and has not been conducted.

Finally, HLP has also proposed to bank ERC from AER resulting from the shutdown of the cooling tower serving the boiler. HLP has historically been required (by other regulatory entities) to measure the total dissolved solids (TDS) in the cooling tower water. It has done so by measuring the electroconductivity (EC) and multiplying by a conversion factor of 0.638. TDS can be used with the cooling tower drift rate (0.008%), cooling tower recirculation rate (15,466 gal/min), and a PM₁₀ fraction of 0.70 to determine the emission rate.

Emission factors used in calculating AER are summarized in Table 3, with source test results including the date the results are effective:

Unit	Pollutant	Emission Factor
C-603-1-11	NO _x	CEMS
	SO _x	CEMS
	PM ₁₀	0.63 lb/hr (1/1/09), 2.10 lb/hr ¹ (12/10/09), 0.97 lb/hr (12/1/10)
	CO	CEMS
	VOC	0.11 lb/hr (1/1/09), 0.10 lb/hr (12/1/10)
C-603-16-1	PM ₁₀	0.000433 lb-PM ₁₀ -ppmw/hr

Note that the source test results for VOC in December, 2009 confirmed that the boiler continued to emit at the same rate of 0.11 lb-VOC/hr shown by the previous test. Therefore, no separate entry is included for the December 2009 source test for VOC.

The actual emissions from the cooling tower are the product of mass balancing from the operating time (in hours) and TDS concentration (in ppm by weight). The constants in the calculation can be used to develop the emission factor.

$$EF = (0.008 \text{ lb-PM}/100 \text{ lb-H}_2\text{O}) \times (0.7 \text{ lb-PM}_{10}/\text{lb-PM}) \times (8.34 \text{ lb-H}_2\text{O}/\text{gal}) \times (15,466 \text{ gal}/\text{min}) \times (60 \text{ min}/\text{hr}) \div (1,000,000 \text{ ppmw})$$

$$EF = 0.000433 \text{ lb-PM}_{10}\text{-ppmw}/\text{hr}$$

¹ Original PM₁₀ emission rate used for this ERC banking application was 2.09 lb/hr. Based on a comment received during the public comment period for this project, the validity of the emission rate came in to question and the District was asked to justify the value used. The PM₁₀ emission rate for the time period dating from December 2009 through November 2010 was actually established based on revised and corrected source test results provided by The Avogadro Group on behalf of Hanford LP. The original source test results had errors in the calculations that were used to correct PM and PM₁₀ results for the ammonium sulfate collected as artifact from dissolved ammonia and SO₂ in the impinger catch. Based on these revised source test results, the official PM₁₀ emission rate was documented at 2.10 lb/hr. Therefore, the PM₁₀ emission rate used throughout this evaluation has been changed from 2.09 lb/hr to 2.10 lb/hr. See additional justification and explanation of the PM₁₀ emission factor corrections in Attachments D and H.

B. Baseline Period Determination and Data

HLP has supplied fuel use data for petroleum coke from January 2006 through August 2011, the five-year period prior to submission of the application to bank ERC (HLP fuel usage records included in Attachment C).

Table 4: Historical Production		
	Coke Usage (Tons)	8 quarter deviation from average (tons)
Q1 2006	21,457	
Q2 2006	21,880	
Q3 2006	21,986	
Q4 2006	18,926	
Q1 2007	21,353	
Q2 2007	21,752	
Q3 2007	22,315	
Q4 2007	22,105	-2,069
Q1 2008	18,513	-1,701
Q2 2008	21,208	-1,617
Q3 2008	21,685	-1,580
Q4 2008	20,756	-1,808
Q1 2009	20,939	-1,757
Q2 2009	20,102	-1,550
Q3 2009	20,808	-1,362
Q4 2009	21,885	-1,334
Q1 2010	18,694	-1,357
Q2 2010	21,093	-1,343
Q3 2010	17,205	-783
Q4 2010	13,631	108
Q1 2011	14,505	912
Q2 2011	12,140	1,907
Q3 2011	11,322	3,093
Average	19,403	

As shown above, the period with the smallest 8-quarter deviation from average is Q1 2009 through Q4 2010. This period will be used to evaluate AER for this application.

C. Historical Actual Emissions

Historical actual emissions (HAE) are calculated using actual fuel use records and the emission factors determined previously, although AER are discounted for emissions in excess of the permitted emission limits. In this case, HLP received notice of violation (NOV) 5005191 for exceeding the SO_x emission limit. In addition, HLP has submitted several deviation reports for the baseline period showing excess emissions of SO_x and NO_x. Although HLP received breakdown relief for these deviations, the excess emissions must be discounted in determining creditable AER for the ERC application.

Emissions from the Boiler (C-603-1-12):

For NO_x, SO_x, and CO

As previously noted, HAE for NO_x, SO_x, and CO is determined from a review of CEMS data. However, excess emissions of NO_x and SO_x must be deducted from HAE as well in calculating AER for those pollutants. These excess emissions amount to 6 pounds of NO_x in the 3rd quarter of 2009, 4 pounds of SO_x in the 3rd quarter of 2010, and 2 pounds of SO_x in the 2nd quarter of 2010. HAE for these pollutants is summarized in Table 5 below.

Pollutant	Year	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
NO _x	2009	20,239	19,596	19,884	19,859
	2010	17,162	20,135	16,878	12,287
	Average	18,701	19,866	18,381	16,073
SO _x	2009	19,175	18,372	18,958	31,895
	2010	29,374	35,289	29,022	20,906
	Average	24,275	26,831	23,990	26,401
CO	2009	21,887	26,174	31,363	35,448
	2010	11,328	11,392	3,673	4,242
	Average	16,608	18,783	17,518	19,845

For PM₁₀ and VOC:

HAE is calculated by month in Table 6 below, and then summarized as quarterly totals and averages in Table 7:

Date	Time (hr)	PM ₁₀ EF (lb/hr)	PM ₁₀ (lb/month)	VOC EF (lb/hr)	VOC (lb/month)
1/2009	744	0.63	468.7	0.11	81.8
2/2009	670	0.63	422.1	0.11	73.7
3/2009	737	0.63	464.3	0.11	81.1
4/2009	720	0.63	453.6	0.11	79.2
5/2009	740	0.63	466.2	0.11	81.4
6/2009	618	0.63	389.3	0.11	68.0
7/2009	744	0.63	468.7	0.11	81.8
8/2009	744	0.63	468.7	0.11	81.8
9/2009	645	0.63	406.4	0.11	71.0
10/2009	741	0.63	466.8	0.11	81.5
11/2009	721	0.63	454.2	0.11	79.3
12/1/2009	216	0.63	136.1	0.11	23.8
12/10/2009	528	2.10	1,108.8	0.11	58.1
1/1/2010	336	2.10	705.6	0.11	37.0
1/15/2010	356	2.10	747.6	0.11	39.2
2/2010	485	2.10	1,018.5	0.11	53.4
3/2010	743	2.10	1,560.3	0.11	81.7
4/2010	719	2.10	1,509.9	0.11	79.1
5/2010	744	2.10	1,562.4	0.11	81.8
6/2010	714	2.10	1,499.4	0.11	78.5
7/2010	659	2.10	1,383.9	0.11	72.5

8/2010	707	2.10	1,484.7	0.11	77.8
9/2010	539	2.10	1,131.9	0.11	59.3
10/2010	537	2.10	1,127.7	0.11	59.1
11/2010	715	2.10	1,501.5	0.11	78.7
12/1/2010	271	0.97	262.9	0.10	27.1

Pollutant	Year	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
PM ₁₀	2009	1,355	1,309	1,344	2,166
	2010	4,032	4,572	4,001	2,892
	Average	2,694	2,941	2,673	2,529
VOC	2009	237	229	235	243
	2010	211	239	210	165
	Average	224	234	223	204

Emissions from the Cooling Tower (C-603-16-2)

For the cooling tower, operational time and TDS are the variables that determine actual emissions during the baseline period (cooling tower operating and monitoring data included in Attachment F). Since operating time and TDS vary on a monthly basis, HAE must be calculated each month, summed for each quarter of the baseline period, and then averaged for each quarter.

