Prelim. S-1141060 HR

Visalia Newspapers, Inc.
P.O. Box 31, Visalia, CA 93279
559-735-3200 / Fax 559-735-3210

Certificate of Publication

$157.82

State Of California ss:
County of Tulare

Advertiser: CALIFORNIA NEWSPAPER SERV/TUL
915 E FIRST ST
LOS ANGELES , CA 90012

Order # 0000601665

RE: NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF

I, C.D Crawford.

Accounting Clerk, for the below mentioned newspaper(s), am over the age of 18 years old, a citizen of the United States and not a party to, or have interest in this matter. I hereby certify that the attached advertisement appeared in said newspaper on the following

Newspaper: **Visalia Times Delta**

7/22/2015

I acknowledge that I am a principal clerk of said paper which is printed and published in the City of Visalia, County of Tulare, State of California. The Visalia Times Delta was adjudicated a newspaper of general circulation on July 25, 2001 by Tulare County Superior Court Order No. 41-20576. The Tulare Advance Register was adjudicated a newspaper of general circulation on July 25, 2001 by Superior Court Order No. 52-43225.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 22 day of July, 2015 in Visalia, California.

C.D Crawford

Declarant

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sierra Power Corporation for the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

The analysis of the regulatory basis for this proposed action, Project #S-1141060, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by August 24, 2015 to ARNAUD MARJOLLET, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.
7/22/15
CNS-2775520#
VISALIA TIMES-DELTA #601665

A000000383138 7

Order# 2775520

PUBLIC NOTICE CHECK LIST

PROJECT #: S-834 PROJECT #: S-1141060

REQST.	COMPL.	
√	√	ERC PRELIMINARY PUBLIC NOTICE
√	☐	Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)
√	—	Send email to "OA-PublicNotices" containing the following: SUBJECT: facility name, facility id#, project #, type of notice (prelim/final) BODY: project description and why it is being noticed (Emission Reduction Credit Banking)

ENCLOSED DOCUMENTS REQUIRE:

√	√	Enter Correct Date, Print All Documents from File and Obtain Director's Signature
√	√	Determine date comment period will end, enter date on Newspaper Notice and Aviso en Español, and Email ***PRELIMINARY*** Newspaper Notice for Publication in Visalia Times-Delta Pub Date: 7/22/15 Due Date: 8-24-15
√	√	Mail/email ***PRELIMINARY*** Notice Letter to Applicant (email address: [sfp@sierraforest.net]) with the following attachments: √ Application Evaluation √ Newspaper Notice
√	√	Email ***PRELIMINARY*** Public Notice package to EPA
√	√	Email ***PRELIMINARY*** Public Notice package to CARB
√	√	Email ***PRELIMINARY*** Newspaper Notice, Aviso en Español and Public Notice package to ~~"webmaster"~~ Webteam
√	√	After posted on website, send email with weblink of Newspaper notice, Aviso en Español, and full public notice package to: √ specific [C, S, or N] region **and** District wide permitting notification list-serves (both English and Spanish list serves) √ facility specific distribution list, (AQE – enter email address from PAS facility details notifications tab, if none enter NONE below): [email address]
√	√	Mail the newspaper notice and aviso en español (NN/AE), or full public notice package (FPNP) to the persons on facility specific distribution list, as follows (entered by AQE, if none, enter NONE below): ☐NN/AE or ☐FPNP Name/address:[names] ☐NN/AE or ☐FPNP Name/address:[names]
√	√	Send ***PRELIMINARY*** Public Notice package to EDMS
—	—	Other Special Instructions (please specify):_____

Date Completed July 15, 2015/By Homero Ramirez

√Tracker 7/16/15
√proof
√finance
√Webteam
√list serve

CALIFORNIA NEWSPAPER SERVICE BUREAU

DAILY JOURNAL CORPORATION

Mailing Address : 915 E FIRST ST, LOS ANGELES, CA 90012
Telephone (213) 229-5300 / Fax (213) 229-5481
Visit us @ WWW.LEGALADSTORE.COM

Yolanda
SAN JOAQUIN VALLEY AIR POLL CONTROL DIST
1990 E. GETTYSBURG AVE.
FRESNO, CA 93726

CNS 2775520

COPY OF NOTICE

Notice Type: GPN GOVT PUBLIC NOTICE

Ad Description ERC Preliminary Public Notice, Sierra Power

To the right is a copy of the notice you sent to us for publication in the VISALIA TIMES-DELTA. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

07/22/2015

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

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7/22/15
CNS-2775520#
VISALIA TIMES-DELTA

A00000038230666

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Friday, July 17, 2015 2:22 PM
To: Gerardo Rios EPA (SJV_T5_Permits@epa.gov); Mike Tollstrup (mtollstr@arb.ca.gov)
Cc: 'sfp@sierraforest.net'
Subject: ERC Preliminary Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060
Attachments: Preliminary S-1141060.pdf; Newspaper.pdf

Importance: High

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sierra Power Corporation for the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

★Yolanda R. Alvarez★
Office Assistant II
San Joaquin Valley APCD
1990 E Gettysburg Avenue
Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

Yolanda Alvarez

From: Microsoft Outlook
To: 'sfp@sierraforest.net'
Sent: Friday, July 17, 2015 2:22 PM
Subject: Relayed: ERC Preliminary Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

'sfp@sierraforest.net' (sfp@sierraforest.net) <mailto:sfp@sierraforest.net>

Subject: ERC Preliminary Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060

Yolanda Alvarez

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Subject: ERC Preliminary Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060

Yolanda Alvarez

From:	Yolanda Alvarez
Sent:	Friday, July 17, 2015 2:26 PM
To:	WebTeam
Subject:	valleyair.org update: ERC Preliminary Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060
Attachments:	Preliminary S-1141060.pdf; Newspaper.pdf; Aviso.pdf

July 17, 2015 (Facility S-834 Project S-1141060) NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sierra Power Corporation for the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr. The comment period ends on August 24, 2015.

Newspaper Notice

Aviso

Public Notice Package

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Aviso en Español for posting on Valleyair.org

AVISO DE DECISIÓN PRELIMINAR PARA LA PROPUESTA OTORGACIÓN DE CERTIFICADOS DE REDUCCIÓN DE EMISIONES

POR EL PRESENTE SE NOTIFICA que el Distrito Unificado para el Control de la Contaminación del Aire del Valle de San Joaquín está solicitando comentarios del público para la propuesta emisión de Certificados de Reducción de Emisiones (ERC, por sus siglas en inglés) a Sierra Power Corporation para el cierre de una instalación de cogeneración de biomasa, en 9000 Road 234 in Terra Bella. La cantidad de ERCs propuestas para bancar es 83,915 lb-NOx/año, 18,479 lb-SOx/año, 27,806 lb-PM10/año y 199,163 lb-CO/año.

El análisis de la base regulatoria para esta acción propuesta, Proyecto #S-1141060, está disponible para la inspección pública en http://www.valleyair.org/notices/public_notices_idx.htm y en cualquiera de las oficinas del Distrito. Para más información en Español, por favor comuníquese con el Distrito al (661) 392-5500. Comentarios por escrito acerca de este propuesto permiso inicial deben de ser sometidos antes del 24 de Agosto del 2015 a **ARNAUD MARJOLLET, DIRECTOR DEL DEPARTAMENTO DE PERMISOS, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sierra Power Corporation for the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

The analysis of the regulatory basis for this proposed action, Project #S-1141060, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by August 24, 2015 to **ARNAUD MARJOLLET, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308.**

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Monday, July 20, 2015 5:23 PM
To: All Region (Notices_of_Permitting_Actions-All_Regions@lists.valleyair.org); South (Notices_of_Permitting_Actions-Southern_Region@lists.valleyair.org)
Subject: Public Notice on Permitting Action S-1141060

The District has posted a new permitting public notice. The public notice can be viewed on our website at: http://www.valleyair.org/notices/Docs/2015/07-17-15_(S-1141060)/Newspaper.pdf

For a list of public notices and public notice packages, please visit our website at: http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Thank you,

★Yolanda R. Alvarez★
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San Joaquin Valley APCD
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Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Monday, July 20, 2015 5:24 PM
To: All Spanish (Avisos_Sobre_Acciones_de_Permisos-Todos@lists02.valleyair.org)
Subject: Aviso Publico Sobre Acciones de Permisos S-1141060

El Distrito del Aire a publicado un nuevo aviso público de permiso. El aviso público se puede ver en nuestro sitio de web en: http://www.valleyair.org/notices/Docs/2015/07-17-15_(S-1141060)/Aviso.pdf

Para obtener una lista de avisos públicos y paquetes de avisos públicos, por favor visite nuestro sitio de web en:
http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Gracias,

★*Yolanda R. Alvarez*★
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Service★Teamwork★Attitude★Respect

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

JUL 17 2015

Kent Duysen
Sierra Power Corporation
P O Box 10050
Terra Bella, CA 93270

Re: Notice of Preliminary Decision – Emission Reduction Credits
Facility Number: S-834
Project Number: S-1141060

Dear Mr. Duysen:

Enclosed for your review and comment is the District's analysis of Sierra Power Corporation's application for Emission Reduction Credits (ERCs) resulting from the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. After addressing all comments made during the 30-day public notice comment period, the District intends to the issue the ERCs. Please submit your written comments on this project within the 30-day public comment period, as specified in the enclosed public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Homero Ramirez of Permit Services at (661) 392-5616.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:har/ya

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

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

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

San Joaquin Valley Air Pollution Control District
ERC Application Review

Facility Name:	Sierra Power Corporation	Date:	July 13, 2015
Mailing Address:	P O Box 10050 Terra Bella, CA 93270	Engineer:	Homero Ramirez
		Lead Engineer:	Stephen Leonard
Contact Person:	Kent Duysen		
Telephone:	(559) 535-4893		
Facility ID:	S-834		
Project #:	S-1141060		

I. SUMMARY:

The primary business of Sierra Power Corporation (S-834) is the generation of electricity for sale and steam for use at the neighboring sawmill/lumber plant, Sierra Forest Products (S-556). Sierra Power Corporation has applied for Emission Reduction Credits (ERCs) resulting from the permanent shutdown of a 9.4 MW cogeneration system with a biomass-fired boiler (S-834-3-6) and associated fuel handling and solid material handling equipment (S-834-1-3, -6-3, and -10-2).

The equipment has been shut down and replaced by a 32 MMBtu/hr natural gas-fired boiler (S-834-7) that is now a full time unit. Previously, the boiler had been designated a standby service unit, but it has recently been retrofit with ultra-low NOx burners. Therefore, as is explained in the Calculations section, the Post-Project Potential to Emit from this 32 MMBtu/hr boiler will be subtracted from the Historic Actual Emissions to determine the Actual Emissions Reductions.

The following emission reductions have been found to qualify for ERC banking certificates. See Calculations section below.

Bankable Emissions Reductions Credits (ERC), lb/qtr					
Pollutant	ERC #	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
NOx	S-4585-2	22,809	20,168	19,717	21,221
SOx	S-4585-5	5,028	4,439	4,338	4,674
PM10	S-4585-4	7,619	6,656	6,491	7,040
CO	S-4585-3	54,424	47,737	46,597	50,405
VOC	--	0	0	0	0

II. APPLICABLE RULES:

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2301 Emission Reduction Credit Banking (1/19/12)
Rule 4352 Solid Fuel Fired Boilers, Steam Generators and Process Heaters (12/15/11)

III. PROJECT LOCATION:

The equipment operated at 9000 Road 234 in Terra Bella.

IV. METHOD OF GENERATING REDUCTIONS:

Actual Emission Reductions (AER) are being generated with the permanent shutdown of the following equipment:

PTO	Equipment
S-834-1-3	FUEL SCREENING AND HANDLING SYSTEM SERVED BY A HUMIDIFIER FOGGER/SPRAY SYSTEM
S-834-3-6	9.4 MW COGENERATION SYSTEM WITH 171.2 MMBTU/HR STAGED AIR BIOMASS-FIRED BOILER WITH FIRED HEAT RECOVERY STEAM GENERATOR WITH PEABODY LOW-NOX NATURAL GAS-FIRED BURNERS, AMMONIA INJECTION SYSTEM, MULTICLONES, LOW TEMPERATURE SCR EXHAUSTING TO ELECTROSTATIC PRECIPITATOR, AND FLUE GAS RECIRCULATION
S-834-6-3	ASH COLLECTION SYSTEM UTILIZING ENCLOSED AUGERS AND WATER MIST SERVING BIOFUEL BOILER (S-834-3)
S-834-10-2	FUEL HANDLING SYSTEM CONSISTING OF TWO SILOS, ONE HOG UNIT, SCREENS, AND CONVEYORS SERVED BY A HUMIDIFIER FOGGER SPRAY SYSTEM

The applicant has surrendered the four Permits to Operate identified above for the equipment in order to validate the emission reduction credits. Copies of the PTOs are included as Attachment A. As required by Rules 2201 and 2301, creditable emission reductions are to be based upon the historical actual emissions over the appropriate baseline period, and the use of acceptable emission factors.

V. CALCULATIONS:

A. Assumptions

- The actual emission reductions are from shutdown of the equipment resulting in a reduction of fuel combustion emissions from the cogeneration system (S-834-3) and the fugitive PM10 emissions from the fuel screening and handling systems (S-834-1 and -10) and the ash collection system (S-834-6).
- The steam provided by the shutdown equipment has been replaced by the boiler S-834-7. Therefore the actual emission reductions from the shutdown equipment will be reduced by the Potential Emissions for the replacement boiler.

Cogeneration system (S-834-3):

- Biomass-fired boiler (S-834-3) was fired solely on wood fuels as required by conditions 7 and 8 of its Permit to Operate. The wood fuels are separated into agricultural byproducts and wood and wood residuals for their different heating values as explained below.
- Heating value of agricultural byproducts is 8.25 MMBtu/short ton[1]
- Heating value of wood and wood residuals is 17.48 MMBtu/short ton [1]
- The table below lists the amounts of fuels that have been consumed (in bone dry tons per year, BDT/yr) based on records submitted by the applicant. Such records are found in Attachment C.

Fuel Consumption (by Weight) (BDT/yr) [2]			
	2011	2012	2013
Agricultural byproducts	65,887	34,018	38,676
Wood and wood residuals*	15,535	45,383	36,530
Total	81,422	79,401	75,206

* Wood and wood residuals includes urban and sawmill chips and residue.

[1] See EPA's Emission Factors for Greenhouse Gas Inventories available at http://epa.gov/climateleadership/documents/emission-factors.pdf in Appendix E.

[2] Records of fuel use for calendar years 2011, 2012, and 2013 are found in Appendix C. These records are the summary data sheets for each year that were used to report GHGs to CARB under AB32, the California Global Warming Solutions Act of 2006

- The equivalent heat input rating (in MMBtu/yr) is:

Fuel Consumption (by Heat Input) (MMBtu/yr) [3]			
	2011	2012	2013
Agricultural byproducts	543,568	280,649	319,077
Wood and wood residuals	271,552	793,295	638,54
Total	815,120	1,073,943	957,621

- As is explained in the Baseline Period Determination section, the baseline period has been determined to be the period from the beginning of January 2012 through the end of December 2013.
- Note that the applicant has submitted copies of the annual records of fuel consumption by weight of raw material (that has been submitted to CARB to report GHGs under AB32). However, the applicant only has monthly records of fuel deliveries by weight (not the monthly records of fuel consumption). Since the fuel delivery quantities are indicative of the fuel consumption quantities (as annual records demonstrate), the monthly fuel consumption values will be estimated from the monthly fuel delivery values. The monthly proportion of fuel delivered will be multiplied by the annual fuel consumption quantity to estimate the monthly fuel consumption values. See Attachment D for the calculation of the monthly fuel consumption values.
- The monthly fuel consumption during the baseline period is listed below. These values are calculated in Attachment D.

	Calculated Fuel Consumption (BDT)		Calculated Fuel Consumption (MMBtu)	
	2012	**2013**	**2012**	**2013**
January	7,384	7,819	99,875	99,555
February	7,176	7,954	97,056	101,287
March	6,836	4,784	92,462	60,919
April	8,815	5,784	119,223	73,645
May	6,101	3,635	82,524	46,286
June	5,788	6,970	78,286	88,752
July	7,198	5,729	97,360	72,950
August	7,899	5,606	106,833	71,384
September	5,083	4,774	68,753	60,791
October	5,560	4,507	75,209	57,389
November	6,017	7,998	81,382	101,840
December	5,543	9,646	74,978	122,824
Total	79,401	75,206	1,073,943	957,621

[3] The equivalent heat input rating is calculated by multiplying the amounts of the two types of fuels consumed and heating value of the corresponding type of fuel as stated above.

Fuel/ash handling equipment (S-834-1, -6, and -10):

- The amount of material handled by the fuel handling S-834-1 and S-834-10 will be equivalent to "Calculated Fuel Consumption" values identified in the table above.
- The amount of material handled by the ash collection system S-834-6 is 3,934 ton/yr (984 ton/qtr) (per the applicant as shown in Attachment C).
- Fugitive PM10 emission for each screen, hopper, and conveyor may be estimated using the AP-42 Section 13.2.4 (Aggregate Handling and Storage Piles) equation for calculation of drop point emissions from aggregate handling operations:

$$EF = k(0.0032) \times \left(U/5\right)^{1.3} / \left(M/2\right)^{1.4} \text{ lb/ton}$$

where:

k = particle size multiplier, (dimensionless)
= 0.35 for particle size < 10 μm (i.e. PM10)
U = mean wind speed, (miles per hour)
= 5 mph (per applicant) [4]
M = material moisture content (%)
= 4.8% (per applicant) [5]

$$EF = 0.35 \times (0.0032) \times \left(5/5\right)^{1.3} / \left(4.8/2\right)^{1.4} \text{ lb/ton} = 0.00033 \text{ lb/ton}$$

(per drop/emission point)

- The control efficiency of 90 percent will be assumed for the water spray. [6]
- The following are the emission points for the fuel screening and handling system (S-834-1), for a total of seven emission points:
  - One trommel screen
  - One hopper
  - Five conveyors
- The following are the emission points for the ash collection system (S-834-6), for a total of one emission point:
  - One discharge point
- The following are the emission points for the fuel handling system (S-834-10), for a total of four emission points:
  - Two storage silos
  - One hog unit
  - One conveyor

---

[4] The 5.0 mph value proposed by the applicant is acceptable as it is less than the 6.35 mph value for Bakersfield in EPA Tanks 4.0.

[5] Per AP-42 Section 1.6 (Wood Residue Combustion in Boilers), the moisture content of as-fired wood may vary from 5 to 75 weight percent depending on the residue type and storage operation, so the proposed value of 4.8 percent is an acceptable conservative assumption.

[6] Per AP-42 Section 13.2.4.4 (Aggregate Handling and Storage Piles), continuous watering of materials loaded onto piles can reduce total particulate emissions from aggregate storage operations by up to 90 percent. The same control will be conservatively assumed for this operation.

B. Emission Factors

District Rule 2201, Section 3.1 defines Actual Emissions as "emissions having occurred from a source, based on source test or monitoring data, actual fuel consumption, and process data. If source test or monitoring data is not available, other appropriate, APCO-approved, emission factors may be used."

Cogeneration system (S-834-3):

- The cogeneration system (S-834-3) was source tested during the baseline period in 2012 and 2013. The source test results are found in Attachment B and summarized in the table below. The average source test emission factors calculated below will be used to determine the Actual Emission Reductions from the cogeneration system.

Emission Factors				
	Permitted Emission Factor (lb/MMBtu)	2012 Source Test (lb/MMBtu)	2013 Source Test (lb/MMBtu)	Average Source Test Emission Factor (lb/MMBtu)
NOx	0.108	0.098	0.0902	0.094
SOx	0.061	0.0019	0.0397	0.021
PM10	0.066	0.0323	0.0355	0.034
CO	0.314	0.2377	0.2392	0.238
VOC	0.066	0	0	0

Fuel/ash handling equipment (S-834-1, -6, and -10):

- The Emission Factor for each drop/emission point is 0.00033 lb-PM10/day. [7]

C. Baseline Period Determination

Pursuant to Section 3.9 of Rule 2201, the Baseline Period is a period of time equal to either:

3.9.1 The two consecutive years of operation immediately prior to the submission date of the Complete Application; or

3.9.2 At least two consecutive years within the five years immediately prior to the submission date of the Complete Application if determined by the APCO as more representative of normal source operation.

[7] Fugitive PM10 emission for each screen, hopper, and conveyor were estimated using the AP-42 Section 13.2.4 equation for calculation of drop point emissions from aggregate handling operations in Section A above.

The applicant submitted the application on March 4, 2014. The two consecutive years of operation prior to the submission of the application has been determined to be representative of normal source operation. Therefore the baseline period will be the period from the beginning of January 2012 through the end of December 2013.

D. Baseline Data

The baseline fuel use data is taken from the fuel use and production records in Attachment D.

Baseline Fuel Consumption (MMBtu)				
Month	**2012**	**2013**	**Monthly Average**	**Quarterly Average**
January	99,875	99,555	99,715	275,577
February	97,056	101,287	99,171	
March	92,462	60,919	76,691	
April	119,223	73,645	96,434	244,358
May	82,524	46,286	64,405	
June	78,286	88,752	83,519	
July	97,360	72,950	85,155	239,035
August	106,833	71,384	89,108	
September	68,753	60,791	64,772	
October	75,209	57,389	66,299	256,811
November	81,382	101,840	91,611	
December	74,978	122,824	98,901	

Baseline Fuel Consumption (BDT)				
Month	**2012**	**2013**	**Monthly Average**	**Quarterly Average**
January	7,384	7,819	7,601	20,977
February	7,176	7,954	7,565	
March	6,836	4,784	5,810	
April	8,815	5,784	7,299	18,546
May	6,101	3,635	4,868	
June	5,788	6,970	6,379	
July	7,198	5,729	6,464	18,145
August	7,899	5,606	6,752	
September	5,083	4,774	4,929	
October	5,560	4,507	5,034	19,636
November	6,017	7,998	7,007	
December	5,543	9,646	7,595	

E. Historical Actual Emissions (HAE)

HAE - Combustion Emissions

The HAE due to the combustion emissions are determined by multiplying the quarterly fuel use by the emission factors presented above.

HAE from Fuel Use (S-834-3) - Quarter 1						
NO_x	0.094	lb/MMBtu x	275,577	MMBtu/qtr =	25,904	lb/qtr
SO_x	0.021	lb/MMBtu x	275,577	MMBtu/qtr =	5,787	lb/qtr
PM10	0.034	lb/MMBtu x	275,577	MMBtu/qtr =	9,370	lb/qtr
CO	0.238	lb/MMBtu x	275,577	MMBtu/qtr =	65,587	lb/qtr
VOC	0	lb/MMBtu x	275,577	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 2						
NO_x	0.094	lb/MMBtu x	244,358	MMBtu/qtr =	22,970	lb/qtr
SO_x	0.021	lb/MMBtu x	244,358	MMBtu/qtr =	5,132	lb/qtr
PM10	0.034	lb/MMBtu x	244,358	MMBtu/qtr =	8,308	lb/qtr
CO	0.238	lb/MMBtu x	244,358	MMBtu/qtr =	58,157	lb/qtr
VOC	0	lb/MMBtu x	244,358	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 3						
NO_x	0.094	lb/MMBtu x	239,035	MMBtu/qtr =	22,469	lb/qtr
SO_x	0.021	lb/MMBtu x	239,035	MMBtu/qtr =	5,020	lb/qtr
PM10	0.034	lb/MMBtu x	239,035	MMBtu/qtr =	8,127	lb/qtr
CO	0.238	lb/MMBtu x	239,035	MMBtu/qtr =	56,890	lb/qtr
VOC	0	lb/MMBtu x	239,035	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 4						
NO_x	0.094	lb/MMBtu x	256,811	MMBtu/qtr =	24,140	lb/qtr
SO_x	0.021	lb/MMBtu x	256,811	MMBtu/qtr =	5,393	lb/qtr
PM10	0.034	lb/MMBtu x	256,811	MMBtu/qtr =	8,732	lb/qtr
CO	0.238	lb/MMBtu x	256,811	MMBtu/qtr =	61,121	lb/qtr
VOC	0	lb/MMBtu x	256,811	MMBtu/qtr =	0	lb/qtr

HAE – Fuel Handling Emissions

HAE from Fuel Screening and Handling System (S-834-1)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	20,977	ton/qtr x	7	Emission points =	48	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	18,546	ton/qtr x	7	Emission points =	43	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	18,145	ton/qtr x	7	Emission points =	42	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	19,636	ton/qtr x	7	Emission points =	45	lb/qtr

HAE from Fuel Handling System (S-834-10)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	20,977	ton/qtr x	4	Emission points =	28	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	18,546	ton/qtr x	4	Emission points =	25	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	18,145	ton/qtr x	4	Emission points =	24	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	19,636	ton/qtr x	4	Emission points =	26	lb/qtr

HAE from Ash Handling (S-834-6)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr

The total HAE (lb/qtr), which is the sum of the HAE for S-834-1, -3, -6, and -10 is calculated below:

Total HAE (lb/qtr)					
Quarter 1					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	25,904	0	0	0	25,904
SO_x	5,787	0	0	0	5,787
PM_{10}	9,370	48	0	28	9,446
CO	65,587	0	0	0	65,587
VOC	0	0	0	0	0
Quarter 2					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	22,970	0	0	0	22,970
SO_x	5,132	0	0	0	5,132
PM_{10}	8,308	43	0	25	8,376
CO	58,157	0	0	0	58,157
VOC	0	0	0	0	0
Quarter 3					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	22,469	0	0	0	22,469
SO_x	5,020	0	0	0	5,020
PM_{10}	8,127	42	0	24	8,193
CO	56,890	0	0	0	56,890
VOC	0	0	0	0	0
Quarter 4					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	24,140	0	0	0	24,140
SO_x	5,393	0	0	0	5,393
PM_{10}	8,732	45	0	26	8,803
CO	61,121	0	0	0	61,121
VOC	0	0	0	0	0

F. Adjustments to HAE

Pursuant to Section 3.22, Historical Actual Emissions must be discounted for any emissions reduction which is:

- required or encumbered by any laws, rules, regulations, agreements, orders, or
- attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan, or
- proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act.

- Any Actual Emissions in excess of those required or encumbered by any laws, rules, regulations, orders, or permits. For units covered by a Specific Limiting Condition (SLC), the total overall HAE for all units covered by SLC must be discounted for any emissions in excess of that allowed by the SLC.

a. There are no agreements or orders regarding the operation or emissions reductions associated with the cogeneration system or its fuel handling operations. The discounts for any Rules will be discussed under the applicable Rules listed below. Therefore, no adjustments will be made to the HAE under this section.

b. There are no reductions from the cogeneration system or its fuel handling operations that are attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan. Therefore, no adjustment to the HAE will be made in this section.

c. There are no reductions from the cogeneration system or its fuel handling operations that are proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act. Therefore, no adjustments will be made to the HAE under this section.

d. There are no SLCs related to the operation of the cogeneration system or its fuel handling operations. The emissions were taken from the permit limits or lower (source test results). Any adjustments to be made for any Rules will be addressed under the applicable Rules listed below. Therefore, no adjustments will be made to the HAE under this section.

The emission units comply with all NSR requirements and Federal Requirements. No adjustments to the HAE are required under Rule 2201.

G. Actual Emissions Reductions (AER)

Actual Emissions Reductions are calculated as follows:

AER = HAE - PE2

Where:
HAE = Historic Actual Emissions
PE2 = Post-project Potential to Emit

The shutdown equipment was replaced by a 32 MMBtu/hr natural gas-fired boiler (S-834-7), which has been retrofit with ultra-low NOx burners and is now allowed to operate as a full time unit. This boiler had not operated during the baseline period. After its retrofit, it is now able to operate full time, and it now supplies the process steam that the shutdown equipment did.

