DOCKETED

Docket Number:	01-AFC-07C
Project Title:	01-AFC-7C Russell City Energy Company
TN #:	212134
Document Title:	Annual Compliance Report - Year 2 and AQ-19
Description:	N/A
Filer:	Patty Paul
Organization:	Russell City Energy Company, LLC
Submitter Role:	Applicant
Submission Date:	7/6/2016 12:26:48 PM
Docketed Date:	7/6/2016

Russell City Energy Company, LLC

717 Texas Avenue
Suite 1000
Houston, TX 77002

August 13, 2015

Mr. Jonathan Fong
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

Re: COMPLIANCE-7: Annual Compliance Report – Year 2 and AQ-19
July 1, 2014 – June 30, 2015
Russell City Energy Center # B8136
Application for Certification - 01-AFC-7C

Mr. Boyer,

As required by the Final Commission Decision for the Russell City Energy Center, Amendment No. 1 (01-AFC-7C), Condition of Certification COMPLIANCE-7, please find attached the Annual Compliance Report for the second year of operation of the Russell City Energy Center. This report also includes all information required under Condition of Certification AQ-19 for the second quarter of 2015.

If you have any questions or need more information, please call me at (510) 731-1407.

Sincerely,

Lauren Bresnahan
Authorized Signatory and EH&S Specialist
Russell City Energy Company, LLC

Enclosure

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 2
July 31, 2014 – June 30, 2015

In accordance with Condition Compliance-7 of the License, RCEC reports as follows:

1. **Updated Compliance Matrix**

   A copy of the updated compliance matrix is included as an attachment under COMPLIANCE-5.

2. **Summary of current project operating status**

   Throughout the reporting period the Russell City Energy Center (RCEC) was dispatched in accordance with the requirements of the Power Purchase Agreement between Pacific Gas & Electric and the Russell City Energy Company, LLC.

   As previously reported to the CEC, RCEC's Recycled Water Facility (RWF) and other water systems, including the zero liquid discharge system (ZLD) continued to experience unforeseen problems during startup and commissioning, and RCEC continues to work with the EPC contractor to resolve these issues. On September 12, 2014 RCEC received approval from the California Department of Public Health (CDPH) to use water produced from the modified Recycled Water Facility for cooling tower use and minor landscape irrigation and to remove and demobilize the temporary ultrafiltration process which had been in place since the commercial operation date. To help resolve on-going issues with the ZLD, RCEC decided to install a temporary demineralized water system, as described in the letter to the Compliance Project Manager (CPM) on April 23, 2015. On April 30, 2015 RCEC further notified both the San Francisco Bay Regional Water Quality Control Board and the CDPH of the intent to install such temporary demineralized water system, in order to test its effectiveness in resolving the on-going issues, and on May 1, 2015 RCEC received approval from the CDPH. On June 8, 2015 the temporary demineralized water system was placed into service and the temporary system remains in place to date. RCEC continues to evaluate a permanent demineralization system.

   An outage for the combustion turbines and steam turbine occurred in January 2015. Steam turbine generator end winding blocking and tie replacements performed as result of inspections performed in April 2014. Combustion inspections performed on both combustion turbines as recommended by the turbine manufacturer. Combustion liners, transition pieces, and support housings replaced with longer life components. During the reporting year, all balance of plant equipment, including emission controls and monitoring, operated normally.

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 2
July 31, 2014 – June 30, 2015