Month	TDS (ppm)	Time (hr)	Conversion	HAE (lb/month)
Jan-09	1162	744	0.000433 lb-PM ₁₀ -ppmw/hr	374.3
Feb-09	1222	670		354.5
Mar-09	1316	737		420.0
Apr-09	1413	720		440.5
May-09	1339	740		429.0
Jun-09	1199	618		320.8
Jul-09	1284	744		413.6
Aug-09	1229	744		395.9
Sep-09	1148	645		320.6
Oct-09	1183	741		379.6
Nov-09	1183	721		369.3
Dec-09	1180	743		379.6
Jan-10	1195	692		358.1
Feb-10	995	485		209.0
Mar-10	1162	743		373.8
Apr-10	1152	719		358.6
May-10	1127	744		363.1
Jun-10	1130	715		349.8
Jul-10	1200	659		342.4
Aug-10	1223	707		374.4
Sep-10	1156	539		269.8
Oct-10	1194	537		277.6
Nov-10	1194	715		369.7
Dec-10	848	271		99.5

Pollutant	Year	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
PM ₁₀	2009	1,149	1,190	1,130	1,129
	2010	941	1,072	987	747
	Average	1,045	1,131	1,059	938

HAE for the entire ERC application are summarized in Table 10 below.

Pollutant	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
NO _x	18,701	19,866	18,381	16,073
SO _x	24,275	26,831	23,990	26,401
PM ₁₀	3,739	4,072	3,732	3,467
CO	16,608	18,783	17,518	19,845
VOC	224	234	223	204

D. Actual Emissions Reductions

AER for each pollutant is calculated by subtracting PE2 from HAE. Since HLP has generated the AER by shutting down the stationary source, PE2 for all pollutants is zero. AER is summarized in Table 11 below.

Pollutant	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
NO _x	18,701	19,866	18,381	16,073
SO _x	24,275	26,831	23,990	26,401
PM ₁₀	3,739	4,072	3,732	3,467
CO	16,608	18,783	17,518	19,845
VOC	224	234	223	204

E. Community Bank Allowance

Pursuant to Section 4.12.1 of District Rule 2201, 10% of all AER submitted for banking is deducted for the Air Quality Improvement Deduction to fund the Community Bank. The value of this deduction is summarized in Table 12 below:

Pollutant	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
NO _x	1,870	1,987	1,838	1,607
SO _x	2,428	2,683	2,399	2,640
PM ₁₀	374	407	373	347
CO	1,661	1,878	1,752	1,985
VOC	22	23	22	20

F. Increases in Permitted Emissions

There are no increases in permitted emissions (IPE) associated with this project.

G. Bankable Emissions Reductions Credits

The quantity of emission reductions eligible for banking is shown in Table 13.

Pollutant	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
NO _x	16,831	17,879	16,543	14,466
SO _x	21,847	24,148	21,591	23,761
PM ₁₀	3,365	3,665	3,359	3,120
CO	14,947	16,905	15,766	17,860
VOC	202	211	201	184

VI. Compliance:

A. Real

The emission reductions proposed for banking result from the shutdown of the coke-fired boiler and cooling tower. The emission reductions are developed from CEMS data or developed from actual operating and source test data. Therefore, the emission reductions are real.

B. Enforceable

HLP has surrendered the operating permit for all units for which it proposes to bank ERC. Operation without the PTO would be subject to enforcement action for a violation of District Rule 2010 (Permits Required). Therefore, the emission reductions are enforceable.

C. Quantifiable

As shown in Section V of this evaluation, emission reductions were calculated using data from a properly installed and calibrated CEMS, or were calculated using actual operating data and source test results. Therefore, the emission reductions are quantifiable.

D. Permanent

HLP has surrendered the operating permit for all units for which it proposes to bank ERC. Operation of the equipment without a valid PTO is subject to enforcement action. Construction of replacement equipment must be authorized by the District after evaluation under all applicable rules, including District Rule 2201 (New and Modified Stationary Source Review Rule), under which any increase in emissions over the applicable threshold must be offset. Therefore, the emission reductions are permanent.

E. Surplus

Until the operation was shut down, HLP complied with all applicable emission limits contained in the permit to operate and developed from the applicable rules and regulations. Therefore, the AER calculated in Section V are surplus to all current requirements. Furthermore, only one applicable rule amendment, to District Rule 4352, has been adopted, workshopped, or noticed for development since the permit was last amended. The amendment to Rule 4352 would reduce the allowable NO_x emission concentration to 65 ppmv @ 3% O₂, but since the permitted limit for HLP is 28 ppmv @ 3% O₂, even over a shorter averaging time than allowed by the rule, it is evident that the existing NO_x emission limit is lower than the limit in the amended rule. Therefore, the reductions are surplus.

F. Timeliness

HLP ceased operation on August 22, 2011, from which time it had 180 days to submit the ERC application. This 180-day clock would expire on February 18, 2012. Since the application was received by the District on January 31, 2012, the application is timely.

VII. Recommendation:

The ERC banking application complies with all applicable rules and regulations. Issue ERC certificates in the amounts shown in Table 2 above.

Attachments:

Attachment A,	Surrendered PTO's C-603-1-11, '-2-2, '-3-2, '-13-4, '-14-2, '-15-2 and '-16-1
Attachment B,	ERC Application
Attachment C,	Hanford LP Fuel Use Records
Attachment D,	Boiler Source Test Results
Attachment E,	Boiler NO _x , SO _x , and CO CEMS Summaries
Attachment F,	Cooling Tower Operating and Monitoring Data
Attachment G,	Draft ERC Certificates
Attachment H,	California Air Resources Board (CARB) Comments and District Responses

Attachment A

Surrendered PTO's C-603-1-11, '-2-2, '-3-2, '-13-4, '-14-2,
'-15-2, and '-16-1

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-1-11

EXPIRATION DATE: 04/30/2008

EQUIPMENT DESCRIPTION:

30 MW FLUIDIZED BED COMBUSTOR FUELED BY PETROLEUM COKE, NATURAL GAS, AND NO. 2 FUEL OIL UP TO 320 MMBTU/HR

PERMIT UNIT REQUIREMENTS

1. Fuel consumption in the fluidized bed combustor shall not exceed 320 MMBTU/hr of petroleum coke, natural gas, and No. 2 fuel oil. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Natural gas utilization in the fluidized bed combustor shall not exceed 48 MMBTU/hr. Fuel oil may only be used during warm-up or as necessary to establish or maintain bed temperature at 1,560 degree F at a rate not to exceed 170 MMBTU/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
3. Natural gas consumption in the low pressure evaporator shall not exceed 2 million scf in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The NO_x emissions (measured as NO₂) from the combined exhaust of the low pressure evaporator and fluidized bed combustor shall not exceed 245 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The NO_x concentration (as NO₂ corrected to 3% O₂) in the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 28 ppmvd averaged over any 3 hour period when the freeboard temperature is at least 1,560 degree F. [District Rules 2201, District Rule 4301 and District Rule 4352, 5.1] Federally Enforceable Through Title V Permit
6. The carbon monoxide emissions from the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 544 pounds in any one day. [District Rule 2201 and District Rule 4352, 5.3] Federally Enforceable Through Title V Permit
7. Annual carbon monoxide emissions from the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 156,000 pounds per year. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The VOC emissions from the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 60 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. The PM₁₀ emissions from the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 80 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
10. The concentration of particulate matter in the exhaust from the main baghouse shall not exceed 0.005 gr/dscf corrected to 12% CO₂. [District Rule 2201, District Rule 4301, and 40 CFR 60.43b(c)] Federally Enforceable Through Title V Permit
11. SO_x emissions (calculated as SO₂) from the combined exhaust of the combustor and the low pressure evaporator shall not exceed 469 pounds per day. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Sorbent shall be injected into the fluidized bed combustor at a rate sufficient to meet the SO_x concentration and emissions limits in these conditions. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