The Post-Project Potential to Emit (PE2) of for boiler S-834-7 is calculated below with the following equation:

- PE2 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/year)

Pollutant	PE2 for S-834-7				
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)	PE2 (lb/qtr)
NO_X	0.008	32	8,760	2,243	561
SO_X	0.00285	32	8,760	799	200
PM_{10}	0.014	32	8,760	3,924	981
CO	0.073	32	8,760	20,463	5,116
VOC	0.003	32	8,760	841	210

Actual Emissions Reductions are calculated in the table below:

Total HAE (lb/qtr)			
Quarter 1			
	HAE	PE2	AER = HAE – PE2
NO_x	25,904	561	25,343
SO_x	5,787	200	5,587
PM_{10}	9,446	981	8,465
CO	65,587	5,116	60,471
VOC	0	210	-210 → 0
Quarter 2			
	HAE	PE2	AER = HAE – PE2
NO_x	22,970	561	22,409
SO_x	5,132	200	4,932
PM_{10}	8,376	981	7,395
CO	58,157	5,116	53,041
VOC	0	210	-210 → 0
Quarter 3			
	HAE	PE2	AER = HAE – PE2
NO_x	22,469	561	21,908
SO_x	5,020	200	4,820
PM_{10}	8,193	981	7,212
CO	56,890	5,116	51,774
VOC	0	210	-210 → 0

Quarter 4			
	HAE	PE2	AER = HAE – PE2
NO_x	24,140	561	23,579
SO_x	5,393	200	5,193
PM_{10}	8,803	981	7,822
CO	61,121	5,116	56,005
VOC	0	210	-210 → 0

H. Air Quality Improvement Deduction (AQID)

The Air Quality Improvement Deduction (AQID) is 10% of the AER per Rule 2201, subsection 6.5, and is summarized as follows:

Air Quality Improvement Deduction (lb/qtr)					
Quarter	**NOx**	**SOx**	**PM10**	**CO**	**VOC**
1st	2,534	559	847	6,047	0
2nd	2,241	493	740	5,304	0
3rd	2,191	482	721	5,177	0
4th	2,358	519	782	5,601	0

I. Bankable Emissions Reductions Credits

The total bankable emissions reductions for ERC are equal the AER minus the air quality improvement deduction calculated above. The amount of bankable emission reductions are listed in the table below:

Bankable Emission Reductions Credits (lb/qtr)					
Quarter	**NOx**	**SOx**	**PM10**	**CO**	**VOC**
1st	22,809	5,028	7,619	54,424	0
2nd	20,168	4,439	6,656	47,737	0
3rd	19,717	4,338	6,491	46,597	0
4th	21,221	4,674	7,040	50,405	0

VI. COMPLIANCE:

Rules 2201 (New and Modified Stationary Source Review Rule) and 2301 (Emission Reduction Banking)

To be eligible for banking, emission reduction credits (ERCs) must be verified as being real, surplus, permanent, quantifiable, and enforceable pursuant to District Rules 2201 and 2301. In addition, the application must be submitted within the timeliness specified in Rule 2301.

A. Real

The Actual Emission Reductions (AERs) quantified above were based on actual, historical emissions and were calculated from source test results, recognized emission factors, and actual fuel consumption data supplied by the applicant. The equipment under permits S-834-1, -3, -6, and -10 has been shut down and the Permits to Operate have been surrendered. The voluntary shutdown of the equipment results in actual emission reductions; therefore, the reductions are real.

B. Enforceable

Permits to Operate S-834-1, -3, -6, and -10 have been surrendered. Any new equipment placed at this location will be required to obtain an Authority to Construct and a Permit to Operate subject to the provisions of New and Modified Stationary Source Review (Rule 2201) prior to operation. Thus, the quantified AER is enforceable.

C. Quantifiable

The actual emission reductions (AER) quantified above are based on actual, historical emissions calculated from fuel use data, source tests, and emission factors. Therefore, the AER is quantifiable.

D. Permanent

The permittee permanently shut down the equipment, and surrendered their valid Permits to Operate. Therefore, the AERs are permanent.

E. Surplus

The shutdown of the equipment was voluntary. The resulting emission reductions are not mandated by any law, rule, regulation, agreement, or order of the District, State, or Federal Government. Additionally, the reductions are not attributed to a control measure noticed for workshop or proposed, nor contained in a State Implementation Plan. Therefore, the reductions are surplus.

F. Timeliness

The permits were surrendered with the ERC application on March 4, 2014 with the submission of this ERC banking application. Because the ERC application was submitted within 180 days after the date that shutdown occurred, the application is timely.

Rule 4352 (Solid Fuel Fired Boilers, Steam Generators and Process Heaters)

The purpose of this rule is to limit emissions of NOx and CO from solid fuel fired boilers, steam generators and process heaters. Shutdown biomass-fired boiler S-834-6 was subject to this rule.

The permitted emission limits of the shutdown boiler were in compliance with this rule. The boiler had been limited to NOx emissions of 84 ppmvd @ 3% O2 (0.108 lb/MMBtu) and CO emissions of 400 ppmvd @ 3% O2 (0.314 lb/MMBtu). These limits comply with the requirements of Table 1 (NOx and CO Emission Limits) of Section 5.1 which limit NOx emissions to 90 ppmv corrected to 3% O2 and CO emissions to 400 ppmv corrected to 3% O2 for operations using biomass fuel, effective on and after January 1, 2013.

There are no further reduction in emission limit scheduled by the rule. And there are no other agreements or orders regarding the operation or emissions reduction associated with the cogeneration system. Therefore, no adjustments need to be made to the HAE as is discussed in Section V.F. (Calculations, Adjustments to HAE) of this evaluation.

VII. RECOMMENDATION:

After public notice, comments and review, issue ERC Banking Certificates S-4585-2, '-3, '-4, and '-5 to Sierra Power Corporation for the following amounts:

Bankable Emissions Reductions Credits (ERC), lb/qtr					
Pollutant	ERC #	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
NOx	S-4585-2	22,809	20,168	19,717	21,221
SOx	S-4585-5	5,028	4,439	4,338	4,674
PM10	S-4585-4	7,619	6,656	6,491	7,040
CO	S-4585-3	54,424	47,737	46,597	50,405
VOC	--	0	0	0	0

Attachments:

- A Copies of Permits to Operate
- B Source Test Results
- C Fuel Consumption Records
- D Calculation of Monthly Fuel Consumption
- E Heating Values for Wood Products
- F Draft Emission Reduction Credit Certificates

Attachment A

Copies of Permits to Operate

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-1-3 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
FUEL SCREENING AND HANDLING SYSTEM SERVED BY A HUMIDIFIER FOGGER/SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Fuel screening system shall consist of a Trommel screen, hopper, five (5) conveyors, and a humidifier-fogger/spray system to control emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions from fuel receiving shall be controlled by humidifier-fogger system and wind dust screen. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Whenever fuel receiving system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, screens, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
5. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
7. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
8. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-3-6 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
9.4 MW COGENERATION SYSTEM WITH 171.2 MMBTU/HR STAGED AIR BIOMASS-FIRED BOILER WITH FIRED HEAT RECOVERY STEAM GENERATOR WITH PEABODY LOW-NOX NATURAL GAS-FIRED BURNERS, FLUE GAS RECIRCULATION, AND AMMONIA INJECTION SYSTEM, EXHAUSTING TO MULTICLONES AND ELECTROSTATIC PRECIPITATOR

PERMIT UNIT REQUIREMENTS

1. Boiler and heat recovery steam generator exhausts shall vent through multicylones and electrostatic precipitator (ESP) before being discharged to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. ESP shall be equipped with automatic rapping system, induced draft exhaust fan, and 72' high by 61" diameter exhaust stack. [District NSR Rule] Federally Enforceable Through Title V Permit
3. ESP rapping frequency and duration shall be pre-programmed and identical for each location and only one rapping position shall be energized at any one time. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Exhaust stack shall be equipped with continuous emissions monitors (CEM) for NOx, CO, oxygen, opacity, and volumetric flowrate of exhaust. [District NSR Rule and Rule 4352, 5.5; 40 CFR 60.48b(b); 40 CFR 64] Federally Enforceable Through Title V Permit
5. Continuous emission monitoring system shall be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7 (c) and 60.13. CEMs must also satisfy the Performance Specifications of 40 CFR 60 Appendix B and the Relative Accuracy Test Audit of Appendix F. [District Rules 1080 and Rule 4352, 5.5; 40 CFR 60.48b(e)] Federally Enforceable Through Title V Permit
6. Fuels for combustor shall be limited to natural gas, sawmill/forest residue (consisting of sawdust, bark, chips, shavings, and clean dry construction wood waste), almond and walnut shells, peach and olive pits, vineyard prunings, and orchard prunings or chips. [District NSR Rule] Federally Enforceable Through Title V Permit
7. No plastic, rubber, tar paper, asphalt shingles, plaster, metals, painted or chemically treated wood products or wastes shall be burned in combustor. [District NSR Rule] Federally Enforceable Through Title V Permit
8. A daily record of the quantities and types of fuels burned in the combustor shall be maintained and submitted to the District quarterly. [District NSR Rule and Rule 4352, 6.2] Federally Enforceable Through Title V Permit
9. Nitrogen oxide emissions (as NO2) shall not exceed any of the following: 84 ppmvd @ 3% O2 (0.108 lb/MMBtu), 408.8 lb/day, or 67.6 tons/year. The averaging for NOx lb/MMBtu limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rule, Rules 4301, 5.2.2, 4352, 5.1 and 40 CFR 60.41b and 60.44b(d)] Federally Enforceable Through Title V Permit
10. Carbon monoxide emissions shall not exceed any of the following: 400 ppmvd @ 3% O2 (0.314 lb/MMBtu) or 233.11 tons/year. The averaging for CO ppm limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rules, District Rule 4352, 5.3 and 40 CFR 60 Subpart Db] Federally Enforceable Through Title V Permit
11. Particulate matter (PM10) concentration shall not exceed 0.016 gr/dscf corrected to 12% CO2 as determined by CARB Method 5. [District NSR Rule and Rule 4301, 5.1 and 5.2.3; 40 CFR 60.43b(c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. Volatile organic compound emissions shall not exceed any of the following: 0.066 lb/MMBtu or 48.8 tons/year. [District NSR Rule] Federally Enforceable Through Title V Permit

13. Sulfur oxide emissions (as SO2) shall not exceed any of the following: 0.061 lb/MMBtu or 41.6 tons/year. [District NSR Rule and Rule 4301, 5.2.1 and 4801] Federally Enforceable Through Title V Permit

14. Source testing using the following test methods shall be done annually: NOx - EPA Method 7E or ARB Method 100, and EPA Method 19, CO - EPA Method 10 or ARB Method 100, O2 - EPA Method 3 or 3A, or ARB Method 100, Stack Gas Flow Rate (velocity) - EPA Method 2, Stack Gas Moisture Content - EPA Method 4, and Fuel Heating Value - ASTM Method D2015 or E711. [District Rules 1081, 2520, 9.3.2 and 4352, 6.3] Federally Enforceable Through Title V Permit

15. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

16. 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

17. Sierra Power Corporation shall maintain records of emissions and operational data for NOx (ppmv @ 3% O2, lb/MMBtu, lb/day and lb/year), CO (ppmv @ 3% O2 and lb/year), electrical output (kW-hr) recorded on a 24-hour basis, exhaust gas stack flow, CFM), and opacity (percent). [District NSR Rule] Federally Enforceable Through Title V Permit

18. NOx, CO, and PM10 emissions shall be measured with annual source testing conducted by an independent testing laboratory using sample collection by an ARB certified testing laboratory and shall be witnessed by District, or witness authorized by the District. [District Rules 1081, 2520, 9.3.2 and 4352, 6.3 and 6.4; 40 CFR 60.46b] Federally Enforceable Through Title V Permit

19. Source test emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081(Amended December 16, 1993), of three thirty-minute test runs for NOx and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

20. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit

21. NOx and carbon monoxide daily emissions shall be measured by use of CEM data, fuel rate data and daily hours of operation data. A written record of the required compliance demonstrations shall be maintained and made available for District inspection for a period of five years. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit

22. SOx source testing shall be done annually using EPA method 5 or 8 or a continuous emissions analyzer in accordance with EPA method 6C. [District Rules 1081, 2520, 9.3.2, and 4801] Federally Enforceable Through Title V Permit

23. Particulate matter emissions shall not exceed 0.10 lb/MMBtu. [40 CFR 60.43b(c)(1)] Federally Enforceable Through Title V Permit

24. Owner or operator shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43b(f)] Federally Enforceable Through Title V Permit

25. The particulate matter, and opacity standards shall apply at all times, except during periods of startup, shutdown or malfunction. [40 CFR 60.43b(g), 60.46b(a)] Federally Enforceable Through Title V Permit

26. The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system, [40 CFR 60.48b(a)] Federally Enforceable Through Title V Permit

27. The continuous emissions monitoring systems shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

28. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. The span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent. [40 CFR 60.48b(c)] Federally Enforceable Through Title V Permit

29. The permittee shall record and maintain records of the amount of wood and natural gas fuel combusted each day, and calculate the annual capacity factor individually for wood and natural gas on a 12-month rolling average with a capacity factor calculated at the end of each month. [40 CFR 60.49b (d)] Federally Enforceable Through Title V Permit

30. The owner or operator shall submit excess emission reports of all 6-minute periods during which the average opacity exceeds the opacity standards under 40 CFR 60.43b(f) during the reporting period. [40 CFR 60.49b(h)] Federally Enforceable Through Title V Permit

31. At the time of each annual source test for PM, the permittee shall establish the acceptable range of primary and secondary current and voltage readings for the electrostatic precipitator. Minimum readings for each parameter shall be established at 15% below the average value measured during the PM source test. Maximum readings for each parameter shall be established at 15% above the average value measured during the PM source test. [40 CFR part 64] Federally Enforceable Through Title V Permit

32. During each day of operation, the permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established during the most recent annual PM source test. Upon detecting any excursion from the acceptable range of current or voltage readings, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit

33. Devices used to measure primary and secondary voltage and current shall be maintained in accordance with the manufacturer's specifications. [40 CFR part 64] Federally Enforceable Through Title V Permit

34. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit

35. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit

36. If the District or EPA determine that a Quality improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-6-3 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
ASH COLLECTION SYSTEM UTILIZING ENCLOSED AUGERS AND WATER MIST SERVING BIOFUEL BOILER (S-834-3)

PERMIT UNIT REQUIREMENTS

1. Discharge point of ash system shall be controlled by water spray to prevent visible emissions of 20% opacity or greater. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] 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. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-10-2 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
FUEL HANDLING SYSTEM CONSISTING OF TWO SILOS, ONE HOG UNIT, SCREENS, AND CONVEYORS SERVED BY A HUMIDIFIER FOGGER SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions from fuel handling system shall be controlled by humidifier-fogger spray system. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Whenever fuel handling system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour; or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
4. Visible emissions shall be inspected quarterly under material and environmental conditions where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

Attachment B

Source Test Results

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: SIERRA POWER CORPORATION **Test Date:** 06/08/2012 **Pass** ☒ **Fail** ☐

Permit#: S-834-3-6 **FacilityID:** 834 **Unit ID:** COGEN

Witnessed By: HAULMAA **Area Inspector:** GOONR

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 2
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: ENVIRONMENTAL SERVICES & TESTING **Project Number:** EST-834-060812

Next Test: **Test Company Contact:** Mr. Tim Naquin

Equipment: 9.4 MW BIOMASS FIRED BOILER W/ NH3/SCR, ESP, CEM, FGR, MULTICYCLONES

Equipment Type: Boiler **Input Rate:** 171.0 MMBTU **Output Rate:** 9.4 MW

Control Equipment:

Catalyst ☐ Scrubber ☐ Baghouse ☐ FGR ☒ O2 ☐
LoNOx ☐ Incin ☐ ESP ☒ H2O/Stm Inj ☐ NH3/SCR ☒
DLN ☐ PSC ☐ PCC ☐ Rich Burn ☐ Lean Burn ☐
Cyclone ☒ TEOR-Gas ☐

Fuel Data And Operational Data:

Fuel Type: BIOMASS **F-Factor:** 9240 **BTU:** **Fuel Rate:** 10.0 TPH
Second Fuel: **O2 % Stack:** 8.2 **Stack Flow:** 42431 **Process Rate:**

Comments:

ANNUAL COM, RATA

Enforcement Action: ☐ **NOV#:**

Report Rec: 07/27/2012 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.2392	0.312			COGEN
CO	ppm	305.0	400.0	3		COGEN
CO RATA	ppm	8.84	10.0	3		COGEN
Flow RATA	dscfm	2.8	20.0			COGEN
NH3	ppm	4.41	10.0			COGEN
NOx	lbs/MMBtu	0.0902	0.108			COGEN
NOx	ppm	71.34	84.0	3		COGEN
NOx RATA	ppm	9.08	20.0	3		COGEN
O2 RATA	% Difference	0.54	1.0			COGEN
PM10	gr/dscf@12% CO2	0.015	0.016			COGEN
PM10	lbs/hr	4.41	14.97			COGEN
SO2	lb/MMBtu	0.0397	0.061			COGEN
VOC	lbs/MMBtu	0.0	0.066			COGEN

SOURCE TEST REVIEW

COMPANY	SIERRA POWER	REVIEWED	GL
TEST DATE	6/8/2012	DATE	8/20/2012
PERMIT#	S-834-3-6	REV.AA	
UNIT ID	BIOMASS BOILER COGEN		
EQUIP DESCRIPTION			

INPUT RATED @ — INPUT HP

MEASURED STACK Q 42431

FUEL DATA	NAT. GAS	WASTE	OIL	SOLID	
BTU/CF			btu/gal	btu/lb	
F-FACTOR	9240			f-factor	9240
H2S ppm				lb/hr	
RATE MCFD			gal/min	ton/hr	10
MCF/HR	0.00	0.00	gal/hr 0	ton/day	240
INPUT IN MMBTU/HR	0.00	0.00	0.00	mmbtu/hr	0
THROTTLE	#DIV/0!			DSCFM	0

CEM DATA	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	gm/BHp-Hr	lb/MMscf	Wt. F-F lb/MMBTU	lbs/day	@19%O2
O2 %		0.8565	0.2823							0.0909
NOx		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
CO		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
SO2		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
SO2 BY FUEL				0.00	#DIV/0!					

Q-std CALCULATED 42431 WT. F-F #DIV/0!

FGR % CALCULATION (Temp's or O2)

Tw		BY O2	
Ta		O2w	
Ts		O2s	
%FRG =	#DIV/0!	%FRG=	100.00

DESTRUCTION %

INLET

OUTLET

% DESTR= #DIV/0!

HYDROCARBONS	RAW ppm	ppm as CH4	lb/hr	lb/hr CH4
VOC METHANE	1196	1196.00	128.53	128.53
ETHANE	2.05	3.83	0.41	0.41
PROPANE	0	0.00	0.00	0.00
BUTANE	0	0 00	0 00	0.00
PENTANE	0	0.00	0.00	0.00
HEXANE	0	0.00	0.00	0.00

	gm/bHP-HR	lb/MMBTU	lbs/day	lb/hp-hr
TOTAL VOC	1.769	#DIV/0!	3094.68	0.0039
TOTAL NonMeth/Eth.	0.000	0.0000	0.00	0.0000

	RAW ppm	ppm as CH4	lb/hr	lb/hr CH4
TOTAL VOC	1198.05	1199.83	128.95	128.95
TOTAL NonMeth/Eth.	0	0.00	0.00	0.00
VOC @ 3% & 15%		0 00	0.00	

PARTICULATE M-5	gr/dscf = 0.01691		lb/hr = 5.971		lb/mmbtu= 0.0355	lbs/day= 143.30		gr/dscf12%= 0.0147
Vm (meter vol)	45.81	%CO2	13.77	Vmstd	43.626			
Vlc (vol. of H2O)	236.3	%O2	7.77	Bws	0.203			
Y (meter calib.)	0.9957	Cp	0.836	Md	30.514	Temp F =	271	lb/hr
Pbar (barom. press)	29.95	dp	0.95	Ms	27.972	Temp R =	731	ton/hr
Pg (stack static press)	0.15	Ts	798	Q(dscfm)	41198.19	Nozz.dia	18	lb/ton #DIV/0!
H (meter diff. press.)	1.19	An	2.91E-04	Iso	99.27	An =	1.76714438	Dry Q-lb/hr= 195762.5
Tm (abs. meter temp)	554	sample time	72	Vs	66.25			Wet Q-lb/hr= 225204.6
A (stack area sqft)	19.63	part. (mg)	47.8	Q-acfm	78033	Q wet scfm	51702	dscmm= 1166.7

USE B11, B27 OR F46 FOR LB/HR PPM CALC. IN EQUATION

SO2/SO4	Vsoln	Va	Vt-Vtb	Normality	lb/dscf	lb/hr	lb/mmbtu	Vmstd	ppm
SO2 METHOD 6	9				#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
SO4 m-8 nozzle/probe	5				#DIV/0!	#DIV/0!	#DIV/0!	ENTER ^	#DIV/0!
filter	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
cond.	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
				total SO4	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!

Other Compounds	MW	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	lb/day
O2 %	14.2		2 67	0.88			
CO2	44.00		0.00	0.00	0.00	0.0000	0.00
METHANOL	32.04		0.00	0.00	0.00	0.0000	0.00
FORMALDEHYDE	30.03		0.00	0.00	0.00	0.0000	0.00
Enter Qstd F-Factor							

ppm 3%= 0 51544137

NH3 mg= 0.24 Vmstd = 19.57 ppm = 0.6 ppm 15% = 0.2 lb/hr = 0

MW ethanol = 46.07 Methanol = 32.04

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: SIERRA POWER CORPORATION **Test Date:** 06/05/2013 **Pass** ☒ **Fail** ☐

Permit#: S-834-3-6 **FacilityID:** 834 **Unit ID:** COGEN

Witnessed By: LAFOREG **Area Inspector:** GOONR

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 2
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: ENVIRONMENTAL SERVICES & TESTING **Project Number:** EST-834-060613

Next Test: 6/21/2014 **Test Company Contact:** Mr. James Taplin

Equipment: 9.4 MW BIOMASS FIRED BOILER W/ NH3/SCR, ESP, CEM, FGR, MULTICYCLONES

Equipment Type: Boiler **Input Rate:** 171.0 MMBTU **Output Rate:** 9.4 MW

Control Equipment:

Catalyst	☐	Scrubber	☐	Baghouse	☐	FGR	☒	O2	☐
LoNOx	☐	Incin	☐	ESP	☒	H2O/Stm Inj	☐	NH3/SCR	☒
DLN	☐	PSC	☐	PCC	☐	Rich Burn	☐	Lean Burn	☐
Cyclone	☒	TEOR-Gas	☐						

Fuel Data And Operational Data:

Fuel Type: BIOMASS **F-Factor:** 9240 **BTU:** **Fuel Rate:** 10.0 TPH
Second Fuel: **O2 % Stack:** 8.7 **Stack Flow:** 33854 **Process Rate:**

Comments:
COGEN ANNUAL

Enforcement Action: ☐ **NOV#:**

Report Rec: 07/30/2013 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.2377	0.312			COGEN
CO	ppm	303.0	400.0	3		COGEN
CO RATA	ppm	5.02	10.0	3		COGEN
Flow RATA	dscfm	7.75	20.0			COGEN
NH3	ppm	2.25	10.0	15		COGEN
NOx	lbs/MMBtu	0.098	0.108			COGEN
NOx	ppm	76.03	84.0	3		COGEN
NOx RATA	ppm	17.47	20.0	3		COGEN
O2 RATA	% Difference	0.52	1.0			COGEN
PM10	gr/dscf@12% CO2	0.012	0.016			COGEN
SO2	lb/MMBtu	0.0019	0.061			COGEN
VOC	lbs/MMBtu	0.0	0.066			COGEN

SOURCE TEST REVIEW

COMPANY	SIERRA POWER	REVIEWED	BEAR MTN
TEST DATE	6/5/2013	DATE	8/7/2013
PERMIT#	S-834-7-4	REV AA	
UNIT ID	BOILER		
EQUIP DESCRIPTION			

INPUT RATED @				INPUT HP			
MEASURED STACK Q	33854						
FUEL DATA	NAT. GAS	WASTE		OIL		SOLID	
BTU/CF			btu/gal			btu/lb	
F-FACTOR	9240					f-factor	
H2S ppm						lb/hr	
RATE MCFD			gal/min			ton/hr	
MCF/HR	0.00	0.00	gal/hr	0		ton/day	0
INPUT IN MMBTU/HR	0.00	0.00		0.00		mmbtu/hr	0
THROTTLE	#DIV/0!					DSCFM	0

CEM DATA	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	gm/BHp-Hr	lb/MMscf	Wt. F-F	lbs/day	@19%O2
O2 %	8.93	1.4954	0.4929					lb/MMBTU		0.1587
NOx	51.05	76.34	25.16	12.39	0.0981	0.378	0.00	#DIV/0!	297.26	8.1032
CO	174	260.20	85.76	25.70	0.2036	0.785	0.00	#DIV/0!	616.73	27.6190
SO2	0.8	1.20	0.39	0.27	0.0021	0.008	0.00	#DIV/0!	6.48	0.1270
SO2 BY FUEL				0.00	#DIV/0!					
Q-std CALCULATED	33854		WT. F-F	#DIV/0!						

HYDROCARBONS	RAW ppm	ppm as CH4	lb/hr	lb/hr CH4
VOC METHANE	1156	1156.00	99.12	99.12
ETHANE	2.31	4.32	0.37	0.37
PROPANE	0	0.00	0.00	0.00
BUTANE	0	0.00	0.00	0.00
PENTANE	0	0.00	0.00	0.00
HEXANE	0	0.00	0.00	0.00

					gm/bHP-HR	lb/MMBTU	lbs/day	lb/hp-hr
TOTAL VOC	1158.31	1160.32	99.49	99.49	2.986	#DIV/0!	2387.81	0.0066
TOTAL NonMeth/Eth.	0	0.00	0.00	0.00	0.000	0.0000	0.00	0.0000
VOC @ 3% & 15%		0.00	0.00					

FGR % CALCULATION (Temp's or O2)

Tw		BY O2	
Ta		O2w	
Ts		O2s	
%FRG =	#DIV/0!	%FRG=	100.00

DESTRUCTION %

INLET	116.7
OUTLET	0.24
% DESTR=	99.79

PARTICULATE M-5	gr/dscf =	0.01375	lb/hr =	3.134	lb/mmbtu=	0.0323	lbs/day=	75.22	gr/dscf12%=	0.0120
Vm (meter vol)	54.54	%CO2	13.8	Vmstd	52.767					
Vlc (vol. of H2O)	283.4	%O2	9.17	Bws	0.202	Wet to Dry=	1.253			
Y (meter calib.)	0.9942	Cp	0.812	Md	30.575	Temp F =	294		lb/hr	
Pbar (barom. press)	29.94	dp	0.64	Ms	28.037	Temp R =	754		ton/hr	
Pg (stack static press)	0.11	Ts	820	Q(dscfm)	26602.47	Nozz dia	0.155		lb/ton	#DIV/0!
H (meter diff. press.)	0.96	An	3.86E-04	Iso	105.14	An =	0.00013104	Dry Q-lb/hr=	126659.5	
Tm (abs. meter temp)	544	sample time	96	Vs	43.90			Wet Q-lb/hr=	145510.2	
A (stack area sqft)	19.63	part. (mg)	47	Q-acfm	51710	Q wet scfm	33328	dscmm=	753.3	

USE 811, 827 OR F45 FOR LB/HR PPM CALC IN EQUATION

SO2/SO4	Vsoln	Va	Vt-Vtb	Normality	lb/dscf	lb/hr	lb/mmbtu	Vmstd	ppm
SO2 METHOD 6	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
SO4 m-8 nozzle/probe	5				#DIV/0!	#DIV/0!	#DIV/0!	ENTER ^	#DIV/0!
filter	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
cond.	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
				total SO4	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!