3. Required Annual Compliance Report documents

TLSN-2	No complaints were received during the reporting period.	WASTE-2	A summary of the facility's waste management practices is attached.
TLSN-4	A summary of inspection results is attached.	WASTE-5	A summary of ZLD salt cake analysis is attached as well as the project owner's request to discontinue testing and the CPM's approval of said request.
SOIL & WATER-4	Summaries of water usage at the facility are attached.	VIS-2	A summary of landscaping activities is attached.
SOIL & WATER-6	No water quality monitoring reports for potable or recycled water were required by the City during the reporting period.	VIS-3	No maintenance on the visual treatment has been required during the reporting period.
SOIL & WATER-9	No violations of discharge limits or volumes occurred during the reporting period. Copies of semiannual wastewater quality monitoring reports required by the City and completed during the reporting period are attached.	VIS-10	A summary of landscaping activities is attached.
BIO-2	A copy of the BRMIMP closeout report summarizing the Designated Biologist's final inspection is attached.	COMP-5	A copy of the updated compliance matrix is attached.
AQ-SC7	No violations of this condition occurred during the reporting period.	HAZ-1	A list of all hazardous materials stored onsite is attached.
AQ-SC8	No violations of this condition occurred during the reporting period.	AQ-21	No violations of this condition occurred during the reporting period. No combustor tuning occurred during the reporting period.
AQ-SC9	No violations of this condition occurred during the reporting period.	AQ-22	No violations of this condition occurred during the reporting period.
AQ-SC15	No violations of this condition occurred during the reporting period.	AQ-23	No violations of this condition occurred during the reporting period.
AQ-SC16	No violations of this condition occurred during the reporting period.	AQ-24	No violations of this condition occurred during the reporting period. A summary of the facility's emissions is attached.
AQ-13	No violations of this condition occurred during the reporting period.	AQ-25	No violations of this condition occurred during the reporting period. A summary of the facility's emissions and operating data is attached.
AQ-14	No violations of this condition occurred during the reporting period.	AQ-27	No violations of this condition occurred during the reporting period. A summary of the facility's emissions is attached.

AQ-15	No violations of this condition occurred during the reporting period.	AQ-28	No violations of this condition occurred during the reporting period. A summary of the facility's emissions and operating data is attached.
AQ-16	No violations of this condition occurred during the reporting period.	AQ-37	No violations of this condition occurred during the reporting period.
AQ-17	No violations of this condition occurred during the reporting period. The A-1 SCR system and A-2 oxidation catalyst system have been properly operated and maintained. There were no major problems during the reporting period.	AQ-45	A visual inspection of the cooling tower drift eliminators was performed on January 21, 2015. No drift eliminator components were broken or missing that required repair or replacement.
AQ-18	No violations of this condition occurred during the reporting period. The A-3 SCR system and A-4 oxidation catalyst system have been properly operated and maintained. There were no major problems during the reporting period.	AQ-46	No violations of this condition occurred during the reporting period.
AQ-19	No violations of this condition occurred during the reporting period. A summary of the facility's emissions and operating data is attached.	AQ-47	No violations of this condition occurred during the reporting period.
AQ-20	No violations of this condition occurred during the reporting period.	AQ-48	No violations of this condition occurred during the reporting period.

4. Approved condition of certification changes

- A request for amendment of the license was submitted on November 19, 2009. Amendment #2 was approved by the Commission on August 11, 2010.
- A change to the verification language of LAND-1 was submitted to the CPM on April 14, 2010 and approved by staff on April 30, 2010.
- A change to the verification language of SOIL&WATER-8 was submitted to the CPM on August 18, 2010 and approved by staff on August 24, 2010.
- A request for a staff approved modification of the license was submitted on May 24, 2012. A Notice of Determination for Amendment #3 was released on July 9, 2012.
- A request for amendment of the license was submitted on November 8, 2012. Amendment #4 was approved by the Commission on May 8, 2013.
- A change to the verification language of SOIL&WATER-4 was submitted to the CPM on October 23, 2013 and approved by staff on November 26, 2013.

5. Submittal deadlines not met

There are no past due compliance submittals.

6. Filings or permits from other agencies

Permits:

- The City of Hayward Fire Department issued an extension of CUPA permits for Hazard Materials Storage, Hazardous Materials Business Plan, Aboveground Petroleum Storage/ SPCC Plan, Hazardous Waste Generator Program, and California Accidental Release Prevent Program/ Federal Risk Management Plan on August 27, 2014
- The City of Hayward Fire Department issued a renewal of CUPA permits for Hazard Materials Storage, Hazardous Materials Business Plan, Aboveground Petroleum Storage/ SPCC Plan, Hazardous Waste Generator Program, and California Accidental Release Prevent Program/ Federal Risk Management Plan on September 24, 2014
- The City of Hayward Fire Department issued an extension of CUPA permits for Hazard Materials Storage, Hazardous Materials Business Plan, Aboveground Petroleum Storage/ SPCC Plan, Hazardous Waste Generator Program, and California Accidental Release Prevent Program/ Federal Risk Management Plan on June 24, 2015
- The City of Hayward issued a renewal of the Wastewater Discharge Permit on November 14, 2014
- The BAAQMD issued a renewal of the Permit to Operate on April 29, 2015
- Alameda County issued a renewal of the Annual Business License on January 1, 2015