13. The SO_x concentration (as SO₂ corrected to 3% O₂) in the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 35 ppmvd averaged over any three hour period when the bed temperature was at least 1,500 degree F. [District Rule 2201, District Rule 4301 and District Rule 4801] Federally Enforceable Through Title V Permit
14. A start-up event commences when the petroleum coke feed to the CFBC is initiated and/or the freeboard temperature is 1,560 degree F. The start-up event is complete when the NO_x concentration and SO_x concentration are in compliance with the concentration limits. A shutdown event commences when the petroleum coke feed to the CFBC is terminated and is complete when the combustion air flow to the CFBC is terminated. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The start-up/shutdown event shall not exceed any of the following limits: 2 hours, 1 per day, 50 per year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. Emissions from the circulating fluidized bed combustor shall not exceed either of the following limits during a start-up or shutdown event: 140 lb NO_x/hr or 200 lb SO₂/hr. [District Rule 2201] Federally Enforceable Through Title V Permit
17. In no event shall SO₂ emissions from the combined exhaust of the combustor and the low pressure evaporator exceed 76.1 ton/yr. [District Rule 2201 and 40 CFR 52.21] Federally Enforceable Through Title V Permit
18. Ammonia shall be injected into the fluidized bed combustor as necessary to meet the limits in these conditions and whenever the freeboard temperature is at least 1,560 degree F. [District Rule 2201] Federally Enforceable Through Title V Permit
19. The concentration of ammonia in the combined exhaust of the fluidized bed combustor and low pressure evaporator shall not exceed 30 ppmvd. [District Rule 2201] Federally Enforceable Through Title V Permit
20. Source testing to demonstrate compliance with permit conditions and all rules and regulations shall be conducted on an annual basis. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Performance testing shall be conducted annually for NO_x, CO, SO_x, and PM(10) at normal operating capacity using following test methods; for NO_x, EPA Method 7E or ARB Method 1-100; for CO, EPA Method 10 or ARB Method 100; for SO_x, EPA Method 6 or 6C; and for PM(10), EPA Method 201A, and SCAQMD Method 5.3 and 6.1. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
22. Filterable PM(10) shall be quantified using EPA Method 201A. Condensable PM10 from the back-half of the test apparatus shall be quantified using SCAQMD methods 5.3 and 6.1. Total PM10 is the sum of the results of these two tests. [District Rules 1081 and 2201] Federally Enforceable Through Title V Permit
23. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
24. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The pressure drop across the filter fabric in the combustion exhaust baghouse shall be monitored daily. Immediate corrective action must be taken if the pressure drop in any section is greater than 10 inches H₂O or less than 0.5 inches H₂O. [District Rule 2201] Federally Enforceable Through Title V Permit
26. A Continuous Emissions Monitoring System shall be in place and operating whenever the facility is operating. NO_x (as NO₂ corrected to 3% O₂), SO_x as SO₂, CO, opacity and O₂ concentrations must be recorded continuously. [District Rule 1080] Federally Enforceable Through Title V Permit
27. Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
28. The continuous monitoring equipment must be linked to a data logger which is compatible with the District's data acquisition system. [District Rule 1080 and District Rule 4352] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

29. The owner/operator shall perform a relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F, 5.11, at least once every four calendar quarters. The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080] Federally Enforceable Through Title V Permit
30. Operator shall notify the APCO no later than eight hours after the detection of a breakdown of the CEMS. Operator shall inform the APCO of the intent to shut down the CEMS at least 24 hours prior to the event. [District Rule 1080; Fresno County Rule 108] Federally Enforceable Through Title V Permit
31. The permittee shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080, 40 CFR 60.49b(f) and 40 CFR 60.49b(h)] Federally Enforceable Through Title V Permit
32. An ultimate analysis for each lot of liquid or solid fuel received shall be maintained on site and made available to the District upon request. The analyses shall include heating value, sulfur content, and nitrogen content. [District Rule 1070] Federally Enforceable Through Title V Permit
33. Records of all daily fuel consumption shall be maintained on site and submitted to the District with quarterly reports and upon request. [District Rule 1070, District rule 1080, District Rule 4352 and 40 CFR 60.49b(d)] Federally Enforceable Through Title V Permit
34. A violation of NO_x emission standards indicated by the NO_x CEM shall be reported by the operator to the APCO within 96 hours. [Rule 108 (Kings, Fresno, Merced San Joaquin, Tulare, Kern, and Stanislaus) and Rule 109 (Madera) and District Rule 1080, 9.0] Federally Enforceable Through Title V Permit
35. If the unit is fired on diesel fuel that is not supplier-certified 0.0015% sulfur content or less, the sulfur content of each fuel source shall be tested weekly, except that if compliance with the fuel sulfur content limit has been demonstrated for 8 consecutive weeks for a fuel source, then the testing frequency shall be semi-annually. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
36. Operator shall maintain copies of fuel invoices and supplier certifications. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
37. Records of system maintenance, inspections, and repair shall be maintained. The records shall include identification of the equipment, date of inspection, corrective action taken, and identification of the individual performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
38. Operator shall maintain all records for at least five years and conform to the recordkeeping requirements described in District Rule 2520. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-2-2

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

KAOLIN SYSTEM CONSISTING OF ONE 11,969 GALLON (1,600 CUBIC FEET) WES-CO/STEEL STRUCTURES STORAGE SILO (UPPER UNIT) SERVED BY SAUNCO SVST 6-25-245 PULSE JET CLEANING BAGHOUSE

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 0 or equivalent to 0% opacity. [District Rule 2201] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Material removed from the dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Replacement bags numbering at least 10% of the total number of bags in the largest vent filter using each type of bag shall be maintained on the premises. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The baghouse pressure drop shall be maintained between 0.5" - 3" water column at all times of operation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter (PM10) emissions shall not exceed 0.5 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Visible emissions shall be inspected annually under material and environmental conditions, such as dry and windy, where high emissions are expected. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Enclosure shall be completely inspected annually for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Dust collector filters shall be inspected at least once every two weeks while not in operation for any tears, holes, abrasions, and scuffs which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Records of dust collector inspection, maintenance, and repair shall be maintained. These records shall include identification of the dust collector, date of inspection, any corrective action taken as a result of inspection, and initials of the personnel performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-3-2

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

INERT MATERIAL (GYPSUM) SYSTEM CONSISTING OF ONE 11,969 GALLON (1,600 CUBIC FEET) WES-CO/STEEL STRUCTURES STORAGE SILO (LOWER UNIT) SERVED BY A SAUNCO SVSB 25-245 PULSE JET CLEANING BAGHOUSE