Other Compounds	MW	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	lb/day		SO2 Audit
O2 %			0.86	0.28				mg/dscm =	486.00
CO2	44.00		0.00	0.00	0.00	0.0000	0.00	ppm =	171.83
METHANOL	46.05		0.00	0.00	0.00	0.0000	0.00	test ppm =	150.00
FORMALDEHYDE	30.03		0.00	0.00	0.00	0.0000	0.00	% accuracy=	12.70
Enter Qstd	195809								
F-Factor							ppm 3%=	6.33258595	
NH3	mg=	1.75	Vmstd =	20.28	ppm =	4.2	ppm 15% =	2.1	lb/hr = 2.231437

MW ethanol = 46.07 Methanol = 32.04

Attachment C

Fuel Consumption Records

Information for GHG Report for CY 2011

Sierra Power Fuel Consumption for 2009		
Outside purchases - Ag and Urban		67.485 BDT
SFP Sawmill Chips		15,735 BDT
TOTAL		83,220 BDT
Total Steam Produced		616,632,300#
750 degrees@ 600PSI		
Electricity Sold	SFP	5,368,900 kw
	PG&E	47,162,000 kw
	TOTAL	52,530,990 kw
Steam Sold to SFP		65,722,672 #
Electricty Purchased from SCE		240,071 kw

No natural gas used

2011 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,056.00	$ 31,680.00	6,579.35	$ 197,363.95	7,635.35	$ 229,043.95
February	1,245.61	$ 37,368.30	6,566.20	$ 193,418.87	7,811.81	$ 230,787.17
March	1,288.14	$ 38,644.20	6,108.07	$ 181,329.09	7,396.21	$ 219,973.29
April	1,359.96	$ 40,798.80	6,201.83	$ 181,803.99	7,561.79	$ 222,602.79
May	998.73	$ 29,961.90	2,765.16	$ 79,029.84	3,763.89	$ 108,991.74
June	1,449.29	$ 43,478.70	6,274.11	$ 187,858.50	7,723.40	$ 231,337.20
July	1,749.77	$ 52,493.10	5,145.49	$ 151,222.46	6,895.26	$ 203,715.56
August	1,383.62	$ 27,672.40	3,652.64	$ 102,921.56	5,036.26	$ 130,593.96
September	2,525.44	$ 50,508.80	5,726.78	$ 168,075.54	8,252.22	$ 218,584.34
October	1,835.12	$ 36,702.40	6,080.19	$ 180,817.98	7,915.31	$ 217,520.38
November	131.39	$ 2,627.80	5,635.44	$ 171,018.88	5,766.83	$ 173,646.68
December	712.46	$ 14,249.20	6,749.44	$ 207,179.14	7,461.90	$ 221,428.34
Totals	15,735.53	$ 406,185.60	67,484.70	$ 2,002,039.80	83,220.23	$ 2,408,225.40
	18.91%	16.87%	81.09%	83.13%		

Inv. @ 12/31/10 4071 BDT
Inv. @ 12/31/11 <2821>
1,250
Plus Purchases 66,235
Usage 2011 67,486 BDT

	SPC's 2011 SCE Bill	Portion of SPC's bill that was consumed by the sawmill
January 2011	38,680 kw	---
February	10,026	---
March	41,218	20,600 kw
April	42,839	19,300
May	78,728	64,900
June	34,796	11,200
July	27,860	11,700
August	100,492	67,400
September	16,112	9,600
October	9,041	4,200
November	133,123	93,900
December	63,956	54,000
TOTAL	596,871 kw	356,800 kw

Actual use by Sierra Power 240,071 kw

Data for GHG Calculations for 2012 - Sierra Power Corporation

Fuel Consumed

Ag	34,018 BDT
Urban	33,055 BDT
Sawmill Residue	12,328 BDT
TOTAL	79,401 BDT

Sierra Power boiler operates @ 95,000#/hr, 600 psi, 750 degree steam - 656,264,000# of steam generated in 2012

The gross generation for 2012 was 59,014,000 kw

175,931 kw purchased from SCE for start ups etc

SPC sold 49,352,704 kw to PG&E and 5,335,300 to Sierra Forest Products

SPC sold 65,904,554# of steam to Sierra Forest Products's dry kilns to dry lumber

2012 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	186.50	$ 3,730.00	6,237.73	$ 181,818.07	6,424.23	$ 185,548.07
February	862.65	$ 17,253.00	6,061.64	$ 188,151.96	6,924.29	$ 205,404.96
March	1,071.56	$ 21,431.20	5,774.76	$ 177,679.02	6,846.32	$ 199,110.22
April	890.53	$ 17,810.60	7,446.09	$ 218,886.60	8,336.62	$ 236,697.20
May	200.48	$ 4,009.60	5,154.07	$ 149,766.30	5,354.55	$ 153,775.90
June	1,000.01	$ 20,000.20	4,889.39	$ 142,794.17	5,889.40	$ 162,794.37
July	1,014.53	$ 20,290.60	6,080.65	$ 180,474.86	7,095.18	$ 200,765.46
August	987.40	$ 19,748.00	6,672.25	$ 193,543.40	7,659.65	$ 213,291.40
September	1,663.91	$ 33,278.20	4,293.99	$ 126,282.54	5,957.90	$ 159,560.74
October	1,739.89	$ 34,797.80	4,697.17	$ 140,610.44	6,437.06	$ 175,408.24
November	1,823.99	$ 36,479.80	5,082.75	$ 151,122.62	6,906.74	$ 187,602.42
December	886.08	$ 17,721.60	4,682.79	$ 141,518.61	5,568.87	$ 159,240.21
Totals	12,327.53	$ 246,550.60	67,073.28	$ 1,992,648.59	79,400.81	$ 2,239,199.19
	15.53%	11.01%	84.47%	88.99%		

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds
Fuel Consumption	
Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

2013 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,220.54	$ 24,410.80	6,602.01	$ 198,583.94	7,822.55	$ 222,994.74
February	1,123.37	$ 22,467.40	6,716.81	$ 203,945.59	7,840.18	$ 226,412.99
March	713.21	$ 14,264.20	4,039.83	$ 123,662.31	4,753.04	$ 137,926.51
April	1,437.99	$ 28,759.80	4,883.77	$ 147,008.13	6,321.76	$ 175,767.93
May	715.64	$ 14,312.80	3,069.44	$ 92,902.15	3,785.08	$ 107,214.95
June	1,273.39	$ 25,467.80	5,885.56	$ 176,805.94	7,158.95	$ 202,273.74
July	1,170.25	$ 23,405.00	4,837.66	$ 145,268.92	6,007.91	$ 168,673.92
August	1,528.48	$ 30,569.60	4,733.80	$ 142,650.51	6,262.28	$ 173,220.11
September	1,941.44	$ 38,828.80	4,031.34	$ 121,950.15	5,972.78	$ 160,778.95
October	1,167.62	$ 23,352.40	3,805.72	$ 112,458.18	4,973.34	$ 135,810.58
November	1,135.73	$ 22,714.60	6,753.50	$ 210,095.30	7,889.23	$ 232,809.90
December	428.22	$ 8,564.40	8,145.08	$ 253,678.00	8,573.30	$ 262,242.40
Totals	13,855.88	$ 277,117.60	63,504.52	$ 1,929,009.12	77,360.40	$ 2,206,126.72
	17.91%	12.56%	82.09%	87.44%		

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds

Fuel Consumption

Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

Month	Ag	Urban
Jan	3255.37	3744.48
Feb	4918.42	2526.66
Mar	1909.24	1195.55
Apr	1744.28	1045.55
May	3995.45	1191.38
Jun	2791.23	1397.32
Jul	3034.09	1374.67
Aug	2560.21	1481.47
Sep	2619.79	1790.35
Oct	1715.21	2121.71
Nov	5069.36	2745.94
Dec	6675.19	2111.24
TOTAL	40287.84	22726.32

2013 Grand Total 63014.16

2013	Ag	Urban	Chips
Beginning Inventory	13.75	1047.3	
Purchased	40287.84	22726.32	
Ending Inventory	1625.25	1119.6	
Total Used	38676.34	22654.02	13856
Grand Total	**75186.36**		

MONTHLY DELIVERIES

	AG BDT			URBAN BDT		
				576.31	DWF	
	3255.37	Wilson Ag		3168.17	Forwood	
JAN			3255.37			3744.48
				182.72	DWF	
	4918.42	Wilson Ag		2343.94	Forwood	
FEB			4918.42			2526.66
				248.13	DWF	
	1909.24	Wilson Ag		947.42	Forwood	
MAR			1909.24			1195.55
				274	DWF	
	1744.28	Wilson Ag		771.55	Forwood	
APR			1744.28			1045.55
				333.39	DWF	
	3995.45	Wilson Ag		857.99	Forwood	
MAY			3995.45			1191.38
	2791.23	Wilson Ag		124.05	DWF	
				1273.27	Evergreen	
JUN			2791.23			1397.32
	3034.09	Wilson Ag		96.31	DWF	
				1278.36	Evergreen	
JUL			3034.09			1374.67
	61.9	Hogans		117.24	DWF	
	2498.31	Wilson Ag		408.37	Viramontes	
				955.86	Evergreen	
AUG			2560.21			1481.47
	2619.79	Wilson Ag		157.72	Viramontes	
				41.4	DWF	
				1591.23	Evergreen	
SEPT			2619.79			1790.35
	1715.21	Wilson Ag		106.02	DWF	
				2015.69	Evergreen	
OCT			1715.21			2121.71

DELIEVERIES
BY
SUPPLIER

	25.46	Crossroads	219.33	Viramontes
	17.61	Pacific Coast	43.98	DWF
	107.99	JT Ag	2482.63	Evergreen
	606.22	West Coast Sand		
	4312.08	Wilson Ag		
NOV		5069.36		2745.94
	675.74	JT AG		
	489.17	West Coast Sand	73.36	DWF
	2118.4	Hogans	2037.88	Evergreen
	3391.88	Wilson Ag		
DEC		**6675.19**		**2111.24**
TOTALS		**40287.84**		**22726.32**
	2013 Total	**63014.16**		

Attachment D

Calculation of Monthly Fuel Consumption

	Fuel Purchase (BDT)		Percentage of Consumption by Month		Calculated Fuel Consumption (BDT)		Calculated Fuel Consumption (MMBtu)	
	2012	2013	2012	2013	2012	2013	2012	2013
January	6,237.73	6,602.01	9.30%	10.40%	7,384	7,819	99,875	99,555
February	6,061.64	6,716.81	9.04%	10.58%	7,176	7,954	97,056	101,287
March	5,774.76	4,039.83	8.61%	6.36%	6,836	4,784	92,462	60,919
April	7,446.09	4,883.77	11.10%	7.69%	8,815	5,784	119,223	73,645
May	5,154.07	3,069.44	7.68%	4.83%	6,101	3,635	82,524	46,286
June	4,889.39	5,885.56	7.29%	9.27%	5,788	6,970	78,286	88,752
July	6,080.65	4,837.66	9.07%	7.62%	7,198	5,729	97,360	72,950
August	6,672.25	4,733.80	9.95%	7.45%	7,899	5,606	106,833	71,384
September	4,293.99	4,031.34	6.40%	6.35%	5,083	4,774	68,753	60,791
October	4,697.17	3,805.72	7.00%	5.99%	5,560	4,507	75,209	57,389
November	5,082.75	6,753.50	7.58%	10.63%	6,017	7,998	81,382	101,840
December	4,682.79	8,145.08	6.98%	12.83%	5,543	9,646	74,978	122,824
Total	67,073.28	63,504.52	100%	100%	79,401	75,206	1,073,943	957,621

Attachment E

Heating Values of Wood Products

Emission Factors for Greenhouse Gas Inventories

Last Modified: 4 April 2014

Red text indicates an update from the 2011 version of this document.

Typically, greenhouse gas emissions are reported in units of carbon dioxide equivalent (CO_2e). Gases are converted to CO_2e by multiplying by their global warming potential (GWP). The emission factors listed in this document have not been converted to CO_2e. To do so, multiply the emissions by the corresponding GWP listed in the table below.

Gas	100-year GWP
CH_4	25
N_2O	296

Source: Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4), 2007. See the source note to Table 9 for further explanation.

Stationary Combustion Emission Factors

Fuel Type	Heating Value	CO_2 Factor	CH_4 Factor	N_2O Factor	CO_2 Factor	CH_4 Factor	N_2O Factor	Unit
	mmBtu per short ton	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per short ton	g CH_4 per short ton	g N_2O per short ton	
Coal and Coke								
Anthracite Coal	25.09	103.69	11	1.6	2,602	276	40	short tons
Bituminous Coal	24.93	93.28	11	1.6	2,325	274	40	short tons
Sub-bituminous Coal	17.25	97.17	11	1.6	1,676	190	28	short tons
Lignite Coal	14.21	97.72	11	1.6	1,388	156	23	short tons
Mixed (Commercial Sector)	21.39	94.27	11	1.6	2,016	235	34	short tons
Mixed (Electric Power Sector)	19.73	95.52	11	1.6	1,885	217	32	short tons
Mixed (Industrial Coking)	26.28	93.90	11	1.6	2,468	289	42	short tons
Mixed (Industrial Sector)	22.35	94.87	11	1.6	2,116	246	36	short tons
Coal Coke	24.80	113.67	11	1.6	2,819	273	40	short tons
Fossil Fuel-derived Fuels (Solid)								
Municipal Solid Waste	9.95	90.70	32	4.2	902	316	42	short tons
Petroleum Coke (Solid)	30.00	102.41	32	4.2	3,072	960	126	short tons
Plastics	38.00	75.00	32	4.2	2,850	1,216	160	short tons
Tires	28.00	85.97	32	4.2	2,407	896	118	short tons
Biomass Fuels (Solid)								
Agricultural Byproducts	8.25	116.17	32	4.2	975	264	35	short tons
Peat	8.00	111.84	32	4.2	895	256	34	short tons
Solid Byproducts	10.38	105.51	32	4.2	1,096	332	44	short tons
Wood and Wood Residuals	17.48	93.80	7.2	3.6	1,640	126	63	short tons
	mmBtu per scf	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per scf	g CH_4 per scf	g N_2O per scf	
Natural Gas								
Natural Gas (per scf)	0.001026	53.06	1.0	0.10	0.05444	0.00103	0.00010	scf
Fossil-derived Fuels (Gaseous)								
Blast Furnace Gas	0.000092	274.32	0.022	0.10	0.02524	0.000002	0.000009	scf
Coke Oven Gas	0.000599	46.85	0.48	0.10	0.02806	0.000288	0.000060	scf
Fuel Gas	0.001388	59.00	3.0	0.60	0.08189	0.004164	0.000833	scf
Propane Gas	0.002516	61.46	0.022	0.10	0.15463	0.000055	0.000252	scf
Biomass Fuels (Gaseous)								
Landfill Gas	0.000485	52.07	3.2	0.63	0.025254	0.001552	0.000306	scf
Other Biomass Gases	0.000855	52.07	3.2	0.63	0.034109	0.002096	0.000413	scf
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per gallon	g CH_4 per gallon	g N_2O per gallon	
Petroleum Products								
Asphalt and Road Oil	0.158	75.36	3.0	0.60	11.91	0.47	0.09	gallon
Aviation Gasoline	0.120	69.25	3.0	0.60	8.31	0.36	0.07	gallon
Butane	0.103	64.77	3.0	0.60	6.67	0.31	0.06	gallon
Butylene	0.105	68.72	3.0	0.60	7.22	0.32	0.06	gallon
Crude Oil	0.138	74.54	3.0	0.60	10.29	0.41	0.08	gallon
Distillate Fuel Oil No. 1	0.139	73.25	3.0	0.60	10.18	0.42	0.08	gallon
Distillate Fuel Oil No. 2	0.138	73.96	3.0	0.60	10.21	0.41	0.08	gallon
Distillate Fuel Oil No. 4	0.148	75.04	3.0	0.60	10.96	0.44	0.09	gallon
Ethane	0.068	59.60	3.0	0.60	4.05	0.20	0.04	gallon
Ethylene	0.056	65.96	3.0	0.60	3.83	0.17	0.03	gallon
Heavy Gas Oils	0.148	74.92	3.0	0.60	11.09	0.44	0.09	gallon
Isobutane	0.099	64.94	3.0	0.60	6.43	0.30	0.06	gallon
Isobutylene	0.103	68.86	3.0	0.60	7.09	0.31	0.06	gallon
Kerosene	0.135	75.20	3.0	0.60	10.15	0.41	0.08	gallon
Kerosene-type Jet Fuel	0.135	72.22	3.0	0.60	9.75	0.41	0.08	gallon
Liquefied Petroleum Gases (LPG)	0.092	61.71	3.0	0.60	5.68	0.28	0.06	gallon
Lubricants	0.144	74.27	3.0	0.60	10.69	0.43	0.09	gallon
Motor Gasoline	0.125	70.22	3.0	0.60	8.78	0.38	0.08	gallon
Naphtha (<401 deg F)	0.125	68.02	3.0	0.60	8.50	0.38	0.08	gallon
Natural Gasoline	0.110	66.88	3.0	0.60	7.36	0.33	0.07	gallon
Other Oil (>401 deg F)	0.139	76.22	3.0	0.60	10.59	0.42	0.08	gallon
Pentanes Plus	0.110	70.02	3.0	0.60	7.70	0.33	0.07	gallon
Petrochemical Feedstocks	0.125	71.02	3.0	0.60	8.88	0.38	0.08	gallon
Petroleum Coke	0.143	102.41	3.0	0.60	14.64	0.43	0.09	gallon
Propane	0.091	62.87	3.0	0.60	5.72	0.27	0.05	gallon
Propylene	0.091	65.95	3.0	0.60	6.00	0.27	0.05	gallon
Residual Fuel Oil No. 5	0.140	72.93	3.0	0.60	10.21	0.42	0.08	gallon
Residual Fuel Oil No. 6	0.150	75.19	3.0	0.60	11.27	0.45	0.09	gallon
Special Naphtha	0.125	72.34	3.0	0.60	9.04	0.38	0.08	gallon
Still Gas	0.143	66.72	3.0	0.60	9.54	0.43	0.09	gallon
Unfinished Oils	0.139	74.54	3.0	0.60	10.36	0.42	0.08	gallon
Used Oil	0.136	74.00	3.0	0.60	10.21	0.41	0.08	gallon
Biomass Fuels (Liquid)								
Biodiesel (100%)	0.128	73.84	1.1	0.11	8.45	0.14	0.01	gallon
Ethanol (100%)	0.084	68.44	1.1	0.11	5.75	0.09	0.01	gallon
Rendered Animal Fat	0.125	71.06	1.1	0.11	8.88	0.14	0.01	gallon
Vegetable Oil	0.120	81.55	1.1	0.11	9.79	0.13	0.01	gallon
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu				
Steam and Hot Water								
Steam and Hot Water		66.33	1.250	0.125				mmBtu

Source:

Solid, gaseous, liquid and biomass fuels: Federal Register (2009) EPA: *40 CFR Parts 86, 87, 89 et al; Mandatory Reporting of Greenhouse Gases; Final Rule*, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 58409-58410. Revised emission factors for selected fuels: Federal Register (2010) EPA: 40 CFR Part 98, Mandatory Reporting of Greenhouse Gases; Final Rule, 17Dec10, 81 pp. With Amendments from Memo: Table of Final 2013 Revisions to the Greenhouse Gas Reporting Rule (PDF) to 40 CFR part 98, subpart C: Table C-1 to Subpart C—Default CO2 Emission Factors and High Heat Values for Various Types of Fuel and Table C-2 to Subpart C—Default CH4 and N2O Emission Factors for Various Types of Fuel.

Steam and Hot Water: EPA (2008) *Climate Leaders Greenhouse Gas Inventory Protocol Core Module Guidance - Indirect Emissions from Purchases/Sales of Electricity and Steam*. Assumption: 80% boiler efficiency and fuel type assumed natural gas. Factors are per mmBtu of steam or hot water purchased.

http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/memo-2013-technical-revisions.pdf

http://www.epa.gov/ghgreporting/reporters/subpartc.html

Attachment F

Draft Emission Reduction Credit Certificates

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-2

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
22,809 lbs	20,168 lbs	19,717 lbs	21,221 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-3

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
54,424 lbs	47,737 lbs	46,597 lbs	50,405 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-4

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
7,619 lbs	6,656 lbs	6,491 lbs	7,040 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-5

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For SOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
5,028 lbs	4,439 lbs	4,338 lbs	4,674 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

Visalia Newspapers, Inc.
P.O. Box 31, Visalia, CA 93279
559-735-3200 / Fax 559-735-3210

Certificate of Publication

State Of California ss:
County of Tulare

S-1141060
C26060452
Hr.
9153.71

Advertiser: CALIFORNIA NEWSPAPER SERVTUL
915 E FIRST ST
LOS ANGELES , CA 90012

Order # 0000695055

RE: NOTICE OF FINAL ACTION FOR THE ISSUANCE OF EMISSION REDUCTION

I, Kathleen D. Forsythe, Accounting Clerk, for the below mentioned newspaper(s), am over the age of 18 years old, a citizen of the United States and not a party to, or have interest in this matter. I hereby certify that the attached advertisement appeared in said newspaper on the following

Newspaper: **Visalia Times Delta**

9/3/2015

I acknowledge that I am a principal clerk of said paper which is printed and published in the City of Visalia, County of Tulare, State of California. The Visalia Times Delta was adjudicated a newspaper of general circulation on July 25, 2001 by Tulare County Superior Court Order No. 41-20576. The Tulare Advance Register was adjudicated a newspaper of general circulation on July 25, 2001 by Superior Court Order No. 52-43225.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 3rd day of Sept, 2015 in Visalia, California.

Kathleen D. Forsythe
Declarant

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 Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

No comments were received following the District's preliminary decision on this project.

The application review for Project #S-1141060 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, and at any other District office. For additional information, please contact the District at (661) 392-5500.
9/3/15
CNS-2790716
VISALIA TIMES-DELTA #695055

RECEIVED
AUG 31 2015
SJVUAPCD

Order #2790671

PUBLIC NOTICE CHECK LIST

PROJECT #: S-834 PROJECT #: S-1141060

REQST.	COMPL.	
√	√	ERC FINAL PUBLIC NOTICE
√	☐	Newspaper Notice Emailed to Clerical (Check box and tab to generate Notice)
√	—	Send email to "OA-PublicNotices" containing the following: SUBJECT: facility name, facility id#, project #, type of notice (prelim/final) BODY: project description and why it is being noticed (Emission Reduction Credit banking)

ENCLOSED DOCUMENTS REQUIRE:

√	√	Enter Correct Date, Print All Documents from File and Obtain Director's Signature and District Seal Embossed on ERC Certificates
√	√	Email ***FINAL*** Newspaper Notice for Publication in Visalia Times-Delta Pub Date: 9-3-2015
√	√	Mail ***FINAL*** Notice Letter to Applicant by Certified Mail including the following attachments: √ Original ERC Certificates S-4585-2, -3, -4, and -5 √ Newspaper Notice
√	√	Email ***FINAL*** Public Notice package to EPA
√	√	Email ***FINAL*** Public Notice package to CARB
√	√	Email ***FINAL*** Newspaper Notice, Aviso en Español and Public Notice package to ~~"webmaster"~~ webteam
√	—	After posted on website, send email with weblink of Newspaper notice, Aviso en Español, and full public notice package to: √ specific [C, S, or N] region **and** District wide permitting notification list-serves (both English and Spanish list serves) √ facility specific distribution list, (AQE – enter email address from PAS facility details notifications tab, if none enter NONE below): [email address]
√	√	Mail the newspaper notice and aviso en español (NN/AE), or full public notice package (FPNP) to the persons on facility specific distribution list, as follows (entered by AQE, if none, enter NONE below): ☐NN/AE or ☐FPNP Name/address:[names] ☐NN/AE or ☐FPNP Name/address:[names]
√	√	Send ***FINAL*** Public Notice package to EDMS
√	√	Assign Mailing Date AUG 31 2015
—	—	Other Special Instructions (please specify): √Tracker √Proof √Finance √Webteam √List serve

Date Completed August 25, 2015/By Homero Ramirez

System ID # C20060452

CALIFORNIA NEWSPAPER SERVICE BUREAU

DAILY JOURNAL CORPORATION

Mailing Address : 915 E FIRST ST, LOS ANGELES, CA 90012
Telephone (213) 229-5300 / Fax (213) 229-5481
Visit us @ WWW.LEGALADSTORE.COM

Yolanda
SAN JOAQUIN VALLEY AIR POLL CONTROL DIST
1990 E. GETTYSBURG AVE.
FRESNO, CA 93726

CNS 2790671

COPY OF NOTICE

Notice Type: GPN GOVT PUBLIC NOTICE

Ad Description ERC Final Public Notice, Sierra Power Corporation;

To the right is a copy of the notice you sent to us for publication in the VISALIA TIMES-DELTA. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

09/03/2015

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 Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

No comments were received following the District's preliminary decision on this project.

The application review for Project #S-1141060 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, and at any other District office. For additional information, please contact the District at (661) 392-5500.
9/3/15
CNS-2790671#
VISALIA TIMES-DELTA

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Monday, August 31, 2015 9:40 AM
To: Gerardo Rios EPA (SJV_T5_Permits@epa.gov); Mike Tollstrup (mtollstr@arb.ca.gov)
Subject: ERC Final Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060
Attachments: FINAL S-1141060.pdf; Newspaper.pdf

Importance: High

NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

Yolanda R. Alvarez
Office Assistant II
San Joaquin Valley APCD
1990 E Gettysburg Avenue
Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

Yolanda Alvarez

From:	Microsoft Outlook
To:	Gerardo Rios EPA (SJV_T5_Permits@epa.gov)
Sent:	Monday, August 31, 2015 9:40 AM
Subject:	Relayed: ERC Final Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060

Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server:

Gerardo Rios EPA (SJV_T5_Permits@epa.gov) (SJV_T5_Permits@epa.gov) <mailto:SJV_T5_Permits@epa.gov>

Subject: ERC Final Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Monday, August 31, 2015 9:42 AM
To: WebTeam
Subject: valleyair.org update: ERC Final Public Notice for Sierra Power Corporation; Facility: S-834, Project# S-1141060
Attachments: FINAL S-1141060.pdf; Newspaper.pdf; Aviso.pdf

August 31, 2015 (Facility S-834 Project S-1141060) NOTICE IS HEREBY GIVEN that the Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

Newspaper Notice

Aviso

Public Notice Package

★*Yolanda R. Alvarez*★
Office Assistant II
San Joaquin Valley APCD
1990 E Gettysburg Avenue
Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

Aviso en Español for posting on Valleyair.org

AVISO DE DECISIÓN FINAL
PARA LA OTORGACIÓN DE
CERTIFICADOS DE REDUCCIÓN DE EMISIONES

POR EL PRESENTE SE NOTIFICA que el Oficial para el Control de la Contaminación del Aire a otorgado Certificados de Reducción de Emisiones (ERCs, por sus siglas en inglés) a Sierra Power Corporation por la reducción de emisiones generadas por el cierre de una planta de cogeneración de biomasa, en 9000 Road 234 in Terra Bella. La cantidad de ERCs que serán otorgados son 83,915 lb-NOx/año,18,479 lb-SOx/año, 27,806 lb-PM10/año, y 199,163 lb-CO/año..

No se recibieron comentarios acerca de este proyecto despues del aviso de decisión preliminar del Distrito.

La revisión de la solicitud del Proyecto #S-1141060 está disponible para la inspección del público en http://www.valleyair.org/notices/public_notices_idx.htm, el DISTRITO PARA EL CONTROL DE LA CONTAMINACIÓN DEL AIRE DEL VALLE DE SAN JOAQUIN, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, y en cualquiera de las oficinas del Distrito. Para más información en Español, por favor comuníquese con el Distrito al (661) 392-5500.

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 Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

No comments were received following the District's preliminary decision on this project.

The application review for Project #S-1141060 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, and at any other District office. For additional information, please contact the District at (661) 392-5500.

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Wednesday, September 2, 2015 1:23 PM
To: All Region (Notices_of_Permitting_Actions-All_Regions@lists.valleyair.org); South (Notices_of_Permitting_Actions-Southern_Region@lists.valleyair.org)
Subject: Public Notice on Permitting Action S-1141060

The District has posted a new permitting public notice. The public notice can be viewed on our website at: http://www.valleyair.org/notices/Docs/2015/08-31-15_(S-1141060)/Newspaper.pdf

For a list of public notices and public notice packages, please visit our website at: http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Thank you,

★Yolanda R. Alvarez★
Office Assistant II
San Joaquin Valley APCD
1990 E Gettysburg Avenue
Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

Yolanda Alvarez

From: Yolanda Alvarez
Sent: Wednesday, September 2, 2015 1:23 PM
To: All Spanish (Avisos_Sobre_Acciones_de_Permisos-Todos@lists02.valleyair.org)
Subject: Aviso Publico Sobre Acciones de Permisos S-1141060

El Distrito del Aire a publicado un nuevo aviso público de permiso. El aviso público se puede ver en nuestro sitio de web en: http://www.valleyair.org/notices/Docs/2015/08-31-15_(S-1141060)/Aviso.pdf

Para obtener una lista de avisos públicos y paquetes de avisos públicos, por favor visite nuestro sitio de web en:
http://www.valleyair.org/notices/public_notices_idx.htm#PermittingandEmissionReductionCreditCertificateNotices

Gracias,

★*Yolanda R. Alvarez*★
Office Assistant II
San Joaquin Valley APCD
1990 E Gettysburg Avenue
Fresno, CA 93726
yolanda.alvarez@valleyair.org
Service★Teamwork★Attitude★Respect

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 3 1 2015

Kent Duysen
Sierra Power Corporation
P O Box 10050
Terra Bella, CA 93270

RE: Notice of Final Action – Emission Reduction Credits
Facility Number: S-834
Project Number: S-1141060

Dear Mr. Duysen:

The Air Pollution Control Officer has issued Emission Reduction Credits (ERCs) to Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

Enclosed are the 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 July 22, 2015. The District's analysis of the proposal was also sent to CARB and US EPA Region IX on July 17, 2015. No comments were received following the District's preliminary decision on this project.