Filings:

- Monthly Continuous Emissions Monitoring System Reports submitted to BAAQMD
- Annual Title V Permit Application Compliance Certification submitted to BAAQMD
- Quarterly Air Quality Reports submitted to CEC in compliance with Condition AQ-19
- Quarterly and Annual Recycled Water Monitoring Reports submitted to the San Francisco Regional Water Quality Control Board (SFRWQCB)
- Annual Hazardous Materials Business Plan Update and Certification submitted to the CUPA, Hayward Fire Department
- Annual Industrial Storm Water Report to the SFRWQCB
- Semi-Annual NSPS Reports to the EPA
- Quarterly Electronic Data Reporting (EDR) made to the EPA
- Monthly and Bimonthly Sludge Volume Reports submitted to the City of Hayward
- Quarterly Zero Discharge Verifications submitted to the City of Hayward
- Semi-Annual Sludge Flowmeter Calibration Records submitted to the City of Hayward
- Semi-Annual Compliance Monitoring Reports of waste stream for regulated pollutant constituents submitted to the City of Hayward
- 2014 Annual Greenhouse Gas Report submitted electronically to the EPA using the Electronic Greenhouse Gas Reporting Tool (e-GGRT)

7. Projection of scheduled compliance activities for Reporting Year Period July 1, 2015 to June 30, 2016

COMPLIANCE-12/13	Evaluate the on-site contingency plan for unplanned facility closure.
TLSN-4	Inspect transmission line right-of-way.
AQ-29	Conduct source testing for the following: corrected ammonia emission concentration.
AQ-30	Conduct source testing for the following: water content, stack gas flow, O_2, POC, NO_x, CO, SO_2, methane, ethane, and PM_{10}.
AQ-34	Conduct source testing for the following: SO_2, SO_3, and H_2SO_4.
PUBLIC HEALTH-1	Conduct legionella testing of the cooling tower.
BIO-2	Annual site inspection by the project's Designated Biologist.
BIO-5	Conduct WEAP training for all new employees, contractors, and subcontractors.
TRANS-6	Complete repairs of Clawiter Road and Enterprise Avenue, if so needed and as deemed appropriate by the City of Hayward City Engineer.
VIS-2	Maintain onsite landscaping, including tree replacement, in accordance with the landscaping plan.
VIS-3	Maintain structure treatment, in accordance with the treatment plan.
VIS-10	Maintain offsite landscaping, including tree replacement, in accordance with the landscaping plan.

8. Additions to the on-site compliance file

Source test emissions report
CEMS RATA test report
WEAP training records
Cooling tower legionella sample report
ZLD salt cake sample report

9. Evaluation of the On-site Contingency Plan

An evaluation of the On-Site Contingency Plan for unplanned facility closure was conducted and minor modifications were made to the plan to update the list of chemicals to be secured and the contact information for the CEC Compliance Project Manager

10. Listing of complaints, notices of violations, official warnings, and citations

- Notice of Violation issued on April 24, 2015 by the BAAQMD for a Cooling Tower Drift Rate exceedance for the time period between August 8, 2013 and April 17, 2014.
- A Noise Complaint was received on the phone number posted at the RCEC front gate on September 23, 2014. Complaint was reported to the CPM in accordance with Conditions of Certification COMPLIANCE-10 and NOISE-2.

CONDITION OF CERTIFICATION
TLSN-4

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

TLSN-4: The Russell City Energy Center has contracted a landscape maintenance company to maintain the rights-of-way of transmission lines free of combustible materials. On a biweekly basis, the landscape maintenance company removes dried vegetation and weeds from the areas surrounding transmission lines on RCEC property. Pacific Gas & Electric owns and maintains the transmission lines outside of the RCEC property line. The pictures below show the transmission lines from RCEC's high voltage yard to the East Shore Substation.