PERMIT UNIT REQUIREMENTS

1. No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is dark or darker than Ringelmann 0 or equivalent to 0% opacity. [District Rule 2201] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Material removed from the dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Replacement bags numbering at least 10% of the total number of bags in the largest vent filter using each type of bag shall be maintained on the premises. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The baghouse pressure drop shall be maintained between 0.5" - 3" water column at all times of operation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Particulate matter (PM10) emissions shall not exceed 0.85 lb/day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Visible emissions shall be inspected annually under material and environmental conditions, such as dry and windy, where high emissions are expected. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
10. Enclosure shall be completely inspected annually for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Dust collector filters shall be inspected at least once every two weeks while not in operation for any tears, holes, abrasions, and scuffs which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
12. Records of dust collector inspection, maintenance, and repair shall be maintained. These records shall include identification of the dust collector, date of inspection, any corrective action taken as a result of inspection, and initials of the personnel performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-13-4

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

143,345 GALLON (19,164 CUBIC FEET) SYNTHETIC GYPSUM STORAGE SILO (FROM FLY ASH). SILO LOADING SERVED BY A 2,000 CFM SAUNCO TECHNOLOGIES MODEL #ULTRA BB-16-84 ARRANGEMENT 2B BAGHOUSE DUST COLLECTOR SILO UNLOADING SERVED BY A BIN VENT FILTER AND A MOVABLE, SEALING SPOUT

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants. [District Rule 4102]
2. Visible emissions from the baghouses serving the fly ash handling and storage operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District NSR Rule and District Rule 4101] Federally Enforceable Through Title V Permit
3. Visible emissions shall be inspected annually under material and environmental conditions, such as dry and windy, where high emissions are expected. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. The baghouse shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
6. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse, and for each type of bag, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
8. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
9. Fly ash throughput shall not exceed 225 tons per day. [District NSR Rule] Federally Enforceable Through Title V Permit
10. Enclosure shall be completely inspected annually for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
11. Dust collector filters shall be inspected at least once every two weeks while not in operation for any tears, holes, abrasions, and scuffs which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
12. Records of dust collector inspection, maintenance, and repair shall be maintained. These records shall include identification of the dust collector, date of inspection, any corrective action taken as a result of inspection, and initials of the personnel performing the inspection. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
13. Records of daily fly ash throughput and the amount of material loaded shall be maintained, retained on the premises at least five years, and shall be made available for District inspection upon request. [District Rules 2201, 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-14-2

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

45,259 GALLON (6,050 CUBIC FEET) SYNTHETIC GYPSUM STORAGE SILO (FROM BED ASH). SILO LOADING SERVED BY A CYCLONE AND A BAGHOUSE DUST COLLECTOR IN SERIES. SILO UNLOADING SERVED BY A BIN VENT FILTER AND A MOVABLE, SEALING SPOUT

PERMIT UNIT REQUIREMENTS

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 4102]
2. Visible emissions shall be inspected annually under material and environmental conditions, such as dry and windy, where high emissions are expected. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. The dust collector shall be maintained and operated according to manufacturer's specifications. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The dust collector cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
5. Enclosure shall be completely inspected annually for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
7. Dust collector filters shall be inspected at least once every two weeks while not in operation for any tears, holes, abrasions, and scuffs which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
8. Replacement bags and filters numbering at least 10% of the total number of bags in the largest baghouse, and for each type of bag, shall be maintained on the premises. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Records of dust collector inspection, maintenance, and repair shall be maintained. These records shall include identification of the dust collector, date of inspection, any corrective action taken as a result of inspection, and initials of the personnel performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
10. Records of the amount of material loaded on a daily basis shall be maintained, retained on the premises at least five years, and shall be made available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: C-603-15-2

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

10,473 GALLON (1,400 CUBIC FEET) INERT MATERIAL (SODIUM BICARBONATE/SORBENT) STORAGE SILO, LOADING SYSTEM SERVED BY A DSS MODEL WAM SILO TOP PULSE JET CLEANING BAGHOUSE, AND A SEALED SCREW CONVEYER

PERMIT UNIT REQUIREMENTS

1. Visible emissions from the baghouses serving the sodium bicarbonate handling and storage operation shall not equal or exceed 5% opacity for a period or periods aggregating more than three minutes in any one hour. [District NSR Rule and District Rule 4101] Federally Enforceable Through Title V Permit
2. Visible emissions shall be inspected annually under material and environmental conditions, such as dry and windy, where high emissions are expected. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
3. Enclosure shall be completely inspected annually for evidence of particulate matter leaks and repaired as needed. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
4. Dust collector filters shall be inspected at least once every two weeks while not in operation for any tears, holes, abrasions, and scuffs which might interfere with the PM collection efficiency and shall be replaced as needed. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
5. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102] Federally Enforceable Through Title V Permit
6. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
7. The baghouse shall be equipped with a pressure differential gauge to indicate the pressure drop across the bags. The gauge shall be maintained in good working condition at all times and shall be located in an easily accessible location. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The baghouse shall operate at all times with a minimum differential pressure of 0.1 inches water column and a maximum differential pressure of 3.5 inches water column. [District NSR Rule]
9. Replacement bags numbering at least 10% of the total number of bags in the largest baghouse using each type of bag shall be maintained on the premises. [District NSR Rule]
10. Material removed from dust collector(s) shall be disposed of in a manner preventing entrainment into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The baghouse cleaning frequency and duration shall be adjusted to optimize the control efficiency. [District NSR Rule] Federally Enforceable Through Title V Permit
12. Emissions from the sodium bicarbonate silo shall not exceed 0.0016 lb PM10 per ton of sodium bicarbonate. [District NSR Rule] Federally Enforceable Through Title V Permit
13. The maximum throughput for the sodium bicarbonate storage operation shall exceed either of the following limits: 42 tons per day or 660 tons per year. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE
These terms and conditions are part of the Facility-wide Permit to Operate.

14. Records of dust collector inspection, maintenance, and repair shall be maintained. These records shall include identification of the dust collector, date of inspection, any corrective action taken as a result of inspection, and initials of the personnel performing the inspection. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
15. Differential operating pressure shall be monitored and recorded on each day that the baghouse operates. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
16. Records of the amount of material loaded on a daily basis shall be maintained, retained on the premises at least five years, and shall be made available for District inspection upon request. [District Rule 2520, 9.4.2] Federally Enforceable Through Title V Permit
17. Records of daily sodium bicarbonate throughput shall be maintained, retained on-site for a period of at least five years and made available for District inspection upon request. [District NSR Rule and District Rule 1070] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

**San Joaquin Valley
Air Pollution Control District**

PERMIT UNIT: C-603-16-1

EXPIRATION DATE: 04/30/2016

EQUIPMENT DESCRIPTION:

15,466 GPM MARLEY 3-CELL, COUNTER FLOW, INDUCED DRAFT, COOLING TOWER

PERMIT UNIT REQUIREMENTS

- I. No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Attachment B
ERC Application

San Joaquin Valley Air Pollution Control District RECEIVED

Application for

JAN 31 2012

EMISSION REDUCTION CREDIT (ERC)