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

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Thank you for your cooperation in this matter. If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

Arnaud Marjollet
Director of Permit Services

AM:har/ya

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-4585-2

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: August 26, 2015

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
22,809 lbs	20,168 lbs	19,717 lbs	21,221 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Aug 27 2015 3:32PM – ALVAREZY

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-4585-3

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: August 26, 2015

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
54,424 lbs	47,737 lbs	46,597 lbs	50,405 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Aug 27 2015 3:32PM – ALVAREZY

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-4585-4

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: August 26, 2015

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
7,619 lbs	6,656 lbs	6,491 lbs	7,040 lbs

[ ] Conditions Attached

Method Of Reduction
[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Aug 27 2015 3:32PM – ALVAREZY

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate
S-4585-5

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: August 26, 2015

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For SOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
5,028 lbs	4,439 lbs	4,338 lbs	4,674 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Aug 27 2015 3:32PM – ALVAREZY

Visalia Times-Delta
Newspaper notice for publication in Visalia Times-Delta and for posting on valleyair.org

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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 Sierra Power Corporation for emission reductions generated by the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs to be issued is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

No comments were received following the District's preliminary decision on this project.

The application review for Project #S-1141060 is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm, the SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308, and at any other District office. For additional information, please contact the District at (661) 392-5500.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

AUG 27 2015

Kent Duysen
Sierra Power Corporation
P O Box 10050
Terra Bella, CA 93270

RE: Emission Reduction Credits – Final Invoice
Project Number S-1141060

Dear Mr. Duysen:

The District has issued the Emission Reduction Credits (ERCs) for the above referenced project. The certificates that represent those ERCs will arrive under separate cover.

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.

Thank you for your cooperation in this matter. If you have any questions please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

Arnaud Marjollet
Director of Permit Services

for Leonard Scandura, PE
Permit Services Manager

AM:har

Enclosure

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) 230-8000 FAX: (559) 230-6081

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

Homero Ramirez

From: Yolanda Alvarez
Sent: Friday, July 17, 2015 2:20 PM
To: Homero Ramirez
Subject: Proof of Copy: ERC Preliminary Public Notice, Sierra Power Corporation; S-1141060, Visalia, OrderNo: 2775520
Attachments: 65d36ec6-2f5c-45b2-b077-5a505de4dff5.pdf

Importance: High

Good Afternoon Homero,

Attached is the proof of copy for the entitled notice. Notice will print on July 22, 2015.

Thank you,

Yolanda R. Alvarez

-----Original Message-----
From: glenda_sobrique@dailyjournal.com [mailto:glenda_sobrique@dailyjournal.com]
Sent: Friday, July 17, 2015 10:12 AM
To: Yolanda Alvarez
Cc: glenda_sobrique@dailyjournal.com
Subject: CNS:Documents for Reference No: ERC Preliminary Public Notice, Sierra Power Corporation; S-1141060, Visalia, OrderNo: 2775520
Importance: High

Attached are the following documents:

Thank you.

Glenda_Sobrique

CALIFORNIA NEWSPAPER SERVICE BUREAU

DAILY JOURNAL CORPORATION

Mailing Address : 915 E FIRST ST, LOS ANGELES, CA 90012
Telephone (213) 229-5300 / Fax (213) 229-5481
Visit us @ WWW.LEGALADSTORE.COM

Yolanda
SAN JOAQUIN VALLEY AIR POLL CONTROL DIST
1990 E. GETTYSBURG AVE.
FRESNO, CA 93726

CNS 2775520

COPY OF NOTICE

Notice Type: GPN GOVT PUBLIC NOTICE

Ad Description ERC Preliminary Public Notice, Sierra Power

To the right is a copy of the notice you sent to us for publication in the VISALIA TIMES-DELTA. Please read this notice carefully and call us with any corrections. The Proof of Publication will be filed with the County Clerk, if required, and mailed to you after the last date below. Publication date(s) for this notice is (are):

07/22/2015

NOTICE OF PRELIMINARY DECISION FOR THE PROPOSED ISSUANCE OF EMISSION REDUCTION CREDITS

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Emission Reduction Credits to Sierra Power Corporation for the shutdown of a biomass cogeneration facility, at 9000 Road 234 in Terra Bella. The quantity of ERCs proposed for banking is 83,915 lb-NOx/yr, 18,479 lb-SOx/yr, 27,806 lb-PM10/yr, and 199,163 lb-CO/yr.

The analysis of the regulatory basis for this proposed action, Project #S-1141060, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and at any District office. For additional information, please contact the District at (661) 392-5500. Written comments on this project must be submitted by August 24, 2015 to **ARNAUD MARJOLLET, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 34946 FLYOVER COURT, BAKERSFIELD, CA 93308**.
7/22/15
CNS-2775520#
VISALIA TIMES-DELTA

San Joaquin Valley Air Pollution Control District
ERC Application Review

Facility Name: Sierra Power Corporation
Mailing Address: P O Box 10050
Terra Bella, CA 93270

Contact Person: Kent Duysen
Telephone: (559) 535-4893

Facility ID: S-834
Project #: S-1141060

Date: July 13, 2015
Engineer: Homero Ramirez
Lead Engineer: Stephen Leonard

7/9/15

I. SUMMARY:

The primary business of Sierra Power Corporation (S-834) is the generation of electricity for sale and steam for use at the neighboring sawmill/lumber plant, Sierra Forest Products (S-556). Sierra Power Corporation has applied for Emission Reduction Credits (ERCs) resulting from the permanent shutdown of a 9.4 MW cogeneration system with a biomass-fired boiler (S-834-3-6) and associated fuel handling and solid material handling equipment (S-834-1-3, -6-3, and -10-2).

The equipment has been shut down and replaced by a 32 MMBtu/hr natural gas-fired boiler (S-834-7) that is now a full time unit. Previously, the boiler had been designated a standby service unit, but it has recently been retrofit with ultra-low NOx burners. Therefore, as is explained in the Calculations section, the Post-Project Potential to Emit from this 32 MMBtu/hr boiler will be subtracted from the Historic Actual Emissions to determine the Actual Emissions Reductions.

The following emission reductions have been found to qualify for ERC banking certificates. See Calculations section below.

Bankable Emissions Reductions Credits (ERC), lb/qtr					
Pollutant	ERC #	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
NOx	S-4585-2	22,809	20,168	19,717	21,221
SOx	S-4585-5	5,028	4,439	4,338	4,674
PM10	S-4585-4	7,619	6,656	6,491	7,040
CO	S-4585-3	54,424	47,737	46,597	50,405
VOC	--	0	0	0	0

II. APPLICABLE RULES:

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2301 Emission Reduction Credit Banking (1/19/12)
Rule 4352 Solid Fuel Fired Boilers, Steam Generators and Process Heaters (12/15/11)

III. PROJECT LOCATION:

The equipment operated at 9000 Road 234 in Terra Bella.

IV. METHOD OF GENERATING REDUCTIONS:

Actual Emission Reductions (AER) are being generated with the permanent shutdown of the following equipment:

PTO	Equipment
S-834-1-3	FUEL SCREENING AND HANDLING SYSTEM SERVED BY A HUMIDIFIER FOGGER/SPRAY SYSTEM
S-834-3-6	9.4 MW COGENERATION SYSTEM WITH 171.2 MMBTU/HR STAGED AIR BIOMASS-FIRED BOILER WITH FIRED HEAT RECOVERY STEAM GENERATOR WITH PEABODY LOW-NOX NATURAL GAS-FIRED BURNERS, AMMONIA INJECTION SYSTEM, MULTICLONES, LOW TEMPERATURE SCR EXHAUSTING TO ELECTROSTATIC PRECIPITATOR, AND FLUE GAS RECIRCULATION
S-834-6-3	ASH COLLECTION SYSTEM UTILIZING ENCLOSED AUGERS AND WATER MIST SERVING BIOFUEL BOILER (S-834-3)
S-834-10-2	FUEL HANDLING SYSTEM CONSISTING OF TWO SILOS, ONE HOG UNIT, SCREENS, AND CONVEYORS SERVED BY A HUMIDIFIER FOGGER SPRAY SYSTEM

The applicant has surrendered the four Permits to Operate identified above for the equipment in order to validate the emission reduction credits. Copies of the PTOs are included as Attachment A. As required by Rules 2201 and 2301, creditable emission reductions are to be based upon the historical actual emissions over the appropriate baseline period, and the use of acceptable emission factors.

V. CALCULATIONS:

A. Assumptions

- The actual emission reductions are from shutdown of the equipment resulting in a reduction of fuel combustion emissions from the cogeneration system (S-834-3) and the fugitive PM10 emissions from the fuel screening and handling systems (S-834-1 and -10) and the ash collection system (S-834-6).
- The steam provided by the shutdown equipment has been replaced by the boiler S-834-7. Therefore the actual emission reductions from the shutdown equipment will be reduced by the Potential Emissions for the replacement boiler.

Cogeneration system (S-834-3):

- Biomass-fired boiler (S-834-3) was fired solely on wood fuels as required by conditions 7 and 8 of its Permit to Operate. The wood fuels are separated into agricultural byproducts and wood and wood residuals for their different heating values as explained below.
- Heating value of agricultural byproducts is 8.25 MMBtu/short ton[1]
- Heating value of wood and wood residuals is 17.48 MMBtu/short ton [1]
- The table below lists the amounts of fuels that have been consumed (in bone dry tons per year, BDT/yr) based on records submitted by the applicant. Such records are found in Attachment C.

Fuel Consumption (by Weight) (BDT/yr) [2]			
	2011	2012	2013
Agricultural byproducts	65,887	34,018	38,676
Wood and wood residuals*	15,535	45,383	36,530
Total	81,422	79,401	75,206

* Wood and wood residuals includes urban and sawmill chips and residue.

[1] See EPA's Emission Factors for Greenhouse Gas Inventories available at http://epa.gov/climateleadership/documents/emission-factors.pdf in Appendix E.

[2] Records of fuel use for calendar years 2011, 2012, and 2013 are found in Appendix C. These records are the summary data sheets for each year that were used to report GHGs to CARB under AB32, the California Global Warming Solutions Act of 2006

- The equivalent heat input rating (in MMBtu/yr) is:

Fuel Consumption (by Heat Input) (MMBtu/yr) [3]			
	2011	2012	2013
Agricultural byproducts	543,568	280,649	319,077
Wood and wood residuals	271,552	793,295	638,54
Total	815,120	1,073,943	957,621

- As is explained in the Baseline Period Determination section, the baseline period has been determined to be the period from the beginning of January 2012 through the end of December 2013.
- Note that the applicant has submitted copies of the annual records of fuel consumption by weight of raw material (that has been submitted to CARB to report GHGs under AB32). However, the applicant only has monthly records of fuel deliveries by weight (not the monthly records of fuel consumption). Since the fuel delivery quantities are indicative of the fuel consumption quantities (as annual records demonstrate), the monthly fuel consumption values will be estimated from the monthly fuel delivery values. The monthly proportion of fuel delivered will be multiplied by the annual fuel consumption quantity to estimate the monthly fuel consumption values. See Attachment D for the calculation of the monthly fuel consumption values.
- The monthly fuel consumption during the baseline period is listed below. These values are calculated in Attachment D.

	Calculated Fuel Consumption (BDT)		Calculated Fuel Consumption (MMBtu)	
	2012	**2013**	**2012**	**2013**
January	7,384	7,819	99,875	99,555
February	7,176	7,954	97,056	101,287
March	6,836	4,784	92,462	60,919
April	8,815	5,784	119,223	73,645
May	6,101	3,635	82,524	46,286
June	5,788	6,970	78,286	88,752
July	7,198	5,729	97,360	72,950
August	7,899	5,606	106,833	71,384
September	5,083	4,774	68,753	60,791
October	5,560	4,507	75,209	57,389
November	6,017	7,998	81,382	101,840
December	5,543	9,646	74,978	122,824
Total	79,401	75,206	1,073,943	957,621

[3] The equivalent heat input rating is calculated by multiplying the amounts of the two types of fuels consumed and heating value of the corresponding type of fuel as stated above.

Fuel/ash handling equipment (S-834-1, -6, and -10):

- The amount of material handled by the fuel handling S-834-1 and S-834-10 will be equivalent to "Calculated Fuel Consumption" values identified in the table above.
- The amount of material handled by the ash collection system S-834-6 is 3,934 ton/yr (984 ton/qtr) (per the applicant as shown in Attachment C).
- Fugitive PM10 emission for each screen, hopper, and conveyor may be estimated using the AP-42 Section 13.2.4 (Aggregate Handling and Storage Piles) equation for calculation of drop point emissions from aggregate handling operations:

$$EF = k(0.0032) \times \left(U/5\right)^{1.3} / \left(M/2\right)^{1.4} \text{ lb/ton}$$

where:

k = particle size multiplier, (dimensionless)
= 0.35 for particle size < 10 μm (i.e. PM10)
U = mean wind speed, (miles per hour)
= 5 mph (per applicant) [4]
M = material moisture content (%)
= 4.8% (per applicant) [5]

$$EF = 0.35 \times (0.0032) \times \left(5/5\right)^{1.3} / \left(4.8/2\right)^{1.4} \text{ lb/ton} = 0.00033 \text{ lb/ton}$$

(per drop/emission point)

- The control efficiency of 90 percent will be assumed for the water spray. [6]
- The following are the emission points for the fuel screening and handling system (S-834-1), for a total of seven emission points:
  - One trommel screen
  - One hopper
  - Five conveyors
- The following are the emission points for the ash collection system (S-834-6), for a total of one emission point:
  - One discharge point
- The following are the emission points for the fuel handling system (S-834-10), for a total of four emission points:
  - Two storage silos
  - One hog unit
  - One conveyor

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[4] The 5.0 mph value proposed by the applicant is acceptable as it is less than the 6.35 mph value for Bakersfield in EPA Tanks 4.0.

[5] Per AP-42 Section 1.6 (Wood Residue Combustion in Boilers), the moisture content of as-fired wood may vary from 5 to 75 weight percent depending on the residue type and storage operation, so the proposed value of 4.8 percent is an acceptable conservative assumption.

[6] Per AP-42 Section 13.2.4.4 (Aggregate Handling and Storage Piles), continuous watering of materials loaded onto piles can reduce total particulate emissions from aggregate storage operations by up to 90 percent. The same control will be conservatively assumed for this operation.

B. Emission Factors

District Rule 2201, Section 3.1 defines Actual Emissions as "emissions having occurred from a source, based on source test or monitoring data, actual fuel consumption, and process data. If source test or monitoring data is not available, other appropriate, APCO-approved, emission factors may be used."

Cogeneration system (S-834-3):

- The cogeneration system (S-834-3) was source tested during the baseline period in 2012 and 2013. The source test results are found in Attachment B and summarized in the table below. The average source test emission factors calculated below will be used to determine the Actual Emission Reductions from the cogeneration system.

Emission Factors				
	Permitted Emission Factor (lb/MMBtu)	2012 Source Test (lb/MMBtu)	2013 Source Test (lb/MMBtu)	Average Source Test Emission Factor (lb/MMBtu)
NOx	0.108	0.098	0.0902	0.094
SOx	0.061	0.0019	0.0397	0.021
PM10	0.066	0.0323	0.0355	0.034
CO	0.314	0.2377	0.2392	0.238
VOC	0.066	0	0	0

Fuel/ash handling equipment (S-834-1, -6, and -10):

- The Emission Factor for each drop/emission point is 0.00033 lb-PM10/day. [7]

C. Baseline Period Determination

Pursuant to Section 3.9 of Rule 2201, the Baseline Period is a period of time equal to either:

3.9.1 The two consecutive years of operation immediately prior to the submission date of the Complete Application; or

3.9.2 At least two consecutive years within the five years immediately prior to the submission date of the Complete Application if determined by the APCO as more representative of normal source operation.

[7] Fugitive PM10 emission for each screen, hopper, and conveyor were estimated using the AP-42 Section 13.2.4 equation for calculation of drop point emissions from aggregate handling operations in Section A above.

The applicant submitted the application on March 4, 2014. The two consecutive years of operation prior to the submission of the application has been determined to be representative of normal source operation. Therefore the baseline period will be the period from the beginning of January 2012 through the end of December 2013.

D. Baseline Data

The baseline fuel use data is taken from the fuel use and production records in Attachment D.

Baseline Fuel Consumption (MMBtu)				
Month	**2012**	**2013**	**Monthly Average**	**Quarterly Average**
January	99,875	99,555	99,715	275,577
February	97,056	101,287	99,171	
March	92,462	60,919	76,691	
April	119,223	73,645	96,434	244,358
May	82,524	46,286	64,405	
June	78,286	88,752	83,519	
July	97,360	72,950	85,155	239,035
August	106,833	71,384	89,108	
September	68,753	60,791	64,772	
October	75,209	57,389	66,299	256,811
November	81,382	101,840	91,611	
December	74,978	122,824	98,901	

Baseline Fuel Consumption (BDT)				
Month	**2012**	**2013**	**Monthly Average**	**Quarterly Average**
January	7,384	7,819	7,601	20,977
February	7,176	7,954	7,565	
March	6,836	4,784	5,810	
April	8,815	5,784	7,299	18,546
May	6,101	3,635	4,868	
June	5,788	6,970	6,379	
July	7,198	5,729	6,464	18,145
August	7,899	5,606	6,752	
September	5,083	4,774	4,929	
October	5,560	4,507	5,034	19,636
November	6,017	7,998	7,007	
December	5,543	9,646	7,595	

E. Historical Actual Emissions (HAE)

HAE - Combustion Emissions

The HAE due to the combustion emissions are determined by multiplying the quarterly fuel use by the emission factors presented above.

HAE from Fuel Use (S-834-3) - Quarter 1						
NO_x	0.094	lb/MMBtu x	275,577	MMBtu/qtr =	25,904	lb/qtr
SO_x	0.021	lb/MMBtu x	275,577	MMBtu/qtr =	5,787	lb/qtr
PM10	0.034	lb/MMBtu x	275,577	MMBtu/qtr =	9,370	lb/qtr
CO	0.238	lb/MMBtu x	275,577	MMBtu/qtr =	65,587	lb/qtr
VOC	0	lb/MMBtu x	275,577	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 2						
NO_x	0.094	lb/MMBtu x	244,358	MMBtu/qtr =	22,970	lb/qtr
SO_x	0.021	lb/MMBtu x	244,358	MMBtu/qtr =	5,132	lb/qtr
PM10	0.034	lb/MMBtu x	244,358	MMBtu/qtr =	8,308	lb/qtr
CO	0.238	lb/MMBtu x	244,358	MMBtu/qtr =	58,157	lb/qtr
VOC	0	lb/MMBtu x	244,358	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 3						
NO_x	0.094	lb/MMBtu x	239,035	MMBtu/qtr =	22,469	lb/qtr
SO_x	0.021	lb/MMBtu x	239,035	MMBtu/qtr =	5,020	lb/qtr
PM10	0.034	lb/MMBtu x	239,035	MMBtu/qtr =	8,127	lb/qtr
CO	0.238	lb/MMBtu x	239,035	MMBtu/qtr =	56,890	lb/qtr
VOC	0	lb/MMBtu x	239,035	MMBtu/qtr =	0	lb/qtr
HAE from Fuel Use (S-834-3) - Quarter 4						
NO_x	0.094	lb/MMBtu x	256,811	MMBtu/qtr =	24,140	lb/qtr
SO_x	0.021	lb/MMBtu x	256,811	MMBtu/qtr =	5,393	lb/qtr
PM10	0.034	lb/MMBtu x	256,811	MMBtu/qtr =	8,732	lb/qtr
CO	0.238	lb/MMBtu x	256,811	MMBtu/qtr =	61,121	lb/qtr
VOC	0	lb/MMBtu x	256,811	MMBtu/qtr =	0	lb/qtr

HAE – Fuel Handling Emissions

HAE from Fuel Screening and Handling System (S-834-1)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	20,977	ton/qtr x	7	Emission points =	48	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	18,546	ton/qtr x	7	Emission points =	43	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	18,145	ton/qtr x	7	Emission points =	42	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	19,636	ton/qtr x	7	Emission points =	45	lb/qtr

HAE from Fuel Handling System (S-834-10)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	20,977	ton/qtr x	4	Emission points =	28	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	18,546	ton/qtr x	4	Emission points =	25	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	18,145	ton/qtr x	4	Emission points =	24	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	19,636	ton/qtr x	4	Emission points =	26	lb/qtr

HAE from Ash Handling (S-834-6)								
Qtr 1: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 2: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 3: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr
Qtr 4: PM_{10}	0.00033	lb/ton per emission point x	984	ton/qtr x	1	Emission points =	0.3 → 0	lb/qtr

The total HAE (lb/qtr), which is the sum of the HAE for S-834-1, -3, -6, and -10 is calculated below:

Total HAE (lb/qtr)					
Quarter 1					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	25,904	0	0	0	25,904
SO_x	5,787	0	0	0	5,787
PM_{10}	9,370	48	0	28	9,446
CO	65,587	0	0	0	65,587
VOC	0	0	0	0	0
Quarter 2					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	22,970	0	0	0	22,970
SO_x	5,132	0	0	0	5,132
PM_{10}	8,308	43	0	25	8,376
CO	58,157	0	0	0	58,157
VOC	0	0	0	0	0
Quarter 3					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	22,469	0	0	0	22,469
SO_x	5,020	0	0	0	5,020
PM_{10}	8,127	42	0	24	8,193
CO	56,890	0	0	0	56,890
VOC	0	0	0	0	0
Quarter 4					
	S-834-3	S-834-1	S-834-6	S-834-10	Total HAE
NO_x	24,140	0	0	0	24,140
SO_x	5,393	0	0	0	5,393
PM_{10}	8,732	45	0	26	8,803
CO	61,121	0	0	0	61,121
VOC	0	0	0	0	0

F. Adjustments to HAE

Pursuant to Section 3.22, Historical Actual Emissions must be discounted for any emissions reduction which is:

- required or encumbered by any laws, rules, regulations, agreements, orders, or
- attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan, or
- proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act.

- Any Actual Emissions in excess of those required or encumbered by any laws, rules, regulations, orders, or permits. For units covered by a Specific Limiting Condition (SLC), the total overall HAE for all units covered by SLC must be discounted for any emissions in excess of that allowed by the SLC.

a. There are no agreements or orders regarding the operation or emissions reductions associated with the cogeneration system or its fuel handling operations. The discounts for any Rules will be discussed under the applicable Rules listed below. Therefore, no adjustments will be made to the HAE under this section.

b. There are no reductions from the cogeneration system or its fuel handling operations that are attributed to a control measure noticed for workshop, or proposed or contained in a State Implementation Plan. Therefore, no adjustment to the HAE will be made in this section.

c. There are no reductions from the cogeneration system or its fuel handling operations that are proposed in the District Air Quality Plan for attaining the annual reductions required by the California Clean Air Act. Therefore, no adjustments will be made to the HAE under this section.

d. There are no SLCs related to the operation of the cogeneration system or its fuel handling operations. The emissions were taken from the permit limits or lower (source test results). Any adjustments to be made for any Rules will be addressed under the applicable Rules listed below. Therefore, no adjustments will be made to the HAE under this section.

The emission units comply with all NSR requirements and Federal Requirements. No adjustments to the HAE are required under Rule 2201.

G. Actual Emissions Reductions (AER)

Actual Emissions Reductions are calculated as follows:

AER = HAE - PE2

Where:
HAE = Historic Actual Emissions
PE2 = Post-project Potential to Emit

The shutdown equipment was replaced by a 32 MMBtu/hr natural gas-fired boiler (S-834-7), which has been retrofit with ultra-low NOx burners and is now allowed to operate as a full time unit. This boiler had not operated during the baseline period. After its retrofit, it is now able to operate full time, and it now supplies the process steam that the shutdown equipment did.

The Post-Project Potential to Emit (PE2) of for boiler S-834-7 is calculated below with the following equation:

- PE2 = EF (lb/MMBtu) × Heat Input (MMBtu/hr) × Op. Sched. (hr/year)

Pollutant	PE2 for S-834-7				
	EF2 (lb/MMBtu)	Heat Input (MMBtu/hr)	Operating Schedule (hr/year)	Annual PE2 (lb/year)	PE2 (lb/qtr)
NO_X	0.008	32	8,760	2,243	561
SO_X	0.00285	32	8,760	799	200
PM_{10}	0.014	32	8,760	3,924	981
CO	0.073	32	8,760	20,463	5,116
VOC	0.003	32	8,760	841	210

Actual Emissions Reductions are calculated in the table below:

Total HAE (lb/qtr)			
Quarter 1			
	HAE	PE2	AER = HAE – PE2
NO_x	25,904	561	25,343
SO_x	5,787	200	5,587
PM_{10}	9,446	981	8,465
CO	65,587	5,116	60,471
VOC	0	210	-210 → 0
Quarter 2			
	HAE	PE2	AER = HAE – PE2
NO_x	22,970	561	22,409
SO_x	5,132	200	4,932
PM_{10}	8,376	981	7,395
CO	58,157	5,116	53,041
VOC	0	210	-210 → 0
Quarter 3			
	HAE	PE2	AER = HAE – PE2
NO_x	22,469	561	21,908
SO_x	5,020	200	4,820
PM_{10}	8,193	981	7,212
CO	56,890	5,116	51,774
VOC	0	210	-210 → 0

Quarter 4			
	HAE	PE2	AER = HAE – PE2
NO_x	24,140	561	23,579
SO_x	5,393	200	5,193
PM_{10}	8,803	981	7,822
CO	61,121	5,116	56,005
VOC	0	210	-210 → 0

H. Air Quality Improvement Deduction (AQID)

The Air Quality Improvement Deduction (AQID) is 10% of the AER per Rule 2201, subsection 6.5, and is summarized as follows:

Air Quality Improvement Deduction (lb/qtr)					
Quarter	**NOx**	**SOx**	**PM10**	**CO**	**VOC**
1st	2,534	559	847	6,047	0
2nd	2,241	493	740	5,304	0
3rd	2,191	482	721	5,177	0
4th	2,358	519	782	5,601	0

I. Bankable Emissions Reductions Credits

The total bankable emissions reductions for ERC are equal the AER minus the air quality improvement deduction calculated above. The amount of bankable emission reductions are listed in the table below:

Bankable Emission Reductions Credits (lb/qtr)					
Quarter	**NOx**	**SOx**	**PM10**	**CO**	**VOC**
1st	22,809	5,028	7,619	54,424	0
2nd	20,168	4,439	6,656	47,737	0
3rd	19,717	4,338	6,491	46,597	0
4th	21,221	4,674	7,040	50,405	0

VI. COMPLIANCE:

Rules 2201 (New and Modified Stationary Source Review Rule) and 2301 (Emission Reduction Banking)

To be eligible for banking, emission reduction credits (ERCs) must be verified as being real, surplus, permanent, quantifiable, and enforceable pursuant to District Rules 2201 and 2301. In addition, the application must be submitted within the timeliness specified in Rule 2301.

A. Real

The Actual Emission Reductions (AERs) quantified above were based on actual, historical emissions and were calculated from source test results, recognized emission factors, and actual fuel consumption data supplied by the applicant. The equipment under permits S-834-1, -3, -6, and -10 has been shut down and the Permits to Operate have been surrendered. The voluntary shutdown of the equipment results in actual emission reductions; therefore, the reductions are real.

B. Enforceable

Permits to Operate S-834-1, -3, -6, and -10 have been surrendered. Any new equipment placed at this location will be required to obtain an Authority to Construct and a Permit to Operate subject to the provisions of New and Modified Stationary Source Review (Rule 2201) prior to operation. Thus, the quantified AER is enforceable.