08/13/2015


08/13/2015


08/13/2015


08/13/2015

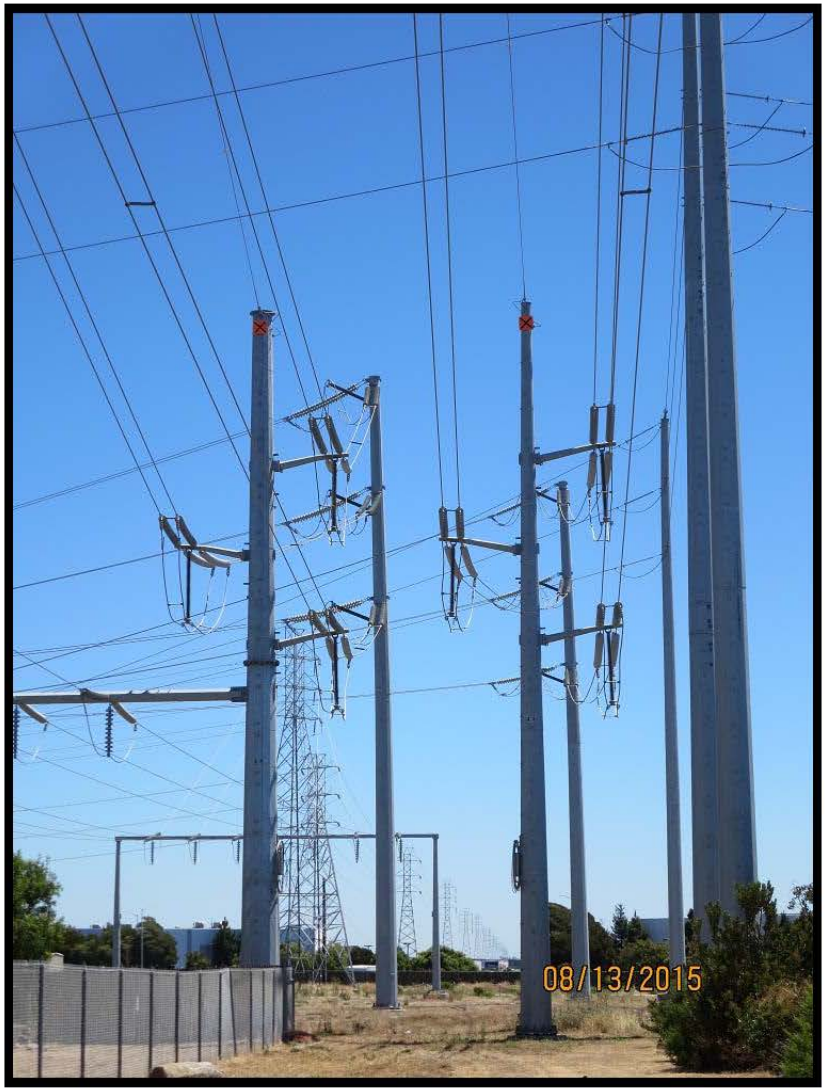

08/13/2015


08/13/2015


08/13/2015


08/13/2015


08/13/2015


08/13/2015

CONDITION OF CERTIFICATION
WASTE-2

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

WASTE MANAGEMENT METHODS

A comparison of the proposed waste treatment methods and the actual waste treatment methods are presented in the table below. Not all waste streams listed in the Waste Management Plan were generated during the reporting period.

Waste Stream	Waste Type	Proposed Treatment Method	Actual Treatment Method
Municipal Solid Waste (Trash)	Non Hazardous Waste	Landfill	Landfill
General Plant Refuse – Mixed Recycling	Recyclable - Non Hazardous Waste	Recycle	Recycle
ZLD Salt Cake	Non Hazardous Waste	Landfill	Landfill
Empty 55-Gallon Steel Drums	Recyclable - Non Hazardous Waste	Recycle	Recycle
Dry Cell Batteries	Universal Waste	Recycle	Recycle
Aerosol Cans	Universal Waste	Hazardous Waste TSDF	Hazardous Waste TSDF*
Used Oil Filters	Recyclable - Non Hazardous Waste	Recycle	Recycle
Oil Solids (Drained)	Non RCRA Hazardous Waste	Hazardous Waste TSDF	Hazardous Waste TSDF*
Used Oil Liquid	Non RCRA Hazardous Waste	Hazardous Waste TSDF	Hazardous Waste TSDF*