CONSOLIDATION OF ERC CERTIFICATE

Permits Services
SJVAPCD

1. ERC TO BE ISSUED TO: Hanford LP		Facility ID: C-603 (if known)				
2. MAILING ADDRESS: Street/P.O. Box: 4300 Railroad Avenue City: Pittsburg State: CA Zip Code: 94565-6006						
3. LOCATION OF REDUCTION: Street: 10596 Idaho Avenue City: Hanford, CA, 93230 The Site Universal Transverse Mercator (UTM) coordinates are at Zone 11, Horizontal 262,139.0 meters, Vertical 4,016,882.0 meters. The plant is at 36° 16' 9" North Latitude and 119° 38' 52" West Longitude. SECTION _____ TOWNSHIP _____ RANGE _____	4. DATE OF REDUCTION: August 22, 2011					
5. PERMIT NO(S): C-603-1-6		EXISTING ERC NO(S):				
6. METHOD RESULTING IN EMISSION REDUCTION: <input checked="" type="checkbox"/> SHUTDOWN <input type="checkbox"/> RETROFIT <input type="checkbox"/> PROCESS CHANGE <input type="checkbox"/> OTHER DESCRIPTION: 30 MW Fluidized Bed Combustor fueled by Petroleum Coke, Natural Gas and No. 2 Fuel oil up to 320 MMBTU/hr was shutdown on August 22, 2011 and all permits have been designated dormant. (Use additional sheets if necessary)						
7. REQUESTED ERCs (in Pounds Per Calendar Quarter):						
	VOC	NOx	CO	PM10	SOx	OTHER
1ST QUARTER	218	18255	18188	939	25374	
2ND QUARTER	219	18256	18189	940	25375	
3RD QUARTER	219	18256	18189	940	25375	
4TH QUARTER	218	18256	18188	939	25375	
8. SIGNATURE OF APPLICANT: 		TYPE OR PRINT TITLE OF APPLICANT: Vice President				
9. TYPE OR PRINT NAME OF APPLICANT: Douglas W. Wheeler				DATE: 01/12/2012	TELEPHONE NO: 925.431.1443	

FOR APCD USE ONLY:

DATE STAMP	FILING FEE RECEIVED: \$ <u>2277</u> , <u>CR# 010845</u> DATE PAID: <u>1/31/12</u> PROJECT NO.: <u>C-1120248</u> FACILITY ID.: <u>C-603</u>
------------	--

Northern Regional Office * 4800 Enterprise Way * Modesto, California 95356-8718 * (209) 557-6400 * FAX (209) 557-6475
 Central Regional Office * 1990 East Gettysburg Avenue * Fresno, California 93726-0244 * (559) 230-5900 * FAX (559) 230-6061
 Southern Regional Office * 34946 Flyover Court * Bakersfield, California 93308 * (661) 392-5500 * FAX (661) 392-5585

San Joaquin Valley Air Pollution Control District

RECEIVED

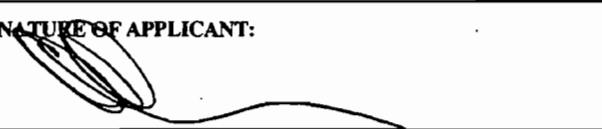
Application for

JAN 31 2012

EMISSION REDUCTION CREDIT (ERC)

CONSOLIDATION OF ERC CERTIFICATES

Permits Services
SJVAPCD

1. ERC TO BE ISSUED TO: Hanford LP		Facility ID: C-603 (if known)				
2. MAILING ADDRESS: Street/P.O. Box: 4300 Railroad Avenue City: Pittsburg State: CA Zip Code: 94565-6006						
3. LOCATION OF REDUCTION: Street: 10596 Idaho Avenue City: Hanford, CA, 93230 The Site Universal Transverse Mercator (UTM) coordinates are at Zone 11, Horizontal 262,139.0 meters, Vertical 4,016,882.0 meters. The plant is at 36° 16' 9" North Latitude and 119° 38' 52" West Longitude. _____ /4 SECTION _____ TOWNSHIP _____ RANGE _____	4. DATE OF REDUCTION: August 22, 2011					
5. PERMIT NO(S): C-603-16-1 EXISTING ERC NO(S): _____						
6. METHOD RESULTING IN EMISSION REDUCTION: <input checked="" type="checkbox"/> SHUTDOWN <input type="checkbox"/> RETROFIT <input type="checkbox"/> PROCESS CHANGE <input type="checkbox"/> OTHER DESCRIPTION: 15,466 GPM Marley 3-Cell, Counter Flow, Induced Draft, Cooling Tower. (Use additional sheets if necessary)						
7. REQUESTED ERCs (In Pounds Per Calendar Quarter):						
	VOC	NOx	CO	PM10	SOx	OTHER
1ST QUARTER				993		
2ND QUARTER				994		
3RD QUARTER				994		
4TH QUARTER				993		
8. SIGNATURE OF APPLICANT: 				TYPE OR PRINT TITLE OF APPLICANT: Vice President		
9. TYPE OR PRINT NAME OF APPLICANT: Douglas W. Wheeler				DATE: 01/12/2012	TELEPHONE NO: 925.431.1443	

FOR APCD USE ONLY:

DATE STAMP	FILING FEE RECEIVED: \$ _____ / _____ DATE PAID: PROJECT NO.: _____ FACILITY ID.: _____
------------	---

GWF
GWF POWER SYSTEMS

RECEIVED

FEB 21 2012

Permits Srvc
SJVAPCD

February 15, 2012

Mr. James Swaney, Director Permit Services
San Joaquin Valley Air Pollution Control District
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244

RE: Request To Activate Hanford LP PTO C-603 Emissions units under ATC C-1112934 (Rule 2050)

Dear Mr. Swaney:

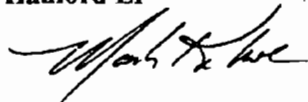
On behalf of Hanford L.P, GWF requests the District activate the following Hanford LP emissions units (PTO C-603) from the current Dormant Emissions Units (DEU) status. Hanford LP was granted Dormant status on October 5, 2011. The Dormant emissions units to be are:

- a. Permit unit # C-603-1-6: Fluidized bed combustor,
- b. Permit Unit # C-603-2-2: Kaolin System,
- c. Permit Unit # C-603-3-2: Gypsum System,
- d. Permit Unit #C603-13-4: Synthetic Gypsum Storage Silo,
- e. Permit Unit #C603-14-2: Synthetic Gypsum storage silo from bed ash,
- f. Permit Unit #C-603-15-2: Sodium Bicarbonate System,
- g. Permit Unit #C603-16-1: Cooling Tower

Hanford L.P. requests that the Authority To Construct for each unit be activated at your earliest convenience. Upon activation of the units, Hanford LP requests that the permits for each of the above units be **cancelled**.

Thank you for your time and consideration regarding this matter. If you have any questions regarding this request, please feel free to contact me at (925) 431-1440.

Respectfully,
Hanford LP



Mark Kehoe
Director, Environmental and Safety

Attachments:

cc D. Wheeler, GWF
K. Kolnowski, GWF

Attachment C

Hanford LP Fuel Use Records

ATTACHMENT 2

Petroleum Coke Usage

Hanford LP
Permit No. C-603-1-6

Date/Month	Coke Usage Tons	Date/Month	Coke Usage Tons	Date/Month	Coke Usage Tons
Jan-06	7,224	Jan-08	7,137	Jan-10	6,909
Feb-06	6,795	Feb-08	6,614	Feb-10	4,731
Mar-06	7,438	Mar-08	4,762	Mar-10	7,054
Apr-06	7,459	Apr-08	7,037	Apr-10	7,057
May-06	7,292	May-08	7,278	May-10	7,284
Jun-06	7,129	Jun-08	6,893	Jun-10	6,752
Jul-06	7,472	Jul-08	7,378	Jul-10	6,074
Aug-06	7,484	Aug-08	7,240	Aug-10	6,397
Sep-06	7,030	Sep-08	7,067	Sep-10	4,734
Oct-06	4,781	Oct-08	6,221	Oct-10	4,479
Nov-06	6,404	Nov-08	7,035	Nov-10	6,745
Dec-06	7,741	Dec-08	7,500	Dec-10	2,407
Jan-07	7,637	Jan-09	7,097	Jan-11	3,052
Feb-07	6,650	Feb-09	6,534	Feb-11	5,647
Mar-07	7,066	Mar-09	7,308	Mar-11	5,806
Apr-07	7,013	Apr-09	7,041	Apr-11	4,133
May-07	7,451	May-09	7,284	May-11	3,177
Jun-07	7,288	Jun-09	5,777	Jun-11	4,830
Jul-07	7,587	Jul-09	7,215	Jul-11	6,471
Aug-07	7,560	Aug-09	7,157	Aug-11	4,851
Sep-07	7,168	Sep-09	6,436	-----	-----
Oct-07	7,517	Oct-09	7,606	-----	-----
Nov-07	7,353	Nov-09	7,068	-----	-----
Dec-07	7,235	Dec-09	7,211	-----	-----