C. Quantifiable

The actual emission reductions (AER) quantified above are based on actual, historical emissions calculated from fuel use data, source tests, and emission factors. Therefore, the AER is quantifiable.

D. Permanent

The permittee permanently shut down the equipment, and surrendered their valid Permits to Operate. Therefore, the AERs are permanent.

E. Surplus

The shutdown of the equipment was voluntary. The resulting emission reductions are not mandated by any law, rule, regulation, agreement, or order of the District, State, or Federal Government. Additionally, the reductions are not attributed to a control measure noticed for workshop or proposed, nor contained in a State Implementation Plan. Therefore, the reductions are surplus.

F. Timeliness

The permits were surrendered with the ERC application on March 4, 2014 with the submission of this ERC banking application. Because the ERC application was submitted within 180 days after the date that shutdown occurred, the application is timely.

Rule 4352 (Solid Fuel Fired Boilers, Steam Generators and Process Heaters)

The purpose of this rule is to limit emissions of NOx and CO from solid fuel fired boilers, steam generators and process heaters. Shutdown biomass-fired boiler S-834-6 was subject to this rule.

The permitted emission limits of the shutdown boiler were in compliance with this rule. The boiler had been limited to NOx emissions of 84 ppmvd @ 3% O2 (0.108 lb/MMBtu) and CO emissions of 400 ppmvd @ 3% O2 (0.314 lb/MMBtu). These limits comply with the requirements of Table 1 (NOx and CO Emission Limits) of Section 5.1 which limit NOx emissions to 90 ppmv corrected to 3% O2 and CO emissions to 400 ppmv corrected to 3% O2 for operations using biomass fuel, effective on and after January 1, 2013.

There are no further reduction in emission limit scheduled by the rule. And there are no other agreements or orders regarding the operation or emissions reduction associated with the cogeneration system. Therefore, no adjustments need to be made to the HAE as is discussed in Section V.F. (Calculations, Adjustments to HAE) of this evaluation.

VII. RECOMMENDATION:

After public notice, comments and review, issue ERC Banking Certificates S-4585-2, '-3, '-4, and '-5 to Sierra Power Corporation for the following amounts:

Bankable Emissions Reductions Credits (ERC), lb/qtr					
Pollutant	ERC #	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
NOx	S-4585-2	22,809	20,168	19,717	21,221
SOx	S-4585-5	5,028	4,439	4,338	4,674
PM10	S-4585-4	7,619	6,656	6,491	7,040
CO	S-4585-3	54,424	47,737	46,597	50,405
VOC	--	0	0	0	0

Attachments:

A Copies of Permits to Operate
B Source Test Results
C Fuel Consumption Records
D Calculation of Monthly Fuel Consumption
E Heating Values for Wood Products
F Draft Emission Reduction Credit Certificates

Attachment A

Copies of Permits to Operate

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-1-3 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
FUEL SCREENING AND HANDLING SYSTEM SERVED BY A HUMIDIFIER FOGGER/SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Fuel screening system shall consist of a Trommel screen, hopper, five (5) conveyors, and a humidifier-fogger/spray system to control emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions from fuel receiving shall be controlled by humidifier-fogger system and wind dust screen. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Whenever fuel receiving system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, screens, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
5. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
7. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
8. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-3-6 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
9.4 MW COGENERATION SYSTEM WITH 171.2 MMBTU/HR STAGED AIR BIOMASS-FIRED BOILER WITH FIRED HEAT RECOVERY STEAM GENERATOR WITH PEABODY LOW-NOX NATURAL GAS-FIRED BURNERS, FLUE GAS RECIRCULATION, AND AMMONIA INJECTION SYSTEM, EXHAUSTING TO MULTICLONES AND ELECTROSTATIC PRECIPITATOR

PERMIT UNIT REQUIREMENTS

1. Boiler and heat recovery steam generator exhausts shall vent through multicylones and electrostatic precipitator (ESP) before being discharged to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. ESP shall be equipped with automatic rapping system, induced draft exhaust fan, and 72' high by 61" diameter exhaust stack. [District NSR Rule] Federally Enforceable Through Title V Permit
3. ESP rapping frequency and duration shall be pre-programmed and identical for each location and only one rapping position shall be energized at any one time. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Exhaust stack shall be equipped with continuous emissions monitors (CEM) for NOx, CO, oxygen, opacity, and volumetric flowrate of exhaust. [District NSR Rule and Rule 4352, 5.5; 40 CFR 60.48b(b); 40 CFR 64] Federally Enforceable Through Title V Permit
5. Continuous emission monitoring system shall be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7 (c) and 60.13. CEMs must also satisfy the Performance Specifications of 40 CFR 60 Appendix B and the Relative Accuracy Test Audit of Appendix F. [District Rules 1080 and Rule 4352, 5.5; 40 CFR 60.48b(e)] Federally Enforceable Through Title V Permit
6. Fuels for combustor shall be limited to natural gas, sawmill/forest residue (consisting of sawdust, bark, chips, shavings, and clean dry construction wood waste), almond and walnut shells, peach and olive pits, vineyard prunings, and orchard prunings or chips. [District NSR Rule] Federally Enforceable Through Title V Permit
7. No plastic, rubber, tar paper, asphalt shingles, plaster, metals, painted or chemically treated wood products or wastes shall be burned in combustor. [District NSR Rule] Federally Enforceable Through Title V Permit
8. A daily record of the quantities and types of fuels burned in the combustor shall be maintained and submitted to the District quarterly. [District NSR Rule and Rule 4352, 6.2] Federally Enforceable Through Title V Permit
9. Nitrogen oxide emissions (as NO2) shall not exceed any of the following: 84 ppmvd @ 3% O2 (0.108 lb/MMBtu), 408.8 lb/day, or 67.6 tons/year. The averaging for NOx lb/MMBtu limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rule, Rules 4301, 5.2.2, 4352, 5.1 and 40 CFR 60.41b and 60.44b(d)] Federally Enforceable Through Title V Permit
10. Carbon monoxide emissions shall not exceed any of the following: 400 ppmvd @ 3% O2 (0.314 lb/MMBtu) or 233.11 tons/year. The averaging for CO ppm limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rules, District Rule 4352, 5.3 and 40 CFR 60 Subpart Db] Federally Enforceable Through Title V Permit
11. Particulate matter (PM10) concentration shall not exceed 0.016 gr/dscf corrected to 12% CO2 as determined by CARB Method 5. [District NSR Rule and Rule 4301, 5.1 and 5.2.3; 40 CFR 60.43b(c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. Volatile organic compound emissions shall not exceed any of the following: 0.066 lb/MMBtu or 48.8 tons/year. [District NSR Rule] Federally Enforceable Through Title V Permit

13. Sulfur oxide emissions (as SO2) shall not exceed any of the following: 0.061 lb/MMBtu or 41.6 tons/year. [District NSR Rule and Rule 4301, 5.2.1 and 4801] Federally Enforceable Through Title V Permit

14. Source testing using the following test methods shall be done annually: NOx - EPA Method 7E or ARB Method 100, and EPA Method 19, CO - EPA Method 10 or ARB Method 100, O2 - EPA Method 3 or 3A, or ARB Method 100, Stack Gas Flow Rate (velocity) - EPA Method 2, Stack Gas Moisture Content - EPA Method 4, and Fuel Heating Value - ASTM Method D2015 or E711. [District Rules 1081, 2520, 9.3.2 and 4352, 6.3] Federally Enforceable Through Title V Permit

15. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

16. 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

17. Sierra Power Corporation shall maintain records of emissions and operational data for NOx (ppmv @ 3% O2, lb/MMBtu, lb/day and lb/year), CO (ppmv @ 3% O2 and lb/year), electrical output (kW-hr) recorded on a 24-hour basis, exhaust gas stack flow, CFM), and opacity (percent). [District NSR Rule] Federally Enforceable Through Title V Permit

18. NOx, CO, and PM10 emissions shall be measured with annual source testing conducted by an independent testing laboratory using sample collection by an ARB certified testing laboratory and shall be witnessed by District, or witness authorized by the District. [District Rules 1081, 2520, 9.3.2 and 4352, 6.3 and 6.4; 40 CFR 60.46b] Federally Enforceable Through Title V Permit

19. Source test emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081(Amended December 16, 1993), of three thirty-minute test runs for NOx and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

20. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit

21. NOx and carbon monoxide daily emissions shall be measured by use of CEM data, fuel rate data and daily hours of operation data. A written record of the required compliance demonstrations shall be maintained and made available for District inspection for a period of five years. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit

22. SOx source testing shall be done annually using EPA method 5 or 8 or a continuous emissions analyzer in accordance with EPA method 6C. [District Rules 1081, 2520, 9.3.2, and 4801] Federally Enforceable Through Title V Permit

23. Particulate matter emissions shall not exceed 0.10 lb/MMBtu. [40 CFR 60.43b(c)(1)] Federally Enforceable Through Title V Permit

24. Owner or operator shall not cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. [40 CFR 60.43b(f)] Federally Enforceable Through Title V Permit

25. The particulate matter, and opacity standards shall apply at all times, except during periods of startup, shutdown or malfunction. [40 CFR 60.43b(g), 60.46b(a)] Federally Enforceable Through Title V Permit

26. The owner or operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system, [40 CFR 60.48b(a)] Federally Enforceable Through Title V Permit

27. The continuous emissions monitoring systems shall be operated and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments. [40 CFR 60.48b(c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

28. The procedures under 40 CFR 60.13 shall be followed for installation, evaluation, and operation of the continuous monitoring systems. The span value for a continuous monitoring system for measuring opacity shall be between 60 and 80 percent. [40 CFR 60.48b(e)] Federally Enforceable Through Title V Permit

29. The permittee shall record and maintain records of the amount of wood and natural gas fuel combusted each day, and calculate the annual capacity factor individually for wood and natural gas on a 12-month rolling average with a capacity factor calculated at the end of each month. [40 CFR 60.49b (d)] Federally Enforceable Through Title V Permit

30. The owner or operator shall submit excess emission reports of all 6-minute periods during which the average opacity exceeds the opacity standards under 40 CFR 60.43b(f) during the reporting period. [40 CFR 60.49b(h)] Federally Enforceable Through Title V Permit

31. At the time of each annual source test for PM, the permittee shall establish the acceptable range of primary and secondary current and voltage readings for the electrostatic precipitator. Minimum readings for each parameter shall be established at 15% below the average value measured during the PM source test. Maximum readings for each parameter shall be established at 15% above the average value measured during the PM source test. [40 CFR part 64] Federally Enforceable Through Title V Permit

32. During each day of operation, the permittee shall record electrostatic precipitator voltage and current readings and compare the readings with the acceptable range of current and voltage levels established during the most recent annual PM source test. Upon detecting any excursion from the acceptable range of current or voltage readings, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [40 CFR part 64] Federally Enforceable Through Title V Permit

33. Devices used to measure primary and secondary voltage and current shall be maintained in accordance with the manufacturer's specifications. [40 CFR part 64] Federally Enforceable Through Title V Permit

34. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit

35. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit

36. If the District or EPA determine that a Quality improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR part 64.8. [40 CFR part 64] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-6-3 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
ASH COLLECTION SYSTEM UTILIZING ENCLOSED AUGERS AND WATER MIST SERVING BIOFUEL BOILER (S-834-3)

PERMIT UNIT REQUIREMENTS

1. Discharge point of ash system shall be controlled by water spray to prevent visible emissions of 20% opacity or greater. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] 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. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-10-2 **EXPIRATION DATE:** 02/28/2013

EQUIPMENT DESCRIPTION:
FUEL HANDLING SYSTEM CONSISTING OF TWO SILOS, ONE HOG UNIT, SCREENS, AND CONVEYORS SERVED BY A HUMIDIFIER FOGGER SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions from fuel handling system shall be controlled by humidifier-fogger spray system. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Whenever fuel handling system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
4. Visible emissions shall be inspected quarterly under material and environmental conditions where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

Attachment B

Source Test Results

SJVUAPCD
SOUTHERN

San Joaquin Valley Air Pollution Control District

Source Test Results

8/20/12
1:53 pm

Company: SIERRA POWER CORPORATION **Test Date:** 06/08/2012 **Pass** ☒ **Fail** ☐

Permit#: S-834-3-6 **FacilityID:** 834 **Unit ID:** COGEN

Witnessed By: HAULMAA **Area Inspector:** GOONR

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 2
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: ENVIRONMENTAL SERVICES & TESTING **Project Number:** EST-834-060812

Next Test: **Test Company Contact:** Mr. Tim Naquin

Equipment: 9.4 MW BIOMASS FIRED BOILER W/ NH3/SCR, ESP, CEM, FGR, MULTICYCLONES

Equipment Type: Boiler **Input Rate:** 171.0 MMBTU **Output Rate:** 9.4 MW

Control Equipment:

Catalyst	☐	Scrubber	☐	Baghouse	☐	FGR	☒	O2	☐
LoNOx	☐	Incin	☐	ESP	☒	H2O/Stm Inj	☐	NH3/SCR	☒
DLN	☐	PSC	☐	PCC	☐	Rich Burn	☐	Lean Burn	☐
Cyclone	☒	TEOR-Gas	☐						

Fuel Data And Operational Data:

Fuel Type: BIOMASS **F-Factor:** 9240 **BTU:** **Fuel Rate:** 10.0 TPH
Second Fuel: **O2 % Stack:** 8.2 **Stack Flow:** 42431 **Process Rate:**

Comments:

ANNUAL COM, RATA

Enforcement Action: ☐ **NOV#:**

Report Rec: 07/27/2012 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.2392	0.312			COGEN
CO	ppm	305.0	400.0	3		COGEN
CO RATA	ppm	8.84	10.0	3		COGEN
Flow RATA	dscfm	2.8	20.0			COGEN
NH3	ppm	4.41	10.0			COGEN
NOx	lbs/MMBtu	0.0902	0.108			COGEN
NOx	ppm	71.34	84.0	3		COGEN
NOx RATA	ppm	9.08	20.0	3		COGEN
O2 RATA	% Difference	0.54	1.0			COGEN
PM10	gr/dscf@12% CO2	0.015	0.016			COGEN
PM10	lbs/hr	4.41	14.97			COGEN
SO2	lb/MMBtu	0.0397	0.061			COGEN
VOC	lbs/MMBtu	0.0	0.066			COGEN

SOURCE TEST REVIEW

COMPANY	SIERRA POWER	REVIEWED	GL
TEST DATE	6/8/2012	DATE	8/20/2012
PERMIT#	S-834-3-6	REV AA	
UNIT ID	BIOMASS BOILER COGEN		
EQUIP DESCRIPTION			

INPUT RATED @					INPUT HP				
MEASURED STACK Q	42431								
FUEL DATA	NAT. GAS		WASTE		OIL		SOLID		
BTU/CF				btu/gal			btu/lb		
F-FACTOR	9240						f-factor	9240	
H2S ppm							lb/hr		
RATE MCFD				gal/min			ton/hr	10	
MCF/HR	0.00		0.00	gal/hr	0		ton/day	240	
INPUT IN MMBTU/HR	0.00		0.00		0.00		mmbtu/hr	0	
THROTTLE	#DIV/0!						DSCFM	0	

CEM DATA	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	gm/BHp-Hr	lb/MMscf	Wt. F-F lb/MMBTU	lbs/day	@19%O2
O2 %		0.8565	0.2823							0.0909
NOx		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
CO		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
SO2		0.00	0.00	0.00	0.0000	0.000	0.00	#DIV/0!	0.00	0.0000
SO2 BY FUEL				0.00	#DIV/0!					
Q-std CALCULATED	42431		WT. F-F	#DIV/0!						

FGR % CALCULATION (Temp's or O2)			
Tw		BY O2	
Ta		O2w	
Ts		O2s	
%FRG =	#DIV/0!	%FRG=	100.00
DESTRUCTION %			
INLET			
OUTLET			
% DESTR=	#DIV/0!		

HYDROCARBONS	RAW ppm	ppm as CH4	lb/hr	lb/hr CH4	gm/bHP-HR	lb/MMBTU	lbs/day	lb/hp-hr
VOC METHANE	1196	1196.00	128.53	128.53				
ETHANE	2.05	3.83	0.41	0.41				
PROPANE	0	0.00	0.00	0.00				
BUTANE	0	0.00	0.00	0.00				
PENTANE	0	0.00	0.00	0.00				
HEXANE	0	0.00	0.00	0.00				
TOTAL VOC	1198.05	1199.83	128.95	128.95	1.769	#DIV/0!	3094.68	0.0039
TOTAL NonMeth/Eth.	0	0.00	0.00	0.00	0.000	0.0000	0.00	0.0000
VOC @ 3% & 15%		0.00	0.00					

PARTICULATE M-5	gr/dscf = 0.01691		lb/hr = 5.971		lb/mmbtu= 0.0355		lbs/day= 143.30		gr/dscf12%=	0.0147
Vm (meter vol)	45.81	%CO2	13.77	Vmstd	43.626					
Vlc (vol. of H2O)	236.3	%O2	7.77	Bws	0.203					
Y (meter calib.)	0.9957	Cp	0.836	Md	30.514	Temp F =	271		lb/hr	
Pbar (barom. press)	29.95	dp	0.95	Ms	27.972	Temp R =	731		ton/hr	
Pg (stack static press)	0.15	Ts	798	Q(dscfm)	41198.19	Nozz.dia	18		lb/ton	#DIV/0!
H (meter diff. press.)	1.19	An	2.91E-04	Iso	99.27	An =	1.76714438	Dry Q-lb/hr=	195762.5	
Tm (abs. meter temp)	554	sample time	72	Vs	66.25			Wet Q-lb/hr=	225204.6	
A (stack area sqft)	19.63	part. (mg)	47.8	Q-acfm	78033	Q wet scfm	51702	dscmm=	1166.7	

USE B11, B27 OR F46 FOR LB/HR PPM CALC. IN EQUATION

SO2/SO4	Vsoln	Va	Vt-Vtb	Normality	lb/dscf	lb/hr	lb/mmbtu	Vmstd	ppm
SO2 METHOD 6	9				#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
SO4 m-8 nozzle/probe	5				#DIV/0!	#DIV/0!	#DIV/0!	ENTER ^	#DIV/0!
filter	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
cond.	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
				total SO4	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!

Other Compounds	MW	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	lb/day			
O2 %	14.2		2.67	0.88						
CO2	44.00		0.00	0.00	0.00	0.0000	0.00			
METHANOL	32.04		0.00	0.00	0.00	0.0000	0.00			
FORMALDEHYDE	30.03		0.00	0.00	0.00	0.0000	0.00			
Enter Qstd										
F-Factor							ppm 3%=	0.51544137		
NH3	mg=	0.24	Vmstd =	19.57	ppm =	0.6	ppm 15% =	0.2	lb/hr =	0

MW ethanol = 46.07 Methanol = 32.04

San Joaquin Valley Air Pollution Control District

Source Test Results

Company: SIERRA POWER CORPORATION **Test Date:** 06/05/2013 **Pass** ☒ **Fail** ☐

Permit#: S-834-3-6 **FacilityID:** 834 **Unit ID:** COGEN

Witnessed By: LAFOREG **Area Inspector:**GOONR

Reason For Testing:

Annual ☒ Initial ☐ CGA ☐ RATA ☐ Stationary/RATA ☒ QTR: 2
ReTest ☐ RepTest ☐ AMS ☐ Dist Performed ☐ Unit Dormant ☐
Postponed ☐

Test Company: ENVIRONMENTAL SERVICES & TESTING **Project Number:** EST-834-060613

Next Test: 6/21/2014 **Test Company Contact:** Mr. James Taplin

Equipment: 9.4 MW BIOMASS FIRED BOILER W/ NH3/SCR, ESP, CEM, FGR, MULTICYCLONES

Equipment Type: Boiler **Input Rate:** 171.0 MMBTU **Output Rate:** 9.4 MW

Control Equipment:

Catalyst ☐ Scrubber ☐ Baghouse ☐ FGR ☒ O2 ☐
LoNOx ☐ Incin ☐ ESP ☒ H2O/Stm Inj ☐ NH3/SCR ☒
DLN ☐ PSC ☐ PCC ☐ Rich Burn ☐ Lean Burn ☐
Cyclone ☒ TEOR-Gas ☐

Fuel Data And Operational Data:

Fuel Type: BIOMASS **F-Factor:** 9240 **BTU:** **Fuel Rate:** 10.0 TPH
Second Fuel: **O2 % Stack:** 8.7 **Stack Flow:** 33854 **Process Rate:**

Comments:

COGEN ANNUAL

Enforcement Action: ☐ **NOV#:**

Report Rec: 07/30/2013 **Reviewed By:** LAFOREG **Results Sent Date:**

Test Results:

Pollutant	Unit	Result	Limit	O2 Correction	Failed	Unit ID
CO	lbs/MMBtu	0.2377	0.312			COGEN
CO	ppm	303.0	400.0	3		COGEN
CO RATA	ppm	5.02	10.0	3		COGEN
Flow RATA	dscfm	7.75	20.0			COGEN
NH3	ppm	2.25	10.0	15		COGEN
NOx	lbs/MMBtu	0.098	0.108			COGEN
NOx	ppm	76.03	84.0	3		COGEN
NOx RATA	ppm	17.47	20.0	3		COGEN
O2 RATA	% Difference	0.52	1.0			COGEN
PM10	gr/dscf@12% CO2	0.012	0.016			COGEN
SO2	lb/MMBtu	0.0019	0.061			COGEN
VOC	lbs/MMBtu	0.0	0.066			COGEN

SOURCE TEST REVIEW

COMPANY	SIERRA POWER	REVIEWED	BEAR MTN
TEST DATE	05/2013	DATE	8/7/2013
PERMIT#	S-834-7-4	REV	AA
UNIT ID	BOILER		
EQUIP DESCRIPTION			

INPUT RATED @					INPUT HP					
MEASURED STACK Q	33854									
FUEL DATA	NAT. GAS		WASTE		OIL		SOLID			
BTU/CF				btu/gal			btu/lb			
F-FACTOR	9240						f-factor			
H2S ppm							lb/hr			
RATE MCFD				gal/min			ton/hr			
MCF/HR	0.00		0.00	gal/hr	0		ton/day	0		
INPUT IN MMBTU/HR	0.00		0.00		0.00		mmbtu/hr	0		
THROTTLE	#DIV/0!						DSCFM	0		

CEM DATA	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	gm/BHp-Hr	lb/MMscf	Wt. F-F	lbs/day	@19%O2
O2 %	8.93	1.4954	0.4929					lb/MMBTU		0.1587
NOx	51.05	76.34	25.16	12.39	0.0981	0.378	0.00	#DIV/0!	297.26	8.1032
CO	174	260.20	85.76	25.70	0.2036	0.785	0.00	#DIV/0!	616.73	27.6190
SO2	0.8	1.20	0.39	0.27	0.0021	0.008	0.00	#DIV/0!	6.48	0.1270
SO2 BY FUEL				0.00	#DIV/0!					
Q-std CALCULATED	33854		WT. F-F	#DIV/0!						

FGR % CALCULATION (Temp's or O2)		
Tw		BY O2
Ta		O2w
Ts		O2s
%FRG =	#DIV/0!	%FRG= 100.00

DESTRUCTION %	
INLET	116.7
OUTLET	0.24
% DESTR=	99.79

HYDROCARBONS	RAW ppm	ppm as CH4	lb/hr	lb/hr CH4	gm/bHP-HR	lb/MMBTU	lbs/day	lb/hp-hr
VOC METHANE	1158	1158.00	99.12	99.12				
ETHANE	2.21	4.32	0.37	0.37				
PROPANE	0	0.00	0.00	0.00				
BUTANE	0	0.00	0.00	0.00				
PENTANE	0	0.00	0.00	0.00				
HEXANE	0	0.00	0.00	0.00				
TOTAL VOC	1158.31	1160.32	99.49	99.49	2.986	#DIV/0!	2387.81	0.0066
TOTAL NonMeth/Eth.	0	0.00	0.00	0.00	0.000	0.0000	0.00	0.0000
VOC @ 3% & 15%		0.00	0.00					

PARTICULATE M-5	gr/dscf = 0.01375		lb/hr = 3.134		lb/mmbtu= 0.0323		lbs/day= 75.22		gr/dscf12%=	0.0120
Vm (meter vol)	54.54	%CO2	13.8	Vmstd	52.787					
Vlc (vol. of H2O)	283.4	%O2	6.57	Bws	0.202	Wet to Dry=	1.253			
Y (meter calib.)	0.9942	Cp	0.812	Md	30.575	Temp F =	294		lb/hr	
Pbar (barom. press)	29.94	dp	0.84	Ms	28.037	Temp R =	754		ton/hr	
Pg (stack static press)	0.11	Ts	829	Q(dscfm)	26602.47	Nozz dia	0.155		lb/ton	#DIV/0!
H (meter diff. press.)	0.95	An	3.88E-04	Iso	105.14	An =	0.00013104	Dry Q-lb/hr=	126659.5	
Tm (abs. meter temp)	544	sample time	96	Vs	43.90			Wet Q-lb/hr=	145510.2	
A (stack area sqft)	33.63	part. (mg)	67	Q-acfm	51710	Q wet scfm	33328	dscmm=	753.9	

USE BTU BASED F-FACTOR LB/HR PPM CALC IN EQUATION

SO2/SO4	Vsoln	Va	Vt-Vb	Normality	lb/dscf	lb/hr	lb/mmbtu	Vmstd	ppm
SO2 METHOD 6	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
SO4 m-8 nozzle/probe	5				#DIV/0!	#DIV/0!	#DIV/0!	ENTER ^	#DIV/0!
filter	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
cond.	5	1			#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!
				total SO4	#DIV/0!	#DIV/0!	#DIV/0!		#DIV/0!