* TSDF is a hazardous waste treatment, storage, and disposal facility

CONDITION OF CERTIFICATION
WASTE-5

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

WASTE-5: As reported in the Annual Compliance Report for the first year of operation, the first ZLD salt cake sample was taken on September 17, 2013. As anticipated the salt cake was classified non-hazardous. The second sample of ZLD salt cake was collected on July 15, 2014. Again as anticipated, the second sample was classified non-hazardous by the contracted waste hauling company, PSC Industrial Outsourcing, and Waste Management, the owner of the Altamont Landfill where the ZLD salt cake is ultimately disposed.

According to Condition of Certification WASTE-5, "If two consecutive tests, taken six months apart, show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing." On November 25, 2014 the project owner applied to the CPM to discontinue testing after samples taken in September 2013 and July 2014 determined the sludge/salt cake to be non-hazardous. On March 16, 2015 the project owner received approval from the CPM to discontinue testing of the ZLD salt/cake. Copies of the CPM's approval to discontinue testing, the project owner's request to discontinue testing, and the laboratory analyses of the two salt cake samples are included on the following pages.

Lauren Bresnahan

From: Fong, Jonathan@Energy <Jonathan.Fong@energy.ca.gov>
Sent: Monday, March 16, 2015 2:58 PM
To: Lauren Bresnahan
Subject: RE: Russell City Condition WASTE-5

Lauren,

You may discontinue testing of the ZLD sludge. Siting Engineering Staff has reviewing the request and effective March 11, 2015 has approved the change.

Jonathan Fong
Compliance Project Manager
California Energy Commission
1516 Ninth Street, MS 2000
Sacramento, CA 95814-5512
(916) 654-5005

From: Lauren Bresnahan [mailto:Lauren.Bresnahan@calpine.com]
Sent: Friday, February 27, 2015 7:45 AM
To: Fong, Jonathan@Energy
Subject: RE: Russell City Condition WASTE-5

Thanks, Jon. No rush on my part.

LAUREN BRESNAHAN
Office: (510) 731-1407
Cell: (954) 812-4261

From: Fong, Jonathan@Energy [mailto:Jonathan.Fong@energy.ca.gov]
Sent: Friday, February 27, 2015 7:09 AM
To: Lauren Bresnahan
Subject: RE: Russell City Condition WASTE-5

Lauren, I sent a request to the Waste technical senior. I see Bruce sent it to them shortly after your initial submittal, but I have no copies of anything returned.

I'll try to have this sorted out by next week for you.

Thanks,

Jon

From: Lauren Bresnahan [mailto:Lauren.Bresnahan@calpine.com]
Sent: Thursday, February 26, 2015 11:04 AM
To: Fong, Jonathan@Energy
Subject: FW: Russell City Condition WASTE-5

Hi Jonathan,

Please see the email below. I want to make sure you're aware that this was submitted to Bruce. Will you please provide an update?

Thanks,

LAUREN BRESNAHAN
Office: (510) 731-1407
Cell: (954) 812-4261

From: Lauren Bresnahan
Sent: Tuesday, November 25, 2014 3:50 PM
To: Bruce Boyer (BBoyer@energy.ca.gov)
Cc: Jill Van Dalen; Barbara McBride; David Williams; Betty Chu; Jessica Leung; Bruce Carlsen; ESDublin; Eugene Fahey; Cameron White; Marjorie Oxsen
Subject: Russell City Condition WASTE-5

Hi Bruce,

Attached please find the request to discontinue testing of the ZLD salt cake as stipulated in the Verification section of Condition WASTE-5 after two consecutive tests show the cake is non-hazardous.