Attachment D

Boiler Source Test Results

**TABLE 1-1
SUMMARY OF AVERAGE RESULTS
HANFORD L.P.
FLUIDIZED-BED BOILER
NOVEMBER 20, 2008**

Parameter	Test Results	Permit Limits
Particulate Matter <10 microns (PM₁₀)		
gr/dscf	0.0011	--
gr/dscf @ 12% CO ₂	0.0009	--
lb/hr	0.63	--
lb/day	15.1	80.0
Total Particulate Matter (PM)		
gr/dscf	0.0018	--
gr/dscf @ 12% CO ₂	0.0014	0.005
lb/hr	1.03	--
lb/day	24.7	--
Carbon Monoxide (CO)		
ppm volume dry	46.5	--
ppmvd @ 3% O ₂	48.8	--
lb/hr	14.07	--
lb/day	337.6	544
Nitrogen Oxides (NO_x)		
ppm volume dry	17.6	--
ppmvd @ 3% O ₂	18.5	28.0
lb/hr as NO ₂	8.75	--
lb/day as NO ₂	210.0	245
Sulfur Oxides (SO_x)		
ppm volume dry	14.1	--
ppmvd @ 3% O ₂	14.8	20.2
lb/hr as SO ₂	9.74	--
lb/day as SO ₂	233.8	245
Volatile Organic Compounds		
ppm volume dry as C ₁	< 0.7	--
ppmvd @ 3% O ₂	< 0.7	--
lb/hr as CH ₄	< 0.11	--
lb/day as CH ₄	< 2.6	60.0
Ammonia (NH₃)		
ppm volume dry	14.9	30.0
ppmvd @ 3% O ₂	15.6	--



**TABLE 1-1
SUMMARY OF AVERAGE RESULTS
HANFORD L.P.
FLUIDIZED BED BOILER
DECEMBER 10, 2009**

Parameter	Test Results	Permit Limits
Particulate Matter <10 microns (PM₁₀)		
gr/dscf	<i>0.0078</i>	--
gr/dscf @ 12% CO ₂	<i>0.0061</i>	--
lb/hr	<i>4.39</i>	--
lb/day	<i>105.4</i>	80.0
Total Particulate Matter (PM)		
gr/dscf	<i>0.0086</i>	--
gr/dscf @ 12% CO ₂	<i>0.0068</i>	0.005
lb/hr	<i>4.90</i>	--
lb/day	<i>117.5</i>	--
Carbon Monoxide (CO)		
ppm volume dry	76.3	--
ppmvd @ 3% O ₂	81.5	--
lb/hr	22.52	--
lb/day	540.2	544
Nitrogen Oxides (NO_x)		
ppm volume dry	20.8	--
ppmvd @ 3% O ₂	22.2	28.0
lb/hr as NO ₂	10.07	--
lb/day as NO ₂	241.5	245
Sulfur Oxides (SO_x)		
ppm volume dry	25.1	--
ppmvd @ 3% O ₂	26.8	35.0
lb/hr as SO ₂	16.97	--
lb/day as SO ₂	407.1	469
Volatile Organic Compounds		
ppm volume dry as C ₁	< 0.7	--
ppmvd @ 3% O ₂	< 0.7	--
lb/hr as CH ₄	< 0.11	--
lb/day as CH ₄	< 2.7	60.0
Ammonia (NH₃)		
ppm volume dry	15.3	30.0
ppmvd @ 3% O ₂	16.6	--

Note: Results in italics have been revised from the original report.



**TABLE 1-3
SUMMARY OF AVERAGE RESULTS (RE-TEST)
HANFORD L.P.
FLUIDIZED BED BOILER
JANUARY 15, 2010**

Parameter	Test Results	Permit Limits
Particulate Matter <10 microns (PM₁₀)		
gr/dscf	<i>0.0034</i>	--
gr/dscf @ 12% CO ₂	<i>0.0028</i>	--
lb/hr	<i>2.10</i>	--
lb/day	<i>50.5</i>	80.0
Total Particulate Matter (PM)		
gr/dscf	<i>0.0048</i>	--
gr/dscf @ 12% CO ₂	<i>0.0039</i>	0.005
lb/hr	<i>2.94</i>	--
lb/day	<i>70.7</i>	--

Note: Results in italics have been revised from the original report.



SECTION 1.0

INTRODUCTION AND SUMMARY

This report has been revised (May 2012) to correct the calculations used in correction of the PM and PM₁₀ results for the ammonium sulfate collected as artifact from dissolved ammonia and SO₂ in the impinger catch. See Section 4.0 for details. The Avogadro Group, LLC (Avogadro) was contracted by Hanford L.P. (Hanford) to conduct a series of emission tests at their facility in Hanford, California. Avogadro conducted the tests to comply with the source testing requirements of the San Joaquin Valley Air Pollution Control District (SJVAPCD) Permit to Operate (PTO) No. C-603-1-4 for the petroleum coke-fired circulating fluidized bed combustor (CFBC) boiler. The test results were also used to audit the relative accuracy of the facility's continuous emission monitoring system (CEMS) in accordance with 40 CFR, Part 60, Appendices B and F. Results were calculated in the units used by the CEMS for reporting emissions.

Chuck Arrivas and Dave Ramirez of Avogadro conducted the emissions tests on December 10, 2009. The initial PM test average exceeded the permit limits for the Hanford facility and a retest was performed on January 15, 2010 by Chuck Arrivas and Nishad Patel of Avogadro. Ron Mann of Hanford coordinated the plant operations during both test programs. The tests were conducted according to a test plan dated November 9, 2009 that was submitted to and approved by the SJVAPCD. Joe Avila from the SJVAPCD observed portions of the test program.

Tests on the CFBC boiler determined the following emission parameters:

- Emission Compliance:
 - CO (ppm volume dry, ppm @ 3% O₂, lb/hr, lb/day)
 - NO_x (ppm volume dry, ppm @ 3% O₂, lb/hr, lb/day)
 - SO₂ (ppm volume dry, ppm @ 3% O₂, lb/hr, lb/day)
 - Total PM (gr/dscf, gr/dscf @ 12% CO₂, lb/hr, lb/day)
 - PM₁₀ (gr/dscf, gr/dscf @ 12% CO₂, lb/hr, lb/day)
 - VOC (ppm volume dry, ppm @ 3% O₂, lb/hr, lb/day)
 - Ammonia slip (ppm volume dry, ppm @ 3% O₂)
- O₂ and CO₂, (% volume dry) - for molecular weight and dilution calculations
- RATA (O₂, CO, NO_x, SO₂, stack flow rate)

The emissions tests and RATA results are summarized and compared with their respective permit limits in Tables 1-1 through 1-3. Detailed results of individual test runs are presented in Section 4.0. All supporting data including process data, CEMS data, field data sheets, calculations and spreadsheets, and laboratory reports are located in the appendices.