Other Compounds	MW	RAW ppm	@3% O2	@15% O2	lb/hr	lb/MMBTU	lb/day		SO2 Audit
O2 %			8.86	0.28				mg/dscm =	#DIV/0!
CO2	44.00		0.00	0.00	0.00	0.0000	0.00	ppm =	171.83
METHANOL	46.05		0.00	0.00	0.00	0.0000	0.00	test ppm =	#DIV/0!
FORMALDEHYDE	30.03		0.00	0.00	0.00	0.0000	0.00	% accuracy=	12.70
Enter Qstd	195809								
F-Factor							ppm 3%=	6.33258595	
NH3	mg=	1.75	Vmstd =	20.28	ppm =	4.2	ppm 15% =	2.1	lb/hr = 2.231437

MW ethanol = 46.07 Methanol = 32.04

Attachment C

Fuel Consumption Records

Information for GHG Report for CY 2011

Sierra Power Fuel Consumption for 2009		
Outside purchases - Ag and Urban		67.485 BDT
SFP Sawmill Chips		15,735 BDT
TOTAL		83,220 BDT
Total Steam Produced 750 degrees@ 600PSI		616,632,300#
Electricity Sold	SFP	5,368,900 kw
	PG&E	47,162,000 kw
	TOTAL	52,530,990 kw
Steam Sold to SFP		65,722,672 #
Electricty Purchased from SCE		240,071 kw

No natural gas used

2011 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,056.00	$ 31,680.00	6,579.35	$ 197,363.95	7,635.35	$ 229,043.95
February	1,245.61	$ 37,368.30	6,566.20	$ 193,418.87	7,811.81	$ 230,787.17
March	1,288.14	$ 38,644.20	6,108.07	$ 181,329.09	7,396.21	$ 219,973.29
April	1,359.96	$ 40,798.80	6,201.83	$ 181,803.99	7,561.79	$ 222,602.79
May	998.73	$ 29,961.90	2,765.16	$ 79,029.84	3,763.89	$ 108,991.74
June	1,449.29	$ 43,478.70	6,274.11	$ 187,858.50	7,723.40	$ 231,337.20
July	1,749.77	$ 52,493.10	5,145.49	$ 151,222.46	6,895.26	$ 203,715.56
August	1,383.62	$ 27,672.40	3,652.64	$ 102,921.56	5,036.26	$ 130,593.96
September	2,525.44	$ 50,508.80	5,726.78	$ 168,075.54	8,252.22	$ 218,584.34
October	1,835.12	$ 36,702.40	6,080.19	$ 180,817.98	7,915.31	$ 217,520.38
November	131.39	$ 2,627.80	5,635.44	$ 171,018.88	5,766.83	$ 173,646.68
December	712.46	$ 14,249.20	6,749.44	$ 207,179.14	7,461.90	$ 221,428.34
Totals	15,735.53	$ 406,185.60	67,484.70	$ 2,002,039.80	83,220.23	$ 2,408,225.40
	18.91%	16.87%	81.09%	83.13%		

Inv @ 12/31/10 4071 BDT
Inv. @ 12/31/11 <2821>
1,250
Plus Purchases 66,235
Usage 2011 67,486 BDT

	SPC's 2011 SCE Bill	Portion of SPC's bill that was consumed by the sawmill
January 2011	38,680 kw	—
February	10,026	—
March	41,218	20,600 kw
April	42,839	19,300
May	78,728	64,900
June	34,796	11,200
July	27,860	11,700
August	100,492	67,400
September	16,112	9,600
October	9,041	4,200
November	133,123	93,900
December	63,956	54,000
TOTAL	596,871 kw	356,800 kw

Actual use by Sierra Power 240,071 kw

Data for GHG Calculations for 2012 - Sierra Power Corporation

Fuel Consumed

Ag	34,018 BDT
Urban	33,055 BDT
Sawmill Residue	12,328 BDT
TOTAL	79,401 BDT

Sierra Power boiler operates @ 95,000#/hr, 600 psi, 750 degree steam - 656,264,000# of steam generated in 2012

The gross generation for 2012 was 59,014,000 kw

175,931 kw purchased from SCE for start ups etc

SPC sold 49,352,704 kw to PG&E and 5,335,300 to Sierra Forest Products

SPC sold 65,904,554# of steam to Sierra Forest Products's dry kilns to dry lumber

2012 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	186.50	$ 3,730.00	6,237.73	$ 181,818.07	6,424.23	$ 185,548.07
February	862.65	$ 17,253.00	6,061.64	$ 188,151.96	6,924.29	$ 205,404.96
March	1,071.56	$ 21,431.20	5,774.76	$ 177,679.02	6,846.32	$ 199,110.22
April	890.53	$ 17,810.60	7,446.09	$ 218,886.60	8,336.62	$ 236,697.20
May	200.48	$ 4,009.60	5,154.07	$ 149,766.30	5,354.55	$ 153,775.90
June	1,000.01	$ 20,000.20	4,889.39	$ 142,794.17	5,889.40	$ 162,794.37
July	1,014.53	$ 20,290.60	6,080.65	$ 180,474.86	7,095.18	$ 200,765.46
August	987.40	$ 19,748.00	6,672.25	$ 193,543.40	7,659.65	$ 213,291.40
September	1,663.91	$ 33,278.20	4,293.99	$ 126,282.54	5,957.90	$ 159,560.74
October	1,739.89	$ 34,797.80	4,697.17	$ 140,610.44	6,437.06	$ 175,408.24
November	1,823.99	$ 36,479.80	5,082.75	$ 151,122.62	6,906.74	$ 187,602.42
December	886.08	$ 17,721.60	4,682.79	$ 141,518.61	5,568.87	$ 159,240.21
Totals	12,327.53	$ 246,550.60	67,073.28	$ 1,992,648.59	79,400.81	$ 2,239,199.19
	15.53%	11.01%	84.47%	88.99%		

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds

Fuel Consumption

Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

2013 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,220.54	$ 24,410.80	6,602.01	$ 198,583.94	7,822.55	$ 222,994.74
February	1,123.37	$ 22,467.40	6,716.81	$ 203,945.59	7,840.18	$ 226,412.99
March	713.21	$ 14,264.20	4,039.83	$ 123,662.31	4,753.04	$ 137,926.51
April	1,437.99	$ 28,759.80	4,883.77	$ 147,008.13	6,321.76	$ 175,767.93
May	715.64	$ 14,312.80	3,069.44	$ 92,902.15	3,785.08	$ 107,214.95
June	1,273.39	$ 25,467.80	5,885.56	$ 176,805.94	7,158.95	$ 202,273.74
July	1,170.25	$ 23,405.00	4,837.66	$ 145,268.92	6,007.91	$ 168,673.92
August	1,528.48	$ 30,569.60	4,733.80	$ 142,650.51	6,262.28	$ 173,220.11
September	1,941.44	$ 38,828.80	4,031.34	$ 121,950.15	5,972.78	$ 160,778.95
October	1,167.62	$ 23,352.40	3,805.72	$ 112,458.18	4,973.34	$ 135,810.58
November	1,135.73	$ 22,714.60	6,753.50	$ 210,095.30	7,889.23	$ 232,809.90
December	428.22	$ 8,564.40	8,145.08	$ 253,678.00	8,573.30	$ 262,242.40
Totals	13,855.88	$ 277,117.60	63,504.52	$ 1,929,009.12	77,360.40	$ 2,206,126.72
	17.91%	12.56%	82.09%	87.44%		

Richard Wilson

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Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
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2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds

Fuel Consumption

Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

Month	Ag	Urban
Jan	3255.37	3744.48
Feb	4918.42	2526.66
Mar	1909.24	1195.55
Apr	1744.28	1045.55
May	3995.45	1191.38
Jun	2791.23	1397.32
Jul	3034.09	1374.67
Aug	2560.21	1481.47
Sep	2619.79	1790.35
Oct	1715.21	2121.71
Nov	5069.36	2745.94
Dec	6675.19	2111.24
TOTAL	40287.84	22726.32

2013 Grand Total 63014.16

2013	Ag	Urban	Chips
Beginning Inventory	13.75	1047.3	
Purchased	40287.84	22726.32	
Ending Inventory	1625.25	1119.6	
Total Used	38676.34	22654.02	13856
Grand Total	**75186.36**		

MONTHLY DELIVERIES

	AG BDT			URBAN BDT		
				576.31	DWF	
	3255.37	Wilson Ag		3168.17	Forwood	
JAN			3255.37			3744.48
				182.72	DWF	
	4918.42	Wilson Ag		2343.94	Forwood	
FEB			4918.42			2526.66
				248.13	DWF	
	1909.24	Wilson Ag		947.42	Forwood	
MAR			1909.24			1195.55
				274	DWF	
	1744.28	Wilson Ag		771.55	Forwood	
APR			1744.28			1045.55
				333.39	DWF	
	3995.45	Wilson Ag		857.99	Forwood	
MAY			3995.45			1191.38
	2791.23	Wilson Ag		124.05	DWF	
				1273.27	Evergreen	
JUN			2791.23			1397.32
	3034.09	Wilson Ag		96.31	DWF	
				1278.36	Evergreen	
JUL			3034.09			1374.67
	61.9	Hogans		117.24	DWF	
	2498.31	Wilson Ag		408.37	Viramontes	
				955.86	Evergreen	
AUG			2560.21			1481.47
	2619.79	Wilson Ag		157.72	Viramontes	
				41.4	DWF	
				1591.23	Evergreen	
SEPT			2619.79			1790.35
	1715.21	Wilson Ag		106.02	DWF	
				2015.69	Evergreen	
OCT			1715.21			2121.71

DELIEVERIES
BY
SUPPLIER

	25.46	Crossroads	219.33	Viramontes
	17.61	Pacific Coast	43.98	DWF
	107.99	JT Ag	2482.63	Evergreen
	606.22	West Coast Sand		
	4312.08	Wilson Ag		
NOV		5069.36		2745.94
	675.74	JT AG		
	489.17	West Coast Sand	73.36	DWF
	2118.4	Hogans	2037.88	Evergreen
	3391.88	Wilson Ag		
DEC		**6675.19**		**2111.24**
TOTALS		**40287.84**		**22726.32**
	2013 Total	**63014.16**		

Attachment D

Calculation of Monthly Fuel Consumption

	Fuel Purchase (BDT)		Percentage of Consumption by Month		Calculated Fuel Consumption (BDT)		Calculated Fuel Consumption (MMBtu)	
	2012	2013	2012	2013	2012	2013	2012	2013
January	6,237.73	6,602.01	9.30%	10.40%	7,384	7,819	99,875	99,555
February	6,061.64	6,716.81	9.04%	10.58%	7,176	7,954	97,056	101,287
March	5,774.76	4,039.83	8.61%	6.36%	6,836	4,784	92,462	60,919
April	7,446.09	4,883.77	11.10%	7.69%	8,815	5,784	119,223	73,645
May	5,154.07	3,069.44	7.68%	4.83%	6,101	3,635	82,524	46,286
June	4,889.39	5,885.56	7.29%	9.27%	5,788	6,970	78,286	88,752
July	6,080.65	4,837.66	9.07%	7.62%	7,198	5,729	97,360	72,950
August	6,672.25	4,733.80	9.95%	7.45%	7,899	5,606	106,833	71,384
September	4,293.99	4,031.34	6.40%	6.35%	5,083	4,774	68,753	60,791
October	4,697.17	3,805.72	7.00%	5.99%	5,560	4,507	75,209	57,389
November	5,082.75	6,753.50	7.58%	10.63%	6,017	7,998	81,382	101,840
December	4,682.79	8,145.08	6.98%	12.83%	5,543	9,646	74,978	122,824
Total	67,073.28	63,504.52	100%	100%	79,401	75,206	1,073,943	957,621

Attachment E

Heating Values of Wood Products

Emission Factors for Greenhouse Gas Inventories

Last Modified: 4 April 2014

Red text indicates an update from the 2011 version of this document.

Typically, greenhouse gas emissions are reported in units of carbon dioxide equivalent (CO_2e). Gases are converted to CO_2e by multiplying by their global warming potential (GWP). The emission factors listed in this document have not been converted to CO_2e. To do so, multiply the emissions by the corresponding GWP listed in the table below.

Gas	100-year GWP
CH_4	25
N_2O	298

Source: Intergovernmental Panel on Climate Change (IPCC), Fourth Assessment Report (AR4), 2007. See the source note to Table 9 for further explanation.

Table 1 Stationary Combustion Emission Factors

Fuel Type	Heating Value	CO_2 Factor	CH_4 Factor	N_2O Factor	CO_2 Factor	CH_4 Factor	N_2O Factor	Unit
	mmBtu per short ton	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per short ton	g CH_4 per short ton	g N_2O per short ton	
Coal and Coke								
Anthracite Coal	25.09	103.65	11	1.6	2,602	276	40	short tons
Bituminous Coal	24.93	93.28	11	1.6	2,325	274	40	short tons
Sub-bituminous Coal	17.25	97.17	11	1.6	1,676	190	28	short tons
Lignite Coal	14.21	97.72	11	1.6	1,389	156	23	short tons
Mixed (Commercial Sector)	21.39	94.27	11	1.6	2,016	235	34	short tons
Mixed (Electric Power Sector)	19.73	95.52	11	1.6	1,885	217	32	short tons
Mixed (Industrial Coking)	26.28	93.90	11	1.6	2,468	289	42	short tons
Mixed (Industrial Sector)	22.35	94.07	11	1.6	2,116	246	36	short tons
Coal Coke	24.80	113.67	11	1.6	2,819	273	40	short tons
Fossil Fuel-derived Fuels (Solid)								
Municipal Solid Waste	9.95	90.70	32	4.2	902	318	42	short tons
Petroleum Coke (Solid)	30.00	102.41	32	4.2	3,072	960	126	short tons
Plastics	38.00	75.00	32	4.2	2,850	1,216	160	short tons
Tires	28.00	85.97	32	4.2	2,407	896	118	short tons
Biomass Fuels (Solid)								
Agricultural Byproducts	8.25	118.17	32	4.2	975	264	35	short tons
Peat	8.00	111.84	32	4.2	895	256	34	short tons
Solid Byproducts	10.39	105.51	32	4.2	1,096	332	44	short tons
Wood and Wood Residuals	17.48	93.80	72	7.2	1,640	126	63	short tons
	mmBtu per scf	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per scf	g CH_4 per scf	g N_2O per scf	
Natural Gas								
Natural Gas (per scf)	0.001026	53.06	1.0	0.10	0.05444	0.00103	0.00010	scf
Fossil-derived Fuels (Gaseous)								
Blast Furnace Gas	0.000092	274.32	0.022	0.10	0.02524	0.000002	0.000009	scf
Coke Oven Gas	0.000599	46.85	0.48	0.10	0.02806	0.000288	0.000060	scf
Fuel Gas	0.001388	59.00	3.0	0.60	0.08189	0.004164	0.000833	scf
Propane Gas	0.002516	61.46	0.022	0.10	0.15463	0.000055	0.000252	scf
Biomass Fuels (Gaseous)								
Landfill Gas	0.000485	52.07	3.2	0.63	0.025254	0.001552	0.000306	scf
Other Biomass Gases	0.000655	52.07	3.2	0.63	0.034106	0.002096	0.000413	scf
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per gallon	g CH_4 per gallon	g N_2O per gallon	
Petroleum Products								
Asphalt and Road Oil	0.158	75.36	3.0	0.60	11.91	0.47	0.09	gallon
Aviation Gasoline	0.120	69.25	3.0	0.60	8.31	0.36	0.07	gallon
Butane	0.103	64.77	3.0	0.60	6.67	0.31	0.06	gallon
Butylene	0.105	68.72	3.0	0.60	7.22	0.32	0.06	gallon
Crude Oil	0.138	74.54	3.0	0.60	10.29	0.41	0.08	gallon
Distillate Fuel Oil No. 1	0.139	73.25	3.0	0.60	10.18	0.42	0.08	gallon
Distillate Fuel Oil No. 2	0.138	73.96	3.0	0.60	10.21	0.41	0.08	gallon
Distillate Fuel Oil No. 4	0.146	75.04	3.0	0.60	10.96	0.44	0.09	gallon
Ethane	0.068	59.60	3.0	0.60	4.05	0.20	0.04	gallon
Ethylene	0.058	65.96	3.0	0.60	3.83	0.17	0.03	gallon
Heavy Gas Oils	0.148	74.92	3.0	0.60	11.09	0.44	0.09	gallon
Isobutane	0.099	64.94	3.0	0.60	6.43	0.30	0.06	gallon
Isobutylene	0.103	68.86	3.0	0.60	7.09	0.31	0.06	gallon
Kerosene	0.135	75.20	3.0	0.60	10.15	0.41	0.08	gallon
Kerosene-type Jet Fuel	0.135	72.22	3.0	0.60	9.75	0.41	0.08	gallon
Liquefied Petroleum Gases (LPG)	0.092	61.71	3.0	0.60	5.68	0.28	0.06	gallon
Lubricants	0.144	74.27	3.0	0.60	10.69	0.43	0.09	gallon
Motor Gasoline	0.125	70.22	3.0	0.60	8.78	0.38	0.08	gallon
Naphtha (<401 deg F)	0.125	68.02	3.0	0.60	8.50	0.38	0.08	gallon
Natural Gasoline	0.110	66.88	3.0	0.60	7.36	0.33	0.07	gallon
Other Oil (>401 deg F)	0.139	76.22	3.0	0.60	10.59	0.42	0.08	gallon
Pentanes Plus	0.110	70.02	3.0	0.60	7.70	0.33	0.07	gallon
Petrochemical Feedstocks	0.125	71.02	3.0	0.60	8.88	0.38	0.08	gallon
Petroleum Coke	0.143	102.41	3.0	0.60	14.64	0.43	0.09	gallon
Propane	0.091	62.87	3.0	0.60	5.72	0.27	0.05	gallon
Propylene	0.091	65.95	3.0	0.60	6.00	0.27	0.05	gallon
Residual Fuel Oil No. 5	0.140	72.93	3.0	0.60	10.21	0.42	0.08	gallon
Residual Fuel Oil No. 6	0.150	75.10	3.0	0.60	11.27	0.45	0.09	gallon
Special Naphtha	0.125	72.34	3.0	0.60	9.04	0.38	0.08	gallon
Still Gas	0.143	66.72	3.0	0.60	9.54	0.43	0.09	gallon
Unfinished Oils	0.139	74.54	3.0	0.60	10.36	0.42	0.08	gallon
Used Oil	0.138	74.00	3.0	0.60	10.21	0.41	0.08	gallon
Biomass Fuels (Liquid)								
Biodiesel (100%)	0.128	73.84	1.1	0.11	9.45	0.14	0.01	gallon
Ethanol (100%)	0.084	68.44	1.1	0.11	5.75	0.09	0.01	gallon
Rendered Animal Fat	0.125	71.06	1.1	0.11	8.88	0.14	0.01	gallon
Vegetable Oil	0.120	81.55	1.1	0.11	9.79	0.13	0.01	gallon
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu				
Steam and Hot Water								
Steam and Hot Water		66.33	4.250	0.125				mmBtu

Source:

Solid, gaseous, liquid and biomass fuels: Federal Register (2009) EPA, *40 CFR Parts 86, 87, 89 et al: Mandatory Reporting of Greenhouse Gases: Final Rule*, 30Oct09, 261 pp. Tables C-1 and C-2 at FR pp. 56409-56410. Revised emission factors for selected fuels: Federal Register (2010) EPA, 40 CFR Part 98, Mandatory Reporting of Greenhouse Gases, Final Rule, 17Dec10, 81 pp. With Amendments from Memo: Table of Final 2013 Revisions to the Greenhouse Gas Reporting Rule (PDF) to 40 CFR part 98, subpart C: Table C–1 to Subpart C—Default CO2 Emission Factors and High Heat Values for Various Types of Fuel and Table C–2 to Subpart C—Default CH4 and N2O Emission Factors for Various Types of Fuel

Steam and Hot Water: EPA (2008) *Climate Leaders Greenhouse Gas Inventory Protocol Core Module Guidance - Indirect Emissions from Purchases/Sales of Electricity and Steam*. Assumption: 80% boiler efficiency and fuel type assumed natural gas. Factors are per mmBtu of steam or hot water purchased.

http://www.epa.gov/ghgreporting/documents/pdf/2013/documents/memo-2013-technical-revisions.pdf

http://www.epa.gov/ghgreporting/reporters/subpart/c.html

Attachment F

Draft Emission Reduction Credit Certificates

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-2

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For NOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
22,809 lbs	20,168 lbs	19,717 lbs	21,221 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-3

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For CO Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
54,424 lbs	47,737 lbs	46,597 lbs	50,405 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-4

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For PM10 Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
7,619 lbs	6,656 lbs	6,491 lbs	7,040 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

San Joaquin Valley
Air Pollution Control District

Southern Regional Office • 34946 Flyover Court • Bakersfield, CA 93308

Emission Reduction Credit Certificate

DRAFT

S-4585-5

ISSUED TO: SIERRA POWER CORPORATION

ISSUED DATE: <DRAFT>

LOCATION OF REDUCTION: 9000 ROAD 234
TERRA BELLA, CA

For SOx Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
5,028 lbs	4,439 lbs	4,338 lbs	4,674 lbs

[ ] Conditions Attached

Method Of Reduction

[ ] Shutdown of Entire Stationary Source
[X] Shutdown of Emissions Units
[ ] Other

Shutdown of cogeneration with biomass-fired boiler (S-834-3) and associated fuel handling and solid handling equipment (S-834-1, -6, and -10)

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

Arnaud Marjollet, Director of Permit Services

Jun 23 2015 8:24AM – RAMIREZH

Homero Ramirez

From: Gunnar D. Tornstrom <GunnarT@wziinc.com>
Sent: Tuesday, January 20, 2015 11:11 AM
To: Homero Ramirez
Subject: RE: Sierra Power S-834
Attachments: 2013 data.pdf; Fuel Consumption 2013.pdf; Fuel Consumption 2012.pdf; Fuel consumption 2011.pdf

Good Afternoon Homero,

Attached you will find month to month reports of fuel consumption as well as the GHG data (email numbers). These numbers differ because the month to month reports do not have the ending inventory of fuel (inventory purchased but not used) removed as shown on page two in the *2013 data.pdf*. This is the source data you were looking for to back up the GHG data.

Example: In the *Fuel consumption 2013.pdf* the difference in the highlighted numbers (77,360.40 and 75,206 BDT) is the amount of unused inventory, which is why the 75,206 number was used.

If you have any questions let me know, thanks,

Gunnar D. Tornstrom

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Friday, January 16, 2015 11:05 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Thank you. I work on the project under the assumption that those numbers will be documented.

Also, do you have the assumptions/calculations for the fugitive emissions?

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Friday, January 16, 2015 10:49 AM
To: Homero Ramirez
Subject: RE: Sierra Power S-834

Homero,

I found the Sierra Power's Fuel consumption per year per month. Which I believe is what you were looking for. As soon as I have all the years, I will send you the information, sorry about the confusion,

Gunnar

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, January 07, 2015 7:45 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Gunnar,

Thank you for the source data. Do you have more substantial documentation than just the emails? I was hoping for some more documentation to include in the evaluation.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616
Fax (661) 392-5585

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Monday, January 05, 2015 2:01 PM
To: Homero Ramirez
Subject: FW: Sierra Power S-834

From: Richard Wilson
Sent: Monday, January 05, 2015 1:58 PM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Here is the source data: These are the summary data sheets for each year that were used to report GHGs to CARB under AB32 (these numbers have all been 3rd party verified). The confusion may lie in the fact that some of the fuel categorized as "wood waste" is sawmill chips coming from Sierra Forest Products, not from an outside supplier.

From: Gunnar D. Tornstrom
Sent: Monday, January 05, 2015 1:30 PM
To: Richard Wilson
Subject: FW: Sierra Power S-834

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Monday, January 05, 2015 11:03 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Good morning Gunnar.

I was working on the evaluation, and I noticed that some of the fuel usage numbers used in the application do not seem to match some of the fuel consumption records provided. The calculation in the application have fuel use information for ag and wood waste, but I can't match them to records provided. Do you have the records for the numbers specified in the evaluation?

If you have any questions, please let me know.

Thank you.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616
Fax (661) 392-5585

HEALTHY AIR LIVING
www.healthyairliving.com
Make one change for clean air!

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Monday, January 05, 2015 9:48 AM
To: Homero Ramirez
Subject: RE: Sierra Power S-834

Good morning Homero,

May I have an update on the status of the ERC for Sierra Power S-834.

Thank you,

Gunnar Tornstrom
WZI Inc.
1717 28th St.
Bakersfield, CA 93301
Office: (661) 326-1112
Fax: (661) 326-0191
E-mail: gunnart@wziinc.com

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, November 19, 2014 8:47 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Gunnar,

I will be working on all those projects in the next few days. They have not been completed yet.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616

Fax (661) 392-5585

HEALTHY AIR LIVING

www.healthyairliving.com

Make one change for clean air!

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Wednesday, November 19, 2014 8:41 AM
To: Homero Ramirez
Subject: Sierra Power S-834

Homero,

Sierra power applied for Emission Reduction Credit (ERC) and it was deemed approved, all that was needed was the cancellations and transfer of ownership. Sierra Power would like the credits before the end of the year so any update would be greatly appreciated. The three items are:

- Permit cancellation
- Cancel of Title V permit
- Transfer of ownership

Please let me know the status of the ERC and the cancellations / transfer, thank you very much,

Gunnar Tornstrom
WZI Inc.
1717 28th St.
Bakersfield, CA 93301
Office: (661) 326-1112
Fax: (661) 326-0191
E-mail: gunnart@wziinc.com

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds
Fuel Consumption	
Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

Month	Ag	Urban
Jan	3255.37	3744.48
Feb	4918.42	2526.66
Mar	1909.24	1195.55
Apr	1744.28	1045.55
May	3995.45	1191.38
Jun	2791.23	1397.32
Jul	3034.09	1374.67
Aug	2560.21	1481.47
Sep	2619.79	1790.35
Oct	1715.21	2121.71
Nov	5069.36	2745.94
Dec	6675.19	2111.24
TOTAL	40287.84	22726.32

2013 Grand Total 63014.16

2013	Ag	Urban	Chips
Beginning Inventory	13.75	1047.3	
Purchased	40287.84	22726.32	
Ending Inventory	1625.25	1119.6	
Total Used	38676.34	22654.02	13856
Grand Total	**75186.36**		

MONTHLY DELIVERIES

	AG BDT			URBAN BDT		
				576.31	DWF	
	3255.37	Wilson Ag		3168.17	Forwood	
JAN			3255.37			3744.48
				182.72	DWF	
	4918.42	Wilson Ag		2343.94	Forwood	
FEB			4918.42			2526.66
				248.13	DWF	
	1909.24	Wilson Ag		947.42	Forwood	
MAR			1909.24			1195.55
				274	DWF	
	1744.28	Wilson Ag		771.55	Forwood	
APR			1744.28			1045.55
				333.39	DWF	
	3995.45	Wilson Ag		857.99	Forwood	
MAY			3995.45			1191.38
	2791.23	Wilson Ag		124.05	DWF	
				1273.27	Evergreen	
JUN			2791.23			1397.32
	3034.09	Wilson Ag		96.31	DWF	
				1278.36	Evergreen	
JUL			3034.09			1374.67
	61.9	Hogans		117.24	DWF	
	2498.31	Wilson Ag		408.37	Viramontes	
				955.86	Evergreen	
AUG			2560.21			1481.47
	2619.79	Wilson Ag		157.72	Viramontes	
				41.4	DWF	
				1591.23	Evergreen	
SEPT			2619.79			1790.35
	1715.21	Wilson Ag		106.02	DWF	
				2015.69	Evergreen	
OCT			1715.21			2121.71

DELIEVERIES
BY
SUPPLIER

	25.46	Crossroads	219.33	Viramontes
	17.61	Pacific Coast	43.98	DWF
	107.99	JT Ag	2482.63	Evergreen
	606.22	West Coast Sand		
	4312.08	Wilson Ag		
NOV		5069.36		2745.94
	675.74	JT AG		
	489.17	West Coast Sand	73.36	DWF
	2118.4	Hogans	2037.88	Evergreen
	3391.88	Wilson Ag		
DEC		**6675.19**		**2111.24**
TOTALS		**40287.84**		**22726.32**
	2013 Total	**63014.16**		

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
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Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds
Fuel Consumption	
Ag	38,676 BDT
Urban	22,674 BDT
Sawmill Chips	13,856 BDT
TOTAL	75,206 BDT

Let me know if you need other data.

Thanks,
Kent

2013 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,220.54	$ 24,410.80	6,602.01	$ 198,583.94	7,822.55	$ 222,994.74
February	1,123.37	$ 22,467.40	6,716.81	$ 203,945.59	7,840.18	$ 226,412.99
March	713.21	$ 14,264.20	4,039.83	$ 123,662.31	4,753.04	$ 137,926.51
April	1,437.99	$ 28,759.80	4,883.77	$ 147,008.13	6,321.76	$ 175,767.93
May	715.64	$ 14,312.80	3,069.44	$ 92,902.15	3,785.08	$ 107,214.95
June	1,273.39	$ 25,467.80	5,885.56	$ 176,805.94	7,158.95	$ 202,273.74
July	1,170.25	$ 23,405.00	4,837.66	$ 145,268.92	6,007.91	$ 168,673.92
August	1,528.48	$ 30,569.60	4,733.80	$ 142,650.51	6,262.28	$ 173,220.11
September	1,941.44	$ 38,828.80	4,031.34	$ 121,950.15	5,972.78	$ 160,778.95
October	1,167.62	$ 23,352.40	3,805.72	$ 112,458.18	4,973.34	$ 135,810.58
November	1,135.73	$ 22,714.60	6,753.50	$ 210,095.30	7,889.23	$ 232,809.90
December	428.22	$ 8,564.40	8,145.08	$ 253,678.00	8,573.30	$ 262,242.40
Totals	13,855.88	$ 277,117.60	63,504.52	$ 1,929,009.12	77,360.40	$ 2,206,126.72
	17.91%	12.56%	82.09%	87.44%		

63,505

(other records say 61,350) ?