Regards,

LAUREN BRESNAHAN
ENVIRONMENTAL HEALTH AND SAFETY SPECIALIST
RUSSELL CITY ENERGY CENTER
CALPINE CORPORATION
Office: (510) 731-1407
Cell: (954) 812-4261
Email: Lauren.Bresnahan@calpine.com

Russell City Energy Company, LLC

717 Texas Avenue
Suite 1000
Houston, TX 77002

November 25, 2014

Mr. Bruce Boyer
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

Re: WASTE-5 ZLD Salt Cake Testing
Russell City Energy Center # B8136
Application for Certification - 01-AFC-7C

Mr. Boyer,

As required by the Final Commission Decision for the Russell City Energy Center (RCEC), Amendment No. 1 (01-AFC-7C), Condition of Certification WASTE-5, RCEC has tested the ZLD salt cake twice during the first year of operation. The first sample was taken in September 2013, and the second sample was taken in July 2014. Both ZLD salt cake laboratory analyses determined that the waste is non-hazardous. The laboratory reports are enclosed.

As stipulated in the Verification section to Condition of Certification WASTE-5, RCEC is hereby requesting to discontinue further testing of the ZLD salt cake. Under the Verification section to Condition of Certification WASTE-5, RCEC may apply to the CPM to discontinue testing if two consecutive tests taken six months apart show the cake is non-hazardous.

If you have any questions or need more information, please call me at (510) 731-1407.

Sincerely,

Lauren Bresnahan
Authorized Signatory and EH&S Specialist
Russell City Energy Company, LLC

Enclosures

INDUSTRIAL WASTE & DISPOSAL SERVICES AGREEMENT

EXHIBIT A

SITE: Altamont Landfill *for tsc use only*

PROFILE 615026CA *for tsc use only*

Billing Customer Information	Job Site Contact Information	Service Location (Generator)
PSC Industrial Outsoucing (Acct# 2902)		Calpine Corporation
1802 Shelton Dr		Russel City Energy Center
Hollister, CA 95023		Haywayrd, CA 94514
Erik Halden		Erik Halden
Phone (707) 333-0097	Phone	Phone (707) 333-0097
Fax	Fax	Fax
Email erik.halden@pscnow.com	Email	Email erik.halden@pscnow.com
PO Required	PO Number	

Sales Contacts

WM TSR:	Tracy Vierra	**WM TSR Phone:**	559-834-3345	**WM TSR Fax:**	866-652-3750
WM Sales Rep:	Brian Mansfield	**Sales Rep ID**	322		

SERVICE INFORMATION

Material / Volume:	**Filter Cake / 600 Tons**

PRICING:

Profile Approval Fee:	**$90.00**
Disposal Price:	**Cover: $18.00 Per Ton or Disposal: $45.00 Per Ton (1 Ton Minimum Per Load)**
Fuel Surcharge:	**Subject to change weekly**
Environmental Fee:	**Add**
Taxes:	**n/a**
RCR Charge:	**Waived Per MSA**
Transportation Fee:	n/a
Demurrage:	n/a
Liner:	n/a
Rolloff Can Delivery Fee	n/a
Rent:	n/a
No Load Fee:	n/a

SPECIAL FEES (WHEN APPLICABLE):

Discrepancies:	**Will be billed at surcharge rate**
Certificate of Destruction:	**$184.00 Each**
Immediate Burial Fee:	**$53.00 Each**
Non-Hazardous Manifest Printing Fee:	**$10.00 each (1-10 pages) $5.00 each (11-25 pages) $3.50 each (26-50 pages)**
Overweight Fee (>80,100 pounds):	**$53.00 Each**
Reports / Document Copy Fee:	**$0.50 per Page if Requested**
Rush Approval Fees:	**$250.00 Priority Approval Fee (<48 Hours)**
	$500.00 Same Day Approval Fee
Special Handling Fee:	**$500.00 Each**
Tonnage Report:	**$5.00 per Report**
Washout Fee:	**$290.00 Each**
Water Truck Usage:	**$175.00 Each**
Other:	
Contract Expiration Date:	**Pricing will be held for 30 days from date of quote**

Additional Information: These prices are subject to final confirmation via the WM approval and contracting process initiated by submission of sample/analysis and/or paperwork. Terms and Conditions of Approval will be listed in WM Solutions Account under the WAM Approval Form upon final approval confirmation.