SECTION 4.0

RESULTS

The average test results are compared to their respective permit limits and performance specifications in Tables 1-1 through 1-3. The results of the individual compliance test runs are presented in Tables 4-1 through 4-3. The individual results from the PM retest are presented in Table 4-15.

The test results show that all of the gaseous emissions were within their respective permit limits for the Hanford L.P. facility. The average results from the three particulate matter (PM) emission tests performed on December 10, 2009 exceeded the limits of the permit (see Tables 1-1 and 4-1). The first run had high acid content in the aqueous fraction. The plant process data shows an anomaly in the amount of sorbent flow during the first run, and is not representative of normal plant operations. The second and third test runs were well within the permit limits. The retest performed on January 15, 2010 demonstrates compliance with the permit limits for PM₁₀ and for Total PM (see Tables 1-3 and 4-15). Emissions have been reported in units consistent with the permit limits.

Revised results are presented in the tables in italics. Revised Appendices are shown in the Table of Contents in italics. The report has been revised to:

- *Correct errors in the spreadsheets used in calculation of the PM and PM₁₀ emissions,*
- *Correct errors in data input to one of those spreadsheets, and*
- *Redistribute some Appendix sections to facilitate review of data, calculations and results.*

SCAQMD Method 5.3 was used as a basis for the calculation of results from the PM and PM₁₀ sampling and analysis data. The method includes collection of condensable PM in the impingers, and analysis and calculations to correct the results for the collection of artifact ammonium sulfate (i.e. from dissolved ammonia and SO₂ in the impinger water). The original spreadsheets had been modified by mistake, and included errors in the presentation of the equations used in the correction calculations, and errors in the calculations themselves. Errors were also found in the input to the titration data page from the spreadsheet for the retests conducted on January 15, 2010; the actual laboratory data had not been properly entered.

The spreadsheets have been revised to closely follow the calculations in SCAQMD Method 5.3, both in presentation of the equations used and in the actual calculations. The revisions have been made to the spreadsheets for the original PM tests and for the retest of January 15, 2010. The actual titration data from the retest have been input to the titration page of that spreadsheet (Appendix D.4B).



Appendix sections have been added to separate the data and calculations from the retest from those from the original PM tests. The revised spreadsheets are presented in Appendices D.4A and D.4B. The laboratory analysis reports are provided in Appendices E.1A and E.1B. A set of example calculations has been added to Appendix D.8.

The individual RATA results are presented in Tables 4-4 through 4-14. Detailed results from the individual relative accuracy test runs are presented in Appendix D.3. The results were calculated using nine of the eleven available test results for each CEMS component. During Run 4 of the RATA, the concentration of CO exceeded the analyzer span. This run was completed but was not used to determine relative accuracy of any of the CO criteria. An additional run was performed for CO, NO_x and O₂.

Generic descriptions of the test methods are located in Appendix A. A summary of our quality assurance program, our ARB certifications, and our equipment calibration data are included in Appendix B. All supporting data including the field data sheets are provided in Appendix C. Result calculations are located in Appendix D, and laboratory reports in Appendix E. The applicable permit is presented in Appendix F, the SJVAPCD Com 2030 worksheet is in Appendix G and color copies of strip charts are presented in Appendix H.



**TABLE 1-1
 SUMMARY OF AVERAGE RESULTS
 HANFORD L.P.
 FLUIDIZED BED BOILER
 NOVEMBER 30 & DECEMBER 1, 2010**

Parameter	Test Results	Permit Limits
Particulate Matter <10 microns (PM₁₀)		
gr/dscf	0.0019	--
gr/dscf @ 12% CO ₂	0.0015	--
lb/hr	0.97	--
lb/day	23.4	80.0
Total Particulate Matter (PM)		
gr/dscf	0.0028	--
gr/dscf @ 12% CO ₂	0.0022	0.005
lb/hr	1.45	--
lb/day	34.7	--
Carbon Monoxide (CO)		
ppm volume dry	6.9	--
ppmvd @ 3% O ₂	7.4	--
lb/hr	1.85	--
lb/day	44.3	544
Nitrogen Oxides (NO_x)		
ppm volume dry	20.4	--
ppmvd @ 3% O ₂	21.9	28.0
lb/hr as NO ₂	9.03	--
lb/day as NO ₂	216.7	245



**TABLE 1-2
 SUMMARY OF AVERAGE RESULTS
 HANFORD L.P.
 FLUIDIZED BED BOILER
 NOVEMBER 30 & DECEMBER 1, 2010**

Parameter	Test Results	Permit Limits
Sulfur Oxides (SO_x)		
ppm volume dry	23.2	--
ppmvd @ 3% O ₂	24.9	35.0
lb/hr as SO ₂	14.26	--
lb/day as SO ₂	342.3	469
Volatile Organic Compounds		
ppm volume dry as C ₁	< 0.6	--
ppmvd @ 3% O ₂	< 0.7	--
lb/hr as CH ₄	< 0.10	--
lb/day as CH ₄	< 2.3	60.0
Ammonia (NH₃)		
ppm volume dry	3.7	30.0
ppmvd @ 3% O ₂	3.9	--

Note: Values presented in italics represent results reported at the detection limit of the applicable method.



Attachment E

Boiler NO_x, SO_x, and CO CEMS Summaries

ATTACHMENT 4

NOx, SO2 & CO

Hanford LP
Permit No. C-603-1-6

	NOX lbs	SO2 lbs	CO lbs	Coke Usage Tons
Jan-09	7011	6613	8507	7,097
Feb-09	6282	5752	6320	6,534
Mar-09	6946	6810	7060	7,308
Apr-09	6762	6415	7689	7,041
May-09	6940	6426	9481	7,284
Jun-09	5894	5531	9004	5,777
Jul-09	7071	6775	10547	7,215
Aug-09	7102	6761	11366	7,157
Sep-09	5717	5422	9450	6,436
Oct-09	6747	11322	10939	7,606
Nov-09	6083	9334	11765	7,068
Dec-09	7029	11239	12744	7,211
Jan-10	5889	10690	6395	6,909
Feb-10	4468	7582	2316	4,731
Mar-10	6805	11102	2617	7,054
Apr-10	6719	12590	5714	7,057
May-10	6965	12491	4381	7,284
Jun-10	6451	10210	1297	6,752
Jul-10	5800	10242	1786	6,074
Aug-10	5926	10223	1165	6,397
Sep-10	5152	8561	722	4,734
Oct-10	4714	7744	1715	4,479
Nov-10	5876	9694	1794	6,745
Dec-10	1697	3468	733	2,407
Annual Average: (Based on Two Years)	73,023	101,499	72,754	77,179

EXHIBIT 1

Date: Jan 12 2012
00:00
Time: 09:27
23:59

Begin: Jul 01, 2006

End: Aug 31, 2011

(Page 001)

Hanford CFB
10596 Idaho Avenue, Hanford CA
***** MULTI-PARAMETER SUMMARY REPORT *****

(Monthly Summations)
Data Source: daily records
> limit > limit > limit
245 469 544
Unit 1 Unit 1 Unit 1