Data for GHG Calculations for 2012 - Sierra Power Corporation

Fuel Consumed

Ag	34,018 BDT
Urban	33,055 BDT
Sawmill Residue	12,328 BDT
TOTAL	79,401 BDT

Sierra Power boiler operates @ 95,000#/hr, 600 psi, 750 degree steam - 656,264,000# of steam generated in 2012

The gross generation for 2012 was 59,014,000 kw

175,931 kw purchased from SCE for start ups etc

SPC sold 49,352,704 kw to PG&E and 5,335,300 to Sierra Forest Products

SPC sold 65,904,554# of steam to Sierra Forest Products's dry kilns to dry lumber

2012 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	186.50	$ 3,730.00	6,237.73	$ 181,818.07	6,424.23	$ 185,548.07
February	862.65	$ 17,253.00	6,061.64	$ 188,151.96	6,924.29	$ 205,404.96
March	1,071.56	$ 21,431.20	5,774.76	$ 177,679.02	6,846.32	$ 199,110.22
April	890.53	$ 17,810.60	7,446.09	$ 218,886.60	8,336.62	$ 236,697.20
May	200.48	$ 4,009.60	5,154.07	$ 149,766.30	5,354.55	$ 153,775.90
June	1,000.01	$ 20,000.20	4,889.39	$ 142,794.17	5,889.40	$ 162,794.37
July	1,014.53	$ 20,290.60	6,080.65	$ 180,474.86	7,095.18	$ 200,765.46
August	987.40	$ 19,748.00	6,672.25	$ 193,543.40	7,659.65	$ 213,291.40
September	1,663.91	$ 33,278.20	4,293.99	$ 126,282.54	5,957.90	$ 159,560.74
October	1,739.89	$ 34,797.80	4,697.17	$ 140,610.44	6,437.06	$ 175,408.24
November	1,823.99	$ 36,479.80	5,082.75	$ 151,122.62	6,906.74	$ 187,602.42
December	886.08	$ 17,721.60	4,682.79	$ 141,518.61	5,568.87	$ 159,240.21
Totals	12,327.53	$ 246,550.60	67,073.28	$ 1,992,648.59	79,400.81	$ 2,239,199.19
	15.53%	11.01%	84.47%	88.99%		

67,073 ✓
= Ag + Urban

Information for GHG Report for CY 2011

Sierra Power Fuel Consumption for 2009		
Outside purchases - Ag and Urban		67.485 BDT
SFP Sawmill Chips		15,735 BDT
TOTAL		83,220 BDT
Total Steam Produced 750 degrees@ 600PSI		616,632,300#
Electricity Sold	SFP	5,368,900 kw
	PG&E	47,162,000 kw
	TOTAL	52,530,990 kw
Steam Sold to SFP		65,722,672 #
Electricty Purchased from SCE		240,071 kw

No natural gas used

2011 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,056.00	$ 31,680.00	6,579.35	$ 197,363.95	7,635.35	$ 229,043.95
February	1,245.61	$ 37,368.30	6,566.20	$ 193,418.87	7,811.81	$ 230,787.17
March	1,288.14	$ 38,644.20	6,108.07	$ 181,329.09	7,396.21	$ 219,973.29
April	1,359.96	$ 40,798.80	6,201.83	$ 181,803.99	7,561.79	$ 222,602.79
May	998.73	$ 29,961.90	2,765.16	$ 79,029.84	3,763.89	$ 108,991.74
June	1,449.29	$ 43,478.70	6,274.11	$ 187,858.50	7,723.40	$ 231,337.20
July	1,749.77	$ 52,493.10	5,145.49	$ 151,222.46	6,895.26	$ 203,715.56
August	1,383.62	$ 27,672.40	3,652.64	$ 102,921.56	5,036.26	$ 130,593.96
September	2,525.44	$ 50,508.80	5,726.78	$ 168,075.54	8,252.22	$ 218,584.34
October	1,835.12	$ 36,702.40	6,080.19	$ 180,817.98	7,915.31	$ 217,520.38
November	131.39	$ 2,627.80	5,635.44	$ 171,018.88	5,766.83	$ 173,646.68
December	712.46	$ 14,249.20	6,749.44	$ 207,179.14	7,461.90	$ 221,428.34
Totals	15,735.53	$ 406,185.60	67,484.70	$ 2,002,039.80	83,220.23	$ 2,408,225.40
	18.91%	16.87%	81.09%	83.13%		

Inv @ 12/31/10 4071 BDT
Inv. @ 12/31/11 <2821>
1,250
Plus Purchases 66,235
Usage 2011 67,485 BDT

	SPC's 2011 SCE Bill	Portion of SPC's bill that was consumed by the sawmill
January 2011	38,680 kw	---
February	10,026	---
March	41,218	20,600 kw
April	42,839	19,300
May	78,728	64,900
June	34,796	11,200
July	27,860	11,700
August	100,492	67,400
September	16,112	9,600
October	9,041	4,200
November	133,123	93,900
December	63,956	54,000
TOTAL	596,871 kw	356,800 kw

Actual use by Sierra Power 240,071 kw

Homero Ramirez

From: Gunnar D. Tornstrom <GunnarT@wziinc.com>
Sent: Friday, January 16, 2015 4:06 PM
To: Homero Ramirez
Subject: RE: Sierra Power S-834

Homero,

WZI is going to have to do a revision on the Fugitive emissions section.
I will send you the month to month per year regarding the consumption as soon as I get them, thanks

Gunnar Tornstrom

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Friday, January 16, 2015 11:05 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Thank you. I work on the project under the assumption that those numbers will be documented.

Also, do you have the assumptions/calculations for the fugitive emissions?

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Friday, January 16, 2015 10:49 AM
To: Homero Ramirez
Subject: RE: Sierra Power S-834

Homero,

I found the Sierra Power's Fuel consumption per year per month. Which I believe is what you were looking for. As soon as I have all the years, I will send you the information, sorry about the confusion,

Gunnar

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, January 07, 2015 7:45 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Gunnar,

Thank you for the source data. Do you have more substantial documentation than just the emails? I was hoping for some more documentation to include in the evaluation.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616

Homero Ramirez

From: Gunnar D. Tornstrom <GunnarT@wziinc.com>
Sent: Friday, January 16, 2015 10:09 AM
To: Homero Ramirez
Cc: Richard Wilson
Subject: RE: Sierra Power S-834
Attachments: SP CARB 2013 GHG Report.pdf

Homero,

Attached is the GHG summary report. Will this be enough documentation?

Thanks,
Gunnar Tornstrom

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, January 07, 2015 7:45 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Gunnar,

Thank you for the source data. Do you have more substantial documentation than just the emails? I was hoping for some more documentation to include in the evaluation.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616
Fax (661) 392-5585

HEALTHY AIR LIVING
www.healthyairliving.com
Make one change for clean air!

From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Monday, January 05, 2015 2:01 PM
To: Homero Ramirez
Subject: FW: Sierra Power S-834

From: Richard Wilson
Sent: Monday, January 05, 2015 1:58 PM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Here is the source data: These are the summary data sheets for each year that were used to report GHGs to CARB under AB32 (these numbers have all been 3rd party verified). The confusion may lie in the fact that some of the fuel categorized as "wood waste" is sawmill chips coming from Sierra Forest Products, not from an outside supplier.

From: Gunnar D. Tornstrom
Sent: Monday, January 05, 2015 1:30 PM
To: Richard Wilson
Subject: FW: Sierra Power S-834

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Monday, January 05, 2015 11:03 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Good morning Gunnar.

I was working on the evaluation, and I noticed that some of the fuel usage numbers used in the application do not seem to match some of the fuel consumption records provided. The calculation in the application have fuel use information for ag and wood waste, but I can't match them to records provided. Do you have the records for the numbers specified in the evaluation?

If you have any questions, please let me know.

Thank you.

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From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Monday, January 05, 2015 9:48 AM
To: Homero Ramirez
Subject: RE: Sierra Power S-834

Good morning Homero,

May I have an update on the status of the ERC for Sierra Power S-834.

Thank you,

Gunnar Tornstrom
WZI Inc.
1717 28th St.
Bakersfield, CA 93301
Office: (661) 326-1112
Fax: (661) 326-0191
E-mail: gunnart@wziinc.com

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, November 19, 2014 8:47 AM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

Gunnar,

I will be working on all those projects in the next few days. They have not been completed yet.

Homero Ramirez
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Bakersfield, CA 93308
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From: Gunnar D. Tornstrom [mailto:GunnarT@wziinc.com]
Sent: Wednesday, November 19, 2014 8:41 AM
To: Homero Ramirez
Subject: Sierra Power S-834

Homero,

Sierra power applied for Emission Reduction Credit (ERC) and it was deemed approved, all that was needed was the cancellations and transfer of ownership. Sierra Power would like the credits before the end of the year so any update would be greatly appreciated. The three items are:

- Permit cancellation
- Cancel of Title V permit
- Transfer of ownership

Please let me know the status of the ERC and the cancellations / transfer, thank you very much,

Gunnar Tornstrom
WZI Inc.
1717 28th St.
Bakersfield, CA 93301
Office: (661) 326-1112
Fax: (661) 326-0191
E-mail: gunnart@wziinc.com

Facility Name:	**Sierra Power Corporation, 93270**
Facility ARB ID:	101178
Facility Reporting Year:	2013

Certification Statement:

The designated representative or alternate designated representative must sign (i.e., agree to) this certification statement. If you are an agent and you click on "SUBMIT", you are not agreeing to the certification statement, but are submitting the certification statement on behalf of the designated representative or alternate designated representative who is agreeing to the certification statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

Facility Representatives

Designated Representative:	Kent Duysen

Facility Location

Physical Address:	9000 Road 234
City:	Terra Bella
State / Province:	CA
ZIP / Postal Code:	93270
Country:	
Latitude:	35.95377
Longitude:	-119.04702
County:	TULARE
Air Basin:	SAN JOAQUIN VALLEY
District:	SAN JOAQUIN VALLEY UNIFIED APCD
Mailing Address:	9000 Road 234, P.O. Box 10060
City:	Terra Bella
State / Province:	CA
ZIP / Postal Code:	93270
Country:	

Payment Information (required if subject to AB 32 Cost of Implementation Fee Regulation)

Responsible Party for Payment:	
Responsible Party Email:	
Responsible Party Phone:	
Billing Address:	
City:	
State / Province:	
ZIP / Postal Code:	
Country:	

Owners / Operators

GHG Quantity

CO2 equivalent emissions (excluding biogenic) from subpart C - AA:	2,116.9914 Metric Tons
CO2 equivalent quantity from supplier categories, including biogenic (subparts MM - PP):	0 Metric Tons
Exempt Biogenic CO2 emissions from subpart C - AA:	106,594 Metric Tons
CO2 equivalent emissions from	0 Metric Tons

electric power entities:	
Covered CO2 equivalent emissions:	2,117 Metric Tons
De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	3,261.3 Metric Tons

General Facility Reporting Information

NAICS Codes

Primary:	321113 (Sawmills)
Second Primary:	
Additional:	

U.S. Parent Companies

Parent Company Name:	Sierra Power Corporation
Address:	9000 Rd. 234, Terra Bella, CA 93270
Percentage of Ownership Interest:	100%

GHG Report Start Date:	2013-01-01
GHG Report End Date:	2013-12-31
Explanation of any calculation methodology changes during the reporting year:	

EPA e-GGRT Facility IDs

532997

Full or Abbreviated GHG Report:	Full
Company or Entity qualifies for Small Business Status:	No
Confidential Data and Other Comments:	

Electricity Purchases/Acquisitions for Reporting Facilities (95104(d))

Electricity Provider's Name:	Southern California Edison (SCE)
Provider's ARB ID:	3005
Purchases/Acquisitions (MWh):	235.17

Natural Gas Purchases/Acquisitions for Reporting Facilities [95115(k), 95103(a)(1)]

Natural Gas Provider Name:	Southern California Gas Company (SCG)
Provider's ARB ID:	5002
Customer Number:	06691815002
Purchases/Acquisitions (MMBtu):	2,607

Disposition of Generated Thermal Energy For Other Users

From Non-Cogeneration/Bigeneration Units [95104(d)(4)]

Increases and Decreases in Facility Emissions [95104(f)]:

Have facility emissions increased or decreased more than five percent in relation to the previous data year?	No

Note: This section is not subject to the third-party verification requirements

Electricity Generation

Facility has the capacity to generate electricity:	Yes
CEC ID (if applicable):	10036
EIA ID (if applicable):	50068
FERC QFID (if applicable):	33R007
CAISO ID (if applicable):	N/A
Total Facility Nameplate Generating Capacity:	9.4 MW
Facility Type:	
Independently operated cogeneration facility co-located with the thermal host	
Facility's Energy Disposition:	Grid-dedicated facility

Disposition of Generated Electricity [95112(a)(4)]

Generated Electricity for Grid Disposition [95112(a)(4)(A)]

Unit, System Or Group Name	Cogen 1
Retail Provider/Marketer Name	Pacific Gas and Electric Company (PG&E)
Electricity Provided or Sold (MWh)	44,323

Generated Electricity for Other Users Disposition [95112(a)(4)(B)]

Unit, System Or Group Name	Cogen 1
End-User Name	Sierra Forest Products
ARB ID	
NAICS	
Electricity Provided or Sold (MWh)	5,182

Generated electricity used for other on-site industrial processes that are not in support of or a part of the power generation system:	
Reported emissions include emissions from a cogeneration/bigeneration unit:	Yes

Disposition of Generated Thermal Energy For Other Users From Cogeneration/Bigeneration Units [95112(a)(5)(A)]

Name Of System Or Units:	Cogen 1
End-User Name:	Sierra Forest Products
ARB ID:	
NAICS:	
Thermal Energy Provided or Sold (MMBtu):	73,013
Energy Product Provided:	
Parasitic Steam Use: Generated thermal energy used for supporting power production (excluding steam used directly for generating electricity) [95112(a)(5)(B)]:	0 MMBtu
Generated thermal energy for on-site industrial applications not related to electricity generation	0 MMBtu

[95112(a)(5)(C)]:

Description of the excluded data and an estimated magnitude of the excluded product(s) using best available methods [95103(l)]:

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	**Gas Quantity** (Metric Tons)
Methane	32.0813
Nitrous Oxide	4.2106
Carbon Dioxide	138
Exempt Biogenic Carbon dioxide	106,594

Total Covered CO2e Emissions: 2,117 (Metric Tons)

Emissions shown above that are claimed as De Minimis (CO2e): 0 Metric Tons

Unit Details

Unit Name: Backup Boiler

Configuration Type: Single Unit Using Tiers 1, 2, or 3

Unit Type: OB (Boiler, other)

Unit Description: Natural gas backup boiler

Individual Unit Details

Maximum Rated Heat Input Capacity: 32 mmBtu/hr

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? No

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons): 0

Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel:

Natural Gas (Weighted U.S. Average) - Natural Gas

Calculation Methodology: Tier 1 (Equation C-1a, natural gas billing in therms)

Methodology Start Date: 2013-01-01

Methodology End Date: 2013-12-31

Fuel Emission Details

Total CO2 emissions:	138.2443 Metric Tons
Total CH4 emissions:	0.0026 Metric Tons
Total N2O emissions:	0.0003 Metric Tons
Total CH4 emissions CO2e:	0.0548 Metric Tons
Total N2O emissions CO2e:	0.0808 Metric Tons

Equation Inputs

Annual Natural Gas Usage:	26,074 therms
Fuel Specific CO2 Emissions Factor:	53.02 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.001 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0001 kg N2O/MMBtu
Annual Volume of Fuel Combusted:	2,543,194 scf

Unit Name: Cogen 1

Configuration Type: Single Unit Using Tiers 1, 2, or 3

Unit Type: OFB (Fluidized bed, other)

Unit Description: Biomass Cogeneration unit

Individual Unit Details

Maximum Rated Heat Input Capacity:	171.2 mmBtu/hr

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity?	Yes
Is this configuration a Part 75 unit?	No
Nameplate Generating Capacity:	9.4 MW
Prime Mover Technology:	Boiler with Steam Turbine
Type of Thermal Energy Generation:	Cogeneration Topping Cycle
95112(b)(2): Gross Generation:	53,628 MWh
95112(b)(2): Net Generation:	49,505 MWh
95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration):	572,058 MMBtu
95112(b)(8): Other Steam Used for Electricity Generation:	0 MMBtu
95112(b)(8): Input Steam to the Steam Turbine (for bottoming cycle cogeneration units only)	747,055 MMBtu
95112(b)(8): Output of the Heat Recovery Steam Generator (for bottoming cycle cogeneration units only)	0 MMBtu
95112(e): Geothermal Steam Utilized:	0 MMBtu
95112(f): Stationary Hydrogen Fuel Cell: Fuel Type and Provider (if not reported elsewhere)	
Additional Comments and Information	

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons):	106,594.3
Annual CO2 emissions from sorbent (metric tons):	0

Fuel-Specific Emissions Information

Fuel:	**Urban Waste - Biomass-Derived Fuels - Solid**
Calculation Methodology:	Tier 2 (Equation C-2c, steam generation)
Methodology Start Date:	2013-01-01
Methodology End Date:	2013-12-31

Frequency of HHV determinations:

Fuel Emission Details

Total CO2 emissions:	45,673.7872 Metric Tons
Total CH4 emissions:	15.5817 Metric Tons
Total N2O emissions:	2.0451 Metric Tons
Total CH4 emissions CO2e:	327.2152 Metric Tons
Total N2O emissions CO2e:	633.9794 Metric Tons

Equation Inputs

Mass of steam generated by MSW or solid fuel combustion:	284,420,192 Pounds
Ratio of the boiler's max rated heat input capacity to its design rated steam output capacity:	0.0017 mmBtu/lb steam
Fuel Specific CO2 Emissions Factor:	93.8 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.032 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0042 kg N2O/MMBtu
Annual Mass or Volume of Fuel Combusted:	36,530 short tons

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Fuel:

Agricultural Waste - Biomass-Derived Fuels - Solid

Calculation Methodology:	Tier 2 (Equation C-2c, steam generation)
Methodology Start Date:	2013-01-01
Methodology End Date:	2013-12-31

Frequency of HHV determinations:

Fuel Emission Details

Total CO2 emissions:	60,920.4778 Metric Tons
Total CH4 emissions:	16.497 Metric Tons
Total N2O emissions:	2.1652 Metric Tons
Total CH4 emissions CO2e:	346.4379 Metric Tons
Total N2O emissions CO2e:	671.2233 Metric Tons

Equation Inputs

Mass of steam generated by MSW or solid fuel combustion:	301,128,808 Pounds
Ratio of the boiler's max rated heat input capacity to its design rated steam output capacity:	0.0017 mmBtu/lb steam
Fuel Specific CO2 Emissions Factor:	118.17 kg CO2/MMBtu
Fuel Specific CH4 Emissions Factor:	0.032 kg CH4/MMBtu
Fuel Specific N2O Emissions Factor:	0.0042 kg N2O/MMBtu
Annual Mass or Volume of Fuel Combusted:	38,676 short tons

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Time And Date Report Generated: 03/27/2014 15:34

Homero Ramirez

From: Gunnar D. Tornstrom <GunnarT@wziinc.com>
Sent: Monday, January 05, 2015 2:01 PM
To: Homero Ramirez
Subject: FW: Sierra Power S-834
Attachments: 20120319_143314.pdf; Data for GHG Calculations for 2012 to WZI.doc; SP 2013 GHG Data.pdf

---

From: Richard Wilson
Sent: Monday, January 05, 2015 1:58 PM
To: Gunnar D. Tornstrom
Subject: RE: Sierra Power S-834

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Subject: Sierra Power S-834

Homero,

Sierra power applied for Emission Reduction Credit (ERC) and it was deemed approved, all that was needed was the cancellations and transfer of ownership. Sierra Power would like the credits before the end of the year so any update would be greatly appreciated. The three items are:

- Permit cancellation
- Cancel of Title V permit
- Transfer of ownership

Please let me know the status of the ERC and the cancellations / transfer, thank you very much,

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Office: (661) 326-1112
Fax: (661) 326-0191
E-mail: gunnart@wziinc.com

Information for GHG Report for CY 2011

Sierra Power Fuel Consumption for 2011

Outside purchases - Ag and Urban	65,887 BDT
SFP Sawmill Chips	15,535 BDT
TOTAL	81,422 BDT

— 65,887 (2011)
— 15,535
81,422

urban w/ wood waste

Total Steam Produced 750 degrees@ 600PSI		616,632,300#
Electricity Sold	SFP	5,368,900 kw
	PG&E	47,162,000 kw
	TOTAL	52,230,900 kw
Steam Sold to SFP		65,722,672 #
Electricty Purchased from SCE		240,071 kw

No natural gas used

Data for GHG Calculations for 2012 - Sierra Power Corporation

Fuel Consumed

2012

Ag	34,018 BDT	— 34,018
Urban	33,055 BDT	} 45,383
Sawmill Residue	12,328 BDT	
TOTAL	79,401 BDT	79,401

Sierra Power boiler operates @ 95,000#/hr, 600 psi, 750 degree steam - 656,264,000# of steam generated in 2012

The gross generation for 2012 was 59,014,000 kw

175,931 kw purchased from SCE for start ups etc

SPC sold 49,352,704 kw to PG&E and 5,335,300 to Sierra Forest Products

SPC sold 65,904,554# of steam to Sierra Forest Products's dry kilns to dry lumber

Richard Wilson

From: sfp@sierraforest.net
Sent: Monday, February 03, 2014 7:13 AM
To: Richard Wilson
Subject: Sierra Power's GHG

2013 GHG Data for Sierra Power Corporation

Gross Generation	53,628,000 kw
Net Generation	49,505,008 kw
Electricity Purchased	235,168 kw
Natural Gas Used	26,074 therms
Gross Steam	585,549,000 Pounds
Steam to Kilns	61,912,000 Pounds

Fuel Consumption

Ag	38,676 BDT	38,676 (2013)
Urban	22,674 BDT	36,530
Sawmill Chips	13,856 BDT	
TOTAL	75,206 BDT	75,206

Let me know if you need other data.

Thanks,
Kent

Homero Ramirez

From: Richard Wilson <Rwilson@wziinc.com>
Sent: Wednesday, April 02, 2014 4:37 PM
To: Homero Ramirez
Subject: RE: Sierra Power Permit Mod
Attachments: Scanned from a Xerox multifunction device001.pdf; 20140402_163515.pdf

Here are the fuel records and an expedite request.

From: Homero Ramirez [mailto:Homero.Ramirez@valleyair.org]
Sent: Wednesday, April 02, 2014 11:12 AM
To: Richard Wilson
Subject: RE: Sierra Power Permit Mod

Rich,

I checked the file for Sierra Power Corporation's ATC application, and it did not include a request for Expedited/Reimbursable Overtime Processing. If the applicant wishes to change it to that type of processing, we need a letter from the applicant that includes an economic justification.

If you have any questions, please let me know.

Thank you.

Homero Ramirez
San Joaquin Valley Air Pollution Control District
34946 Flyover Court
Bakersfield, CA 93308
Tel. (661) 392-5616
Fax (661) 392-5585

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From: Richard Wilson [mailto:Rwilson@wziinc.com]
Sent: Monday, March 31, 2014 9:02 AM
To: Homero Ramirez
Subject: RE: Sierra Power Permit Mod

Homero,

Has this permit been assigned for processing yet?

Also, I had another application I need to know the status on. It is an emergency generator for a new location of Brighthouse Networks, on Mosasco St. in Bakersfield. Thanks,

2012 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	186.50	$ [redacted]	6,237.73	$ [redacted]	6,424.23	$ [redacted]
February	862.65	$ [redacted]	6,061.64	$ [redacted]	6,924.29	$ [redacted]
March	1,071.56	$ [redacted]	5,774.76	$ [redacted]	6,846.32	$ [redacted]
April	890.53	$ [redacted]	7,446.09	$ [redacted]	8,336.62	$ [redacted]
May	200.48	$ [redacted]	5,154.07	$ [redacted]	5,354.55	$ [redacted]
June	1,000.01	$ [redacted]	4,889.39	$ [redacted]	5,889.40	$ [redacted]
July	1,014.53	$ [redacted]	6,080.65	$ [redacted]	7,095.18	$ [redacted]
August	987.40	$ [redacted]	6,672.25	$ [redacted]	7,659.65	$ [redacted]
September	1,663.91	$ [redacted]	4,293.99	$ [redacted]	5,957.90	$ [redacted]
October	1,739.89	$ [redacted]	4,697.17	$ [redacted]	6,437.06	$ [redacted]
November	1,823.99	$ [redacted]	5,082.75	$ [redacted]	6,906.74	$ [redacted]
December	886.08	$ [redacted]	4,682.79	$ [redacted]	5,568.87	$ [redacted]
Totals	12,327.53	$ [redacted]	67,073.28	$ [redacted]	79,400.81	$ [redacted]
	15.53%	11.01%	84.47%	88.99%		

2013 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,220.54	$ [redacted]	6,602.01	$ [redacted]	7,822.55	$ [redacted]
February	1,123.37	$ [redacted]	6,716.81	$ [redacted]	7,840.18	$ [redacted]
March	713.21	$ [redacted]	4,039.83	$ [redacted]	4,753.04	$ [redacted]
April	1,437.99	$ [redacted]	4,883.77	$ [redacted]	6,321.76	$ [redacted]
May	715.64	$ [redacted]	3,069.44	$ [redacted]	3,785.08	$ [redacted]
June	1,273.39	$ [redacted]	5,885.56	$ [redacted]	7,158.95	$ [redacted]
July	1,170.25	$ [redacted]	4,837.66	$ [redacted]	6,007.91	$ [redacted]
August	1,528.48	$ [redacted]	4,733.80	$ [redacted]	6,262.28	$ [redacted]
September	1,941.44	$ [redacted]	4,031.34	$ [redacted]	5,972.78	$ [redacted]
October	1,167.62	$ [redacted]	3,805.72	$ [redacted]	4,973.34	$ [redacted]
November	1,135.73	$ [redacted]	6,753.50	$ [redacted]	7,889.23	$ [redacted]
December	428.22	$ [redacted]	8,145.08	$ [redacted]	8,573.30	$ [redacted]
Totals	13,855.88	$ [redacted]	63,504.52	$ [redacted]	77,360.40	$ [redacted]
	17.91%	12.56%	82.09%	87.44%		

77,360 ton/yr-2 [redacted]

2012 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
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April	890.53	$ [redacted]	7,446.09	$ [redacted]	8,336.62	$ [redacted]
May	200.48	$ [redacted]	5,154.07	$ [redacted]	5,354.55	$ [redacted]
June	1,000.01	$ [redacted]	4,889.39	$ [redacted]	5,889.40	$ [redacted]
July	1,014.53	$ [redacted]	6,080.65	$ [redacted]	7,095.18	$ [redacted]
August	987.40	$ [redacted]	6,672.25	$ [redacted]	7,659.65	$ [redacted]
September	1,663.91	$ [redacted]	4,293.99	$ [redacted]	5,957.90	$ [redacted]
October	1,739.89	$ [redacted]	4,697.17	$ [redacted]	6,437.06	$ [redacted]
November	1,823.99	$ [redacted]	5,082.75	$ [redacted]	6,906.74	$ [redacted]
December	886.08	$ [redacted]	4,682.79	$ [redacted]	5,568.87	$ [redacted]
Totals	12,327.53	$ [redacted]	67,073.28	$ [redacted]	79,400.81	$ [redacted]
	15.53%	11.01%	84.47%	88.99%		

← 79,400. ton/yr - 2012 [redacted]

2013 S.P.C. Fuel Consumption

Month	S.F.P. B.D.T.	S.F.P. $	S.P.C. B.D.T.	S.P.C. $	Total B.D.T.	Total $
January	1,220.54	$ [redacted]	6,602.01	$ [redacted]	7,822.55	$ [redacted]
February	1,123.37	$ [redacted]	6,716.81	$ [redacted]	7,840.18	$ [redacted]
March	713.21	$ [redacted]	4,039.83	$ [redacted]	4,753.04	$ [redacted]
April	1,437.99	$ [redacted]	4,883.77	$ [redacted]	6,321.76	$ [redacted]
May	715.64	$ [redacted]	3,069.44	$ [redacted]	3,785.08	$ [redacted]
June	1,273.39	$ [redacted]	5,885.56	$ [redacted]	7,158.95	$ [redacted]
July	1,170.25	$ [redacted]	4,837.66	$ [redacted]	6,007.91	$ [redacted]
August	1,528.48	$ [redacted]	4,733.80	$ [redacted]	6,262.28	$ [redacted]
September	1,941.44	$ [redacted]	4,031.34	$ [redacted]	5,972.78	$ [redacted]
October	1,167.62	$ [redacted]	3,805.72	$ [redacted]	4,973.34	$ [redacted]
November	1,135.73	$ [redacted]	6,753.50	$ [redacted]	7,889.23	$ [redacted]
December	428.22	$ [redacted]	8,145.08	$ [redacted]	8,573.30	$ [redacted]
Totals	13,855.88	$ [redacted]	63,504.52	$ [redacted]	77,360.40	$ [redacted]
	17.91%	12.56%	82.09%	87.44%		

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

APR 0 3 2014

Kent Duysen
Sierra Power Corporation
P O Box 10060
Terra Bella, CA 93270-0060

Re: Notice of Receipt of Complete Application
Facility Number: S-834
Project Number: S-1141060

Dear Mr. Duysen:

The San Joaquin Valley Air Pollution Control District (District) has received your application for the banking of Emission Reduction Credits for the shutdown of a 9.4 MW cogeneration unit and associated equipment, at 9000 Road 234 in Terra Bella. Based on our preliminary review, the application appears to be complete. This means that your application contains sufficient information to proceed with our analysis. However, during processing of your application, the District may request additional information to clarify, correct, or otherwise supplement, the information on file.