CONDITIONS OF THE INDUSTRIAL WASTE & DISPOSAL SERVICES AGREEMENT BETWEEN THE PARTIES
DATED: Strategic Account
Waste Management is permitted and licenced to process the waste that has been identified in the profile referenced above.

CUSTOMER:

By: ERIK HALDEN 9/24/13 Date
Name:
Title: BUSINESS DEV REP

COMPANY:

By: 9/24/2013 Date
Name: Tracy Vierra
Title: TSR

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-52369-1
Client Project/Site: Calpine-Russell City

For:
Specialized Contracting Services Inc
PO BOX 1269
Valley Springs, California 95252

Attn: Cody Key

Authorized for release by:
9/20/2013 4:16:13 PM
Afsaneh Salimpour, Project Manager I
afsaneh.salimpour@testamericainc.com

Designee for

Dimple Sharma, Project Manager I
dimple.sharma@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-52369-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-52369-1

Comments
No additional comments.

Receipt
The samples were received on 9/17/2013 12:14 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 26.0º C.

GC/MS VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Detection Summary

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Client Sample ID: FCS-1

Lab Sample ID: 720-52369-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.1		0.99		mg/Kg	1		8015B	Silica Gel Cleanup
Antimony	3.0		1.9		mg/Kg	4		6010B	Total/NA
Barium	21		1.9		mg/Kg	4		6010B	Total/NA
Chromium	5.4		1.9		mg/Kg	4		6010B	Total/NA
Cobalt	3.1		0.75		mg/Kg	4		6010B	Total/NA
Copper	12		5.7		mg/Kg	4		6010B	Total/NA
Lead	5.1		1.9		mg/Kg	4		6010B	Total/NA
Molybdenum	14		1.9		mg/Kg	4		6010B	Total/NA
Nickel	10		1.9		mg/Kg	4		6010B	Total/NA
Vanadium	8.1		1.9		mg/Kg	4		6010B	Total/NA
Zinc	92		5.7		mg/Kg	4		6010B	Total/NA
Mercury	0.014		0.0095		mg/Kg	1		7471A	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Client Sample ID: FCS-1
Date Collected: 09/17/13 11:15
Date Received: 09/17/13 12:14

Lab Sample ID: 720-52369-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg		09/18/13 19:47	09/19/13 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*77*		*45 - 131*	*09/18/13 19:47*	*09/19/13 03:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*124*		*60 - 140*	*09/18/13 19:47*	*09/19/13 03:58*	*1*
Toluene-d8 (Surr)	*83*		*58 - 140*	*09/18/13 19:47*	*09/19/13 03:58*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.1**		0.99		mg/Kg		09/19/13 19:22	09/20/13 12:51	1
Motor Oil Range Organics [C24-C36]	ND		50		mg/Kg		09/19/13 19:22	09/20/13 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.005*		*0 - 1*	*09/19/13 19:22*	*09/20/13 12:51*	*1*
p-Terphenyl	*89*		*38 - 148*	*09/19/13 19:22*	*09/20/13 12:51*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**3.0**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Arsenic	ND		3.8		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Barium	**21**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Beryllium	ND		0.38		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Cadmium	ND		0.47		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Chromium	**5.4**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Cobalt	**3.1**		0.75		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Copper	**12**		5.7		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Lead	**5.1**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Molybdenum	**14**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Nickel	**10**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Selenium	ND		3.8		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Silver	ND		0.94		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Thallium	ND		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Vanadium	**8.1**		1.9		mg/Kg		09/17/13 21:48	09/18/13 13:40	4
Zinc	**92**		5.7		mg/Kg		09/17/13 21:48	09/18/13 13:40	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.014**		0.0095		mg/Kg		09/19/13 14:51	09/20/13 14:35	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-144490/4
Matrix: Solid
Analysis Batch: 144490

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			09/18/13 19:18	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*75*		*41 - 535*		*09/57/538 59 57*	*5*
5:, -2 Dcloroelrct ne-a48(urrS	*503*		*) 0 - 540*		*09/57/538 59 57*	*5*
6oluene-a78(urrS	*77*		*17 - 540*		*09/57/538 59 57*	*5*