Start

	NOX lbs	SO2 lbs	CO lbs
01/09	7011	6613	8507
02/09	6282	5752	6320
03/09	6946	6810	7060
04/09	6762	6415	7689
05/09	6940	6426	9481
06/09	5894	5531	9004
07/09	7071	6775	10547
08/09	7102	6761	11366
09/09	5717	5422	9450
10/09	6747	11322	10939
11/09	6083	9334	11765
12/09	7029	11239	12744
01/10	5889	10690	6395
02/10	4468	7582	2316
03/10	6805	11102	2617
04/10	6719	12590	5714
05/10	6965	12491	4381
06/10	6451	10210	1297
07/10	5800	10242	1786
08/10	5926	10223	1165
09/10	5152	8561	722
10/10	4714	7744	1715
11/10	5876	9694	1794
12/10	1697	3468	733

Report produced by Cirrus

DAS S/N (00000001)

Attachment F

Cooling Tower Operating and Monitoring Data

ATTACHMENT 7

PM10

Hanford LP
 Permit No. C-603-16-1
 Cooling Tower

Date/Month	OP HRS	Conductivity umhos/cm	TDS ppm	PM10 lbs/month
Jan-09	744	1822	1162	374.8
Feb-09	670	1916	1222	354.7
Mar-09	737	2063	1316	420.4
Apr-09	720	2215	1413	441.0
May-09	740	2098	1339	429.3
Jun-09	618	1879	1199	321.0
Jul-09	744	2013	1284	414.1
Aug-09	744	1926	1229	396.2
Sep-09	645	1799	1148	320.8
Oct-09	741	1855	1183	380.1
Nov-09	721	1854	1183	369.6
Dec-09	743	1849	1180	379.7
Jan-10	692	1873	1195	358.4
Feb-10	485	1559	995	209.0
Mar-10	743	1821	1162	374.1
Apr-10	719	1806	1152	359.0
May-10	744	1766	1127	363.1
Jun-10	714	1771	1130	349.4
Jul-10	659	1881	1200	342.8
Aug-10	707	1917	1223	374.5
Sep-10	539	1812	1156	270.1
Oct-10	537	1872	1194	278.0
Nov-10	715	1866	1191	368.7
Dec-10	271	1329	848	99.4

Annual Average:

(Based on Two Years)

4174

Notes:

1) $PM10 = \text{Water Recirculation Rate} \times \text{Drift Rate} \times \text{TDS} \times \text{PM10 Fraction Factor}$

Water Recirculation Rate =	15,466 gpm
Drift Rate	0.008 %
PM-10 Fraction Factor	70 %

EC Monthly Average from City of Hanford Invoices

EC to TDS conversion=	63.8 %
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Based on Wastewater Analytical Reports

Attachment G
Draft ERC Certificates

San Joaquin Valley
Air Pollution Control District

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate
C-1164-1

ISSUED TO: HANFORD L P
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For <Symbol> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
202 lbs	211 lbs	201 lbs	184 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director /APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate
C-1164-2

ISSUED TO: HANFORD L P
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For <Symbol> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
16,831 lbs	17,879 lbs	16,453 lbs	14,466 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director /APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate
C-1164-3

ISSUED TO: HANFORD L P
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For <Symbol> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
14,947 lbs	16,905 lbs	15,766 lbs	17,860 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director /APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

Emission Reduction Credit Certificate
C-1164-4

ISSUED TO: HANFORD L P
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For <Symbol> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
3,365 lbs	3,665 lbs	3,359 lbs	3,120 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

San Joaquin Valley
Air Pollution Control District

Central Regional Office • 1990 E. Gettysburg Ave. • Fresno, CA 93726

**Emission Reduction Credit Certificate
C-1164-5**

ISSUED TO: HANFORD L P
ISSUED DATE: <DRAFT>
LOCATION OF REDUCTION: 10596 IDAHO AVE
HANFORD, CA 93230

For <Symbol> Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
21,847 lbs	24,148 lbs	21,591 lbs	23,761 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
 Shutdown of Emissions Units
 Other

Shutdown of all emission units except one emergency generator transferred to C-4140.

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

DRAFT

David Warner, Director of Permit Services

Attachment H

California Air Resources Board (CARB) Comments and District Responses

CARB COMMENTS / DISTRICT RESPONSES

1. CARB COMMENT – PM₁₀ Emission Factor does not Match Source Test Results

CARB did not provide the District with official written comments on this project. However, pursuant to a telephone call received by the District on May 8, 2012 from Stephanie Kato with CARB, CARB raised a question about the emission factor used to calculate the historical actual PM₁₀ emissions from the coke fired boiler dating from December 10, 2009 through November of 2010. The 2.09 lb-PM₁₀/hr emission factor used in the application review for this time period does not match the January 15, 2010 source test result value of 0.24 lb-PM₁₀/hr included in Attachment D. Why are the historical actual PM₁₀ emissions for this 12 month period being calculated with a PM₁₀ emission factor that is higher than what the source test results are showing?

DISTRICT RESPONSE

Upon review, the District agrees with CARB's question/comment. The PM₁₀ emission factor used in the original application review is not supported by the attached source test results. After further discussion with Hanford LP staff, the District's Compliance staff, and The Avogadro Group, the source testing company that performed the source tests on the coke fired boiler operated by Hanford LP, it was determined that an error occurred in the calculations used in the correction of the PM and PM₁₀ results based on the ammonium sulfate collected as artifact from dissolved ammonia and SO₂ in the impinger catch.

SCAQMD Method 5.3 was used as a basis for the calculation of results from the PM and PM₁₀ sampling and analysis data. The method includes collection of condensable PM in the impingers, and analysis and calculations to correct the results for the collection of artifact ammonium sulfate (i.e. from dissolved ammonia and SO₂ in the impinge water). The original spreadsheets had been modified by mistake, and included errors in the presentation of the equations used in the correction calculations, and errors in the calculations themselves. Errors were also found in the input to the titration data page from the spreadsheet for the retests conducted on January 15, 2010; the actual laboratory data had not been properly entered.

The spreadsheets were revised to closely follow the calculations in SCAQMD Method 5.3, both in presentation of the equations used and in the actual calculations. The revisions have been made to the spreadsheets for the January 15, 2010 source test and the updated results show that the PM₁₀ emissions were actually 2.10 lb/hr, not 0.24 lb/hr as previously reported.

Upon review of the original source test report submitted by Hanford LP in March of 2010, the District Compliance staff noted issues with the results, similar to those described above, and through various email correspondence with The Avogadro Group, determined that there were errors in the conversion calculations used to derive the lb/hr PM₁₀ emissions values. At the time of that review, the District Compliance staff and The Avogadro Group determined that the unofficial revised lb/hr PM₁₀ emission rate for the January 15, 2010 source test should have been 2.09 lb/hr. However, at that time, the District did not request The Avogadro Group to issue a revised source test report to correct the errors and display the correct results. The email correspondence describing the errors and revised calculations were included as an attachment to the original source test report.

The preliminary application review that was sent out for public noticing for this project documented the issues the District Compliance staff had found with the original source test report and utilized the revised PM₁₀ emission rate of 2.09 lb/hr to establish the historical actual emissions dating from December 2009 through November 2010. However, based on the revised source test report that has now been prepared and submitted by The Avogadro Group, the official PM₁₀ emission rate for the January 15, 2010 source test is 2.10 lb/hr.

Therefore, the application review has been revised to incorporate this official PM₁₀ emission rate of 2.10 lb/hr. In addition, the revised source test summary pages and a description of the reasons for the revisions have been included in Attachment D. The change in the PM₁₀ emission rate results in an annual increase in the amount of PM₁₀ emission reduction credits issued as a part of this project of 35 lb/year, from 13,474 lb/year to 13,509 lb/year. Since this increase only represents a 0.2% increase in the overall total of PM₁₀ emission reduction credits to be issued, the District considers this change to be minor and it does not affect the overall basis for issuance of the ERC's in question.