Your project triggers public notice and must therefore be public noticed for a 30-day period at the conclusion of our analysis, prior to the issuance of the Emission Reduction Credit certificates.

We will begin processing your application as soon as possible. In general, complete applications are processed on a first-come first-served basis.

It is estimated that the project analysis process will take 30 hours, and you will be charged at the weighted hourly labor rate in accordance with District Rule 3010. This estimate includes the following major processing steps: Determining Completeness (5 hours), Engineering Evaluation (20 hours), Permit Preparation (5 hours). The current weighted labor rate is $106.00 per hour, but please note that this fee is revised annually to reflect actual costs and therefore may change. No payment is due at this time; an invoice will be sent to you upon completion of this project.

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

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

www.valleyair.org www.healthyairliving.com

If you have any questions, please contact Mr. Leonard Scandura at (661) 392-5500.

Sincerely,

David Warner
Director of Permit Services

Leonard Scandura, P.E.
Permit Services Manager
DW:har

RECEIVED
MAR - 4 2014
SJVAPCD
Southern Region

San Joaquin Valley Air Pollution Control District

Application for

[X] EMISSION REDUCTION CREDIT (ERC) [ ] CONSOLIDATION OF ERC CERTIFICATES

1. ERC TO BE ISSUED TO: Sierra Power — Facility ID: S - 834 (if known)

2. MAILING ADDRESS: Street/P.O. Box: P.O. Box 10060

City: Terra Bella State: CA Zip Code: 93270

3. LOCATION OF REDUCTION:
Street: 900 Road 234

City: Terra Bella

/4 SECTION TOWNSHIP RANGE

4. DATE OF REDUCTION:

5. PERMIT NO(S): S-834-3 EXISTING ERC NO(S):

6. METHOD RESULTING IN EMISSION REDUCTION:

[X] SHUTDOWN [ ] RETROFIT [ ] PROCESS CHANGE [ ] OTHER

S-934-1-3: Fuel Screening and Handling System Served by a Humidifier Fogger/Spray System

S-834-3-6: 9.4MW Cogeneration System with 171.2 MMBTU/HR Staged Air Biomass-Fired Boiler with Fired Heat Recovery Steam Generator with Peabody Low-Nox Natural Gas Fired Burners, Ammonia Injection System, Multiclones, Low Temperature SCR Exhausting to Electrostatic Precipitators, and Flue Gas Recirculation

S-834-6-3: Ash Collection System Utilizing Enclosed Augers and Water Mist Serving Biofuel Boiler (S-834-3)

S-834-10-2: Fuel Handling System Consisting of Two Silos, One Hog Unit, Screens, and Conveyors Served by a Humidifier Fogger Spray System

(Use additional sheets if necessary)

7. REQUESTED ERCs: (In pounds per calendar quarter except CO_2e)

	VOC	NOx	CO	PM_{10}	SOx	Other
1st Qtr	6.46	10.78	29.06	2.07	5.96	n/a
2nd Qtr	6.46	10.78	29.06	2.07	5.96	n/a
3rd Qtr	6.46	10.78	29.06	2.07	5.96	n/a
4th Qtr	6.46	10.78	29.06	2.07	5.96	n/a

CO_2e [ ] metric ton/yr

8. SIGNATURE OF APPLICANT: Kent Duysen

TYPE OR PRINT TITLE OF APPLICANT: General Manager

9. TYPE OR PRINT NAME OF APPLICANT: Kent Duysen

DATE:

PHONE #:
CELL PHONE #:
FAX #:
E-MAIL:

FOR APCD USE ONLY:

DATE STAMP	

New ERC S-834
S-1146060

San Joaquin Valley Air Pollution Control District

ERC APPLICATION EVALUATION

Company Name:	Sierra Power Corporation	Date: February 13, 2014
Mailing Address:	PO Box 10060 Terra Bella, CA 93270	
Contact Person:	Richard Wilson – Consultant WZI. Inc.	
Telephone:	(661) 326-1112	

Engineer:

Application #

Date Application Received:

Date Deemed Complete:

I. Summary:

Sierra Power Corporation (Sierra Power) would like to submit an Emissions Reduction Credit application for the removal of a 9.4 MW Congeneration system that resulted in the removal of all of the following pieces of permitted equipment from operation, as well as cancellation of the following permits:

S-834-1-3: Fuel Screening and Handling System Served by a Humidifier Fogger/Spray System

S-834-3-6: 9.4 MW Cogeneration System with 171.2 MMBTU/hr Staged Air Biomass-Fired Boiler with Fired Heat Recovery Steam Generator with Peabody Low-NOx Natural Gas-Fired Burners, Ammonia Injection System, Multiclones, Low Temperature SCR Exhausting to Electrostatic Precipitator, and Flue Gas Recirculation

S-834-6-3: Ash Collection System Utilizing Enclosed Augers and Water Mist Serving Biofuel Boiler (S-834-3)

S-834-10-2: Fuel Handling System Consisting of Two Silos, One Hog Unit, Screens, and Conveyors Served by a Humidifier Fogger Spray System

II. Applicable Rules:

Rule 2301 Emission Reduction Credit Banking (1/19/2012)
Rule 3060 Emission Reduction Credit Banking Fee (1/17/2008)

III. Location of Reduction:

The emission reductions will occur at the facility located at 9000 Road 234 Terra Bella, CA, 93270

IV. Method of Generating Reductions:

The emission reductions are achieved by the permanent shutdown of permit units S-834-1-3, S-834-3-6, S-834-6-3 and S-834-10-2.

V. Calculations

A. Assumptions and Emission Factors:

The 9.4 MW Cogeneration unit with 171.2 MMBTU/HR staged air biomass-fired boiler permitted in S-834-3-6 operates 365 days a year, 24 hours a day.

The Zern Natural Gas Boiler permitted in S-834-7-6 operates approximately 82 hours a year (in accordance with the 30,000,000,000 btu maximum annual heat input.

Hours of Operation: Based on SJVAPCD Issued Permits

Emission Factors for 9.4 MW Cogeneration unit with 171.2 MMBTU/HR staged air biomass-fired boiler permitted in S-834-3-6:

Pollutants (Actual)	Emission Factors (lb/mmbtu)
NOx 0.098	0.108 ✓
PM 0.012	0.021
CO 0.2377	0.314 ✓
VOC 0.0	0.666 ← 0.066 ←
SOx 0.0019	0.061 ✓

VOC is 0.066 lb/MMBtu in PTO cond. #21

B. Baseline Period determination and Data:

The reductions below were calculated based the average actual hours of operations from the baseline period which was determined as the latest three consecutive years (2011-2013).

C. Historical Actual Emissions:

HAE was calculated as the average annual emissions for the baseline period.

D. Actual Emission Reductions:

The actual emissions reductions from the cancellation of permits S-834-1-3, S-834-3-6, S-834-6-3 and S-834-10-2:

***S-834-3-6* (9.4 MW Cogeneration unit with 171.2 MMBTU/HR staged air biomass-fired boiler)**

Pollutants	MMBTU/HR	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
NOx	0.108	95,113.57	47.56	11.89
PM	0.021	18,494.304	9.25	2.3125
CO	0.314	276,533.89	138.27	34.5675
VOC	0.066	58,124.96	29.06	7.265
SOx	0.061	53,721.55	26.86	7.215

S-834-1-3Fuel Screening and Handling System Served by a Humidifier Fogger/Spray System, S-834-6-3 (Ash Collection System Utilizing Enclosed Augers and Water Mist Serving Biofuel Boiler) and S-834-10-2 (Fuel Handling System Consisting of Two Silos, One Hog Unit, Screens, and Conveyors Served by a Humidifier Fogger Spray System:

Pollutants	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
PM10	3,3393.34	1.70	0.425

permitted EF

30 billion Btu/yr ? = 82 hr/yr

Increase of emissions from unit S-834-7-6 (Zern Natural Gas Fired Boiler) to be discounted from overall (above) reductions (previously submitted as ATC application):

Pollutants	MMBTU/HR	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
NOx	0.036	2,0005.2	1.00	0.25
PM	0.00285	3,505.2	1.75	0.4375
CO	0.014	18,276.9	9.14	2.285
VOC	0.073	751.1	0.38	0.095
SOx	0.003	704.5	0.35	0.0875

Remaining Emissions Available for ERC's (All Emissions Reductions minus emissions increases for unit S-834-7):

Pollutants	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
NOx	93,108.37	46.55	11.6375
PM	18,382.44	9.19	2.2975
CO	258,256.99	129.13	32.2825
VOC	57,373.86	28.69	14,343.465
SOx	53,017.05	26.51	6.6275

E. Community Bank Allowance:

Community Bank Allowance was calculated as 10% of AER.

Total Community Bank Allowance Shutdown of Cogeneration, Fuel and Ash Handling Units, LESS the Increase in Emissions Generated by Unit S-834-7

Pollutants	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
NOx	9,310.84	4.655	1.16
PM	1,838.244	0.919	0.23
CO	25,825.699	12.91	3.2275
VOC	5,737.386	2.87	0.7175
SOx	5,301.705	2.65	0.66

NOx
95,113.57
− 2,005.2
93,108.4

F. Increase in Permitted Emissions:

No IPE is associated with this project.

PM_{10} 18,494.3
+ 3,339
− 3505.2
18,328

B. Bankable Emissions Reductions Credits:

Bankable Emission Reductions Credits were calculated by subtracting the community Bank Allowance from the Actual Emission Reductions

Total Bankable Emissions Reduction Credits for Cogen, Fuel and Ash handling equipment Shut Down

Pollutants	Emissions (lbs/year)	Emissions (tons/year)	Emissions (tons/qtr)
NOx	83,797.53	41.9	10.78
PM	16,544.196	8.27	2.07
CO	232,431.29	116.22	29.06
VOC	51,636.47	25.82	6.46
SOx	47,715.35	23.86	5.96

VI. Compliance Review

A. Real:

Emissions from the removal of the Cogeneration unit and all associated equipment generate the above quantified emissions. Therefore, the reductions are real.

B. Enforceable:

All equipment is operated in accordance with district permits. Enforceability is satisfied by surrendering the permits to operate for the above mentioned equipment associated with the cogeneration operation. Therefore, the reductions are enforceable.

C. Quantifiable:

As discussed in Section V, the reductions were calculated using the permitted emission factors and fuel records from baseline period. Therefore the reductions are quantifiable.

D. Permanent:

There is no foreseeable condition that would require returning the 9.4 MW cogeneration unit and associated equipment back to service. In addition, the site is a permitted stationary source that may not add emitting units without permits. Therefore, the reductions are permanent.

E. Surplus:

The emissions reductions quantified in this application were not made pursuant to any current or future rule, regulation, or policy. Therefore, the reductions are surplus.

F. Timeless

The date of reduction occurred: January 23, 2014

The date of application filed: February 2014

VII. Recommendation

Issue an ERC for the annual tons reduction of all pollutants listed above for the shutdown of the existing units.

VIII. Billing Fees

An emission Reduction Credit Certificate Application Fee of $759.00 is included.

ATTACHMENT 1

Detailed ERC Emissions Calculations

$X = 238,928 \frac{MMBtu}{yr}$

$\left(X \frac{MMBtu}{yr}\right)\left(0.1081\frac{lb}{MMBtu}\right) = 25,804.3 \frac{lb}{yr}$

Sierra Power ERC Calculations

Permit Emissions Factors (lb/MMBTU)

NOx	SOx	CO	VOC	PM10
0.108	0.061	0.314	0.066	0.021

Year/Type	Fuel Use (BDT)	MMBTU/BDT*	NOx(lbs)	SOx(lbs)	CO(lbs)	VOC(lbs)	PM10(lbs)
2013 AG	38,676	8.25	34460.3	19463.7	100190.2	21059.1	6700.6
2013 Wood Waste	36,530	15.38	60677.8	34271.7	176415.1	37080.9	11798.5
2013 Total	75,206		95138.1	53735.4	276605.2	58140.0	18499.1
2012 Ag	34,018	8.25	30310.0	17119.6	88123.6	18522.8	5893.6
2012 Wood Waste	45,383	15.38	75383.0	42577.4	219169.0	46067.4	14657.8
2012 Total	79,401		105693.0	59697.0	307292.7	64590.2	20551.4
2011 Ag	65,887	8.25	58705.3	33157.6	170680.3	35875.5	11414.9
2011 Wood Waste	15,535	15.38	25804.3	14574.6	75023.5	15769.3	5017.5
2011 Total	81,422		84509.6	47732.3	245703.8	51644.7	16432.4

	NOx	SOx	CO	VOC	PM10
2011-2013 Average (lbs/yr)	95113.566	53721.551	276533.885	58124.957	18494.304
2011-2013 Average (tons/yr)	47.56	26.86	138.27	29.06	9.25

Contemporaneous reductions for S-834-7

	NOx	SOx	CO	VOC	PM10
lbs/yr	2005.2	704.5	18276.9	751.1	3505.2
tons/yr	1.00	0.35	9.14	0.38	1.75

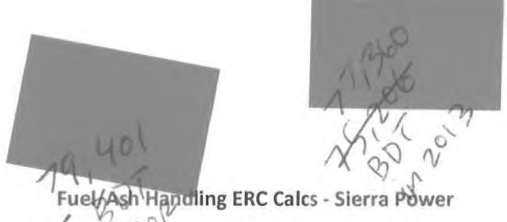
Reductions for fuel and ash handling equipment shutdown

	PM10
lbs/yr	3393.34
tons/yr	1.70

Remaining Emissions Available for ERCs

	NOx	SOx	CO	VOC	PM10
lbs/yr	93108.366	53017.051	258256.985	57373.857	18382.44
tons/yr	46.55	26.51	129.13	28.69	9.19

*http://www.epa.gov/climateleadership/documents/emission-factors.pdf



Fuel/Ash Handling ERC Calcs - Sierra Power

Fuel Usage			
2011 Tons	2012 Tons	2013 Tons	2011-2013 TonsAvg.
81422.00	79401.00	75206.00	78676.33

Fugitive Emission Factor	0.014 lbs/ton

Fuel Handling Operations (S-834-1-3 Fuel Screening and Handling System Served by a Humidifier Fogger/Spray System)	Average Tons/yr	Uncontrolled Lbs/yr	Controlled Lbs/yr
1. Trommel Screen	78676.33	1101.47	308.41123
2. Hopper	78676.33	1101.47	308.41123
3. Conveyor	78676.33	1101.47	308.41123
4. Conveyor	78676.33	1101.47	308.41123
5. Conveyor	78676.33	1101.47	308.41123
6. Conveyor	78676.33	1101.47	308.41123
7. Conveyor	78676.33	1101.47	308.41123
Total pounds per year		7710.28	2158.88

Ash Handling Activities (S-834-6-3 Ash Collection System Utilizing Enclosed Augers and Water Mist Serving Biofuel Boiler S-834-3)	Average Tons/yr	Uncontrolled Lbs/yr	Controlled Lbs/yr
1. Ash discharge point	3933.82	55.07	0.8261015
Total pounds per year		55.07	0.83

Fuel Handling System (S-834-10-2 Fuel Handling System Consisiting of Two	Average Tons/yr	Uncontrolled Lbs/yr	Controlled Lbs/yr
1. Silo	78676.33	1101.468667	308.4112267
2. Silo	78676.33	1101.468667	308.4112267
3. Hog Unit	78676.33	1101.468667	308.4112267
4. Conveyor	78676.33	1101.468667	308.4112267
Total pounds per year		4405.87	1233.64

Fogger/Wind screen control factor	72%
Water Spray control factor	98.5%

ATTACHMENT 2

Current Permits

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-1-3 **EXPIRATION DATE:** 02/28/2015

EQUIPMENT DESCRIPTION:
FUEL SCREENING AND HANDLING SYSTEM SERVED BY A HUMIDIFIER FOGGER/SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Fuel screening system shall consist of a Trommel screen, hopper, five (5) conveyors, and a humidifier-fogger/spray system to control emissions. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions from fuel receiving shall be controlled by humidifier-fogger system and wind dust screen. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Whenever fuel receiving system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, screens, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
5. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
7. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.3.2, 9.4.2] Federally Enforceable Through Title V Permit
8. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-3-6 **EXPIRATION DATE:** 02/28/2015

EQUIPMENT DESCRIPTION:
9.4 MW COGENERATION SYSTEM WITH 171.2 MMBTU/HR STAGED AIR BIOMASS-FIRED BOILER WITH FIRED HEAT RECOVERY STEAM GENERATOR WITH PEABODY LOW-NOX NATURAL GAS-FIRED BURNERS, AMMONIA INJECTION SYSTEM, MULTICLONES, LOW TEMPERATURE SCR EXHAUSTING TO ELECTROSTATIC PRECIPITATOR, AND FLUE GAS RECIRCULATION

PERMIT UNIT REQUIREMENTS

1. Boiler and heat recovery steam generator exhausts shall vent through multiclones, low temperature SCR, and electrostatic precipitator (ESP) before being discharged to atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. ESP shall be equipped with automatic rapping system, induced draft exhaust fan, and 72' high by 61" diameter exhaust stack. [District NSR Rule] Federally Enforceable Through Title V Permit
3. ESP rapping frequency and duration shall be pre-programmed and identical for each location and only one rapping position shall be energized at any one time. [District NSR Rule] Federally Enforceable Through Title V Permit
4. Exhaust stack shall be equipped with continuous emissions monitors (CEM) for NOx, CO, oxygen, opacity, and volumetric flowrate of exhaust. [District NSR Rule and Rule 4352, 5.5] Federally Enforceable Through Title V Permit
5. Continuous emission monitoring system shall be operated, maintained, and calibrated pursuant to the requirements of 40 CFR 60.7 (c) and 60.13. CEMs must also satisfy the Performance Specifications of 40 CFR 60 Appendix B and the Relative Accuracy Test Audit of Appendix F. [District Rules 1080 and Rule 4352, 5.5] Federally Enforceable Through Title V Permit
6. Only wood fuels shall be burned in the boiler. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
7. Wood means any organic material not derived from fossil fuels, such as agricultural crop residue, orchard prunings and removals, stone fruit pits, nut shells, cotton gin trash, cotton stalks, vineyard prunings, cull logs, eucalyptus logs, bark, lawn clippings, yard and garden clippings, leaves, silvicultural residue, tree and brush prunings, wood and wood chips, and wood waste. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
8. Wood waste includes clean, chipped wood products, plywood, wood products manufacturing materials, construction and demolition wood materials, and wood pallets, crates and boxes. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit
9. Contamination of the wood fuel, as delivered to the boiler shall not exceed 1% by weight total of the following materials: metals, plastics, paper, painted wood, particle board, wood treated with preservatives, and roofing materials. None of the contaminants allowed by this condition shall contain asbestos. [District Rule]
10. Compliance with biomass fuel contamination limit shall be demonstrated annually by sorting a District approved 5 ton representative sample of biomass fuel. [District Rule 4102]
11. Data collected during sorting of 5 ton sample of biomass fuel shall be in pounds of plastic per ton of biomass. Official test results and field data shall be submitted within 30 days after collection. [District Rule 4102]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

12. A daily record of the quantities and types of fuels burned in the combustor shall be maintained and submitted to the District quarterly. [District NSR Rule and Rule 4352, 6.2] Federally Enforceable Through Title V Permit
13. Start-up is defined as the period beginning with the boilers initial fuel firing until the unit meets the ppmv emission limits in this permit. Shutdown is defined as the period beginning with the initiation of the boiler shutdown sequence and ending with cessation of operation of the engine. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The duration of each shut down shall not exceed twelve (12) hours. [District Rule 4352] Federally Enforceable Through Title V Permit
15. The duration of each start-up shall not exceed 96 hours. If curing of the refractory is required after a modification to the unit is made, the duration of start-up shall not exceed 192 hours. [District Rule 4352] Federally Enforceable Through Title V Permit
16. During each startup and shutdown, the SCR emission control systems shall be in operation and emissions shall be minimized insofar as is technologically feasible. SCR emissions control system shall be operated in accordance with manufacturer recommendations. [District Rules 2201] Federally Enforceable Through Title V Permit
17. Except during startup and shutdown, nitrogen oxide emissions (as NO2) shall not exceed 84 ppmvd @ 3% O2 (0.108 lb/MMBtu). The averaging for NOx lb/MMBtu limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rule, Rules 4301, 5.2.2, 4352, 5.1 and 40 CFR 60.41b and 60.44b(d)] Federally Enforceable Through Title V Permit
18. Emissions of NOx shall not exceed 510.2 lb NOx/day nor 135,200 lb NOx/year. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Carbon monoxide emissions shall not exceed any of the following: 400 ppmvd @ 3% O2 (0.314 lb/MMBtu) or 233.11 tons/year. The averaging for CO ppm limit shall be a 24-hr period between 12:00 am midnight to the following midnight. [District NSR Rules, District Rule 4352, 5.3 and 40 CFR 60 Subpart Db] Federally Enforceable Through Title V Permit
20. Particulate matter (PM10) concentration shall not exceed 0.016 gr/dscf corrected to 12% CO2 as determined by CARB Method 5. [District NSR Rule and Rule 4301, 5.1 and 5.2.3] Federally Enforceable Through Title V Permit
21. Volatile organic compound emissions shall not exceed any of the following: 0.066 lb/MMBtu or 48.8 tons/year. [District NSR Rule] Federally Enforceable Through Title V Permit
22. Sulfur oxide emissions (as SO2) shall not exceed any of the following: 0.061 lb/MMBtu or 41.6 tons/year. [District NSR Rule and Rule 4301, 5.2.1 and 4801] Federally Enforceable Through Title V Permit
23. Source testing using the following test methods shall be done annually: NOx - EPA Method 7E or ARB Method 100, and EPA Method 19, CO - EPA Method 10 or ARB Method 100, O2 - EPA Method 3 or 3A, or ARB Method 100, Stack Gas Flow Rate (velocity) - EPA Method 2, Stack Gas Moisture Content - EPA Method 4, and Fuel Heating Value - ASTM Method D2015 or E711. [District Rules 1081, 2520, 9.3.2 and 4352, 6.3] Federally Enforceable Through Title V Permit
24. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081 and Tulare County Rule 108.1] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081 and Tulare County Rule 108.1] Federally Enforceable Through Title V Permit
26. Sierra Power Corporation shall maintain records of emissions and operational data for NOx (ppmv @ 3% O2, lb/MMBtu, lb/day and lb/year), CO (ppmv @ 3% O2 and lb/year), electrical output (kW-hr) recorded on a 24-hour basis, exhaust gas stack flow, CFM), and opacity (percent). [District NSR Rule] Federally Enforceable Through Title V Permit
27. Ammonia (NH3) emissions shall not exceed 10 ppmvd @ 15% O2 based on the arithmetic average of three (3) 30-consecutive-minute test runs. [District Rule 2201]

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

28. NOx, CO, and NH3 emissions rates shall be measured (source tested) at startup and not less than once every 12 months thereafter. [District Rules 1081 and 4702]

29. NOx and CO emissions shall be measured with annual source testing conducted by an independent testing laboratory using sample collection by an ARB certified testing laboratory and shall be witnessed by District, or witness authorized by the District. [District Rules 1081, 7.2, Rule 2520, 9.3.2 and 4352, 6.3 and 6.4 and Tulare County Rule 108.1] Federally Enforceable Through Title V Permit

30. Source test emissions for this unit shall be calculated using the arithmetic mean, pursuant to District Rule 1081(Amended December 16, 1993), of three thirty-minute test runs for NOx and CO. This mean shall be multiplied by the appropriate factor. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

31. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit

32. NOx and carbon monoxide daily emissions shall be measured by use of CEM data, fuel rate data and daily hours of operation data. A written record of the required compliance demonstrations shall be maintained and made available for District inspection for a period of five years. [District Rule 2520, 9.3.2 and 9.4.2] Federally Enforceable Through Title V Permit

33. SOx source testing shall be done annually using EPA method 5 or 8 or a continuous emissions analyzer in accordance with EPA method 6C. [District Rules 1081, 2520, 9.3.2, 9.4.2 and 4801 and Tulare County Rule 108.1] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-6-3 **EXPIRATION DATE:** 02/28/2015

EQUIPMENT DESCRIPTION:
ASH COLLECTION SYSTEM UTILIZING ENCLOSED AUGERS AND WATER MIST SERVING BIOFUEL BOILER (S-834-3)

PERMIT UNIT REQUIREMENTS

1. Discharge point of ash system shall be controlled by water spray to prevent visible emissions of 20% opacity or greater. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59xP^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] 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. Visible emissions shall be inspected quarterly under material and environmental conditions, where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: S-834-10-2 **EXPIRATION DATE:** 02/28/2015

EQUIPMENT DESCRIPTION:
FUEL HANDLING SYSTEM CONSISTING OF TWO SILOS, ONE HOG UNIT, SCREENS, AND CONVEYORS SERVED BY A HUMIDIFIER FOGGER SPRAY SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions from fuel handling system shall be controlled by humidifier-fogger spray system. [District NSR Rule] Federally Enforceable Through Title V Permit
2. Whenever fuel handling system is in operation, humidifier-fogger spray system shall be operated as necessary to maintain the moisture content of the biofuel at 20% or greater and shall be used to cover all exposed drop off points, conveyors & other emissions points. [District NSR Rule] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed the hourly rate as calculated in District Rule 4202 using the equation E = 3.59 x P^0.62 if P is less than or equal to 30 tons per hour, or E = 17.31 x P^0.16 if P is greater than 30 tons per hour. [District Rule 4202] Federally Enforceable Through Title V Permit
4. Visible emissions shall be inspected quarterly under material and environmental conditions where high emissions are expected. If any visible emissions are observed, corrective action shall be taken. If visible emissions cannot be corrected within 48 hours, a visible emissions test using EPA Method 9 shall be conducted. The results of inspection shall be kept in a record and shall be made available to the District upon request. [District Rule 1070 and Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit
5. Records of types of fuel materials handled on a daily basis shall be maintained, retained on the premises for at least five years, and provided to the District upon request. [District Rules 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
6. Permittee shall maintain weekly records of the moisture content of the fuel. Such records shall be kept at the facility and made available for District inspection upon request for a period of 5 years. [District Rule 1070 and 2520, 9.4.2] Federally Enforceable Through Title V Permit
7. Fuel moisture content shall be checked daily, from representative fuel samples using method ASTM E871. [District Rule 2520, 9.3.2] Federally Enforceable Through Title V Permit

PROJECT ROUTING FORM

FACILITY NAME: Sierra Power Corporation

FACILITY ID: S-834 PROJECT NUMBER: S-1141060

PERMIT #'s: Emission Reduction Credit certificate S-

DATE RECEIVED: March 4, 2014

PRELIMINARY REVIEW	ENGR	DATE	SUPR	DATE
A. Application Deemed Incomplete				
Second Information Letter				
B. Application Deemed Complete	HAR	4/3/14	AP	4-3-14
C. Application Pending Denial				
D. Application Denied				

ENGINEERING EVALUATION	INITIAL	DATE
E. Engineering Evaluation Complete • Project triggering Federal Major Modification: [ ] Yes AND Information entered into database (AirNet) [ ] No (not Fed MMod) • District is Lead Agency for CEQA purposes AND the project GHG emissions increase exceeds 230 metric tons/year: [ ] Yes AND Information Entered in database (AirNet) [ ] Not Required	HAR	6/23/15 7/13/15
F. Supervising Engineer Approval	SPL	7/9/15
G. Compliance Division Approval [ ] Not Required		
H. Applicant's Review of Draft Authority to Construct Completed [ ] 3-day Review [ ] 10-day Review [ ] No Review Requested		
I. Permit Services Regional Manager Approval	CS	7/16/15

DIRECTOR REVIEW [ ] Not Required	INITIAL	DATE
J. Preliminary Approval to Director		
K. Final Approval to Director		