Lab Sample ID: LCS 720-144490/7
Matrix: Solid
Analysis Batch: 144490

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO) -C5-C12			1000	867		ug/Kg		87	61 - 128		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*41 - 535*
5:, -2 Dcloroelrct ne-a48(urrS	*50,*		*) 0 - 540*
6oluene-a78(urrS	*501*		*17 - 540*

Lab Sample ID: LCSD 720-144490/8
Matrix: Solid
Analysis Batch: 144490

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12			1000	867		ug/Kg		87	61 - 128	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*500*		*41 - 535*
5:, -2 Dcloroelrct ne-a48(urrS	*501*		*) 0 - 540*
6oluene-a78(urrS	*504*		*17 - 540*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-144599/1-A
Matrix: Solid
Analysis Batch: 144615

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 144599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		09/19/13 19:22	09/20/13 12:27	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		09/19/13 19:22	09/20/13 12:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tt CrDSp i Da8(urrS	*0A000)*		*0 - 5*	*09/59/538 59 , ,*	*09/, 0/538 5, , .*	*5*
C-6erCcenyl	*94*		*37 - 547*	*09/59/538 59 , ,*	*09/, 0/538 5, , .*	*5*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 720-144599/2-A
Matrix: Solid
Analysis Batch: 144616

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 144599

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics [C10-C28]			82.2	57.9		mg/Kg		71	36 - 112		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
C-6erCcenyl	*91*		*37 - 547*

Lab Sample ID: LCSD 720-144599/3-A
Matrix: Solid
Analysis Batch: 144616

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 144599

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]			82.6	61.1		mg/Kg		74	36 - 112	5	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
C-6erCcenyl	*50,*		*37 - 547*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-144442/1-A
Matrix: Solid
Analysis Batch: 144496

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 144442

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Arsenic	ND		1.0		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Barium	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Beryllium	ND		0.10		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Cadmium	ND		0.13		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Chromium	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Cobalt	ND		0.20		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Copper	ND		1.5		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Lead	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Molybdenum	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Nickel	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Selenium	ND		1.0		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Silver	ND		0.25		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Thallium	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Vanadium	ND		0.50		mg/Kg		09/17/13 21:48	09/18/13 13:11	1
Zinc	ND		1.5		mg/Kg		09/17/13 21:48	09/18/13 13:11	1

Lab Sample ID: LCS 720-144442/2-A
Matrix: Solid
Analysis Batch: 144496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 144442

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Antimony			50.0	49.1		mg/Kg		98	80 - 120		
Arsenic			50.0	50.5		mg/Kg		101	80 - 120		

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-144442/2-A
Matrix: Solid
Analysis Batch: 144496

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 144442

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	50.0	50.3		mg/Kg		101	80 - 120
Beryllium	50.0	50.2		mg/Kg		100	80 - 120
Cadmium	50.0	49.7		mg/Kg		99	80 - 120
Chromium	50.0	50.9		mg/Kg		102	80 - 120
Cobalt	50.0	52.1		mg/Kg		104	80 - 120
Copper	50.0	50.9		mg/Kg		102	80 - 120
Lead	50.0	51.2		mg/Kg		102	80 - 120
Molybdenum	50.0	51.4		mg/Kg		103	80 - 120
Nickel	50.0	51.2		mg/Kg		102	80 - 120
Selenium	50.0	48.5		mg/Kg		97	80 - 120
Silver	25.0	24.4		mg/Kg		98	80 - 120
Thallium	50.0	51.0		mg/Kg		102	80 - 120
Vanadium	50.0	50.0		mg/Kg		100	80 - 120
Zinc	50.0	51.1		mg/Kg		102	80 - 120

Lab Sample ID: LCSD 720-144442/3-A
Matrix: Solid
Analysis Batch: 144496

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 144442

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	50.0	49.0		mg/Kg		98	80 - 120	0	20
Arsenic	50.0	50.1		mg/Kg		100	80 - 120	1	20
Barium	50.0	50.3		mg/Kg		101	80 - 120	0	20
Beryllium	50.0	50.4		mg/Kg		101	80 - 120	0	20
Cadmium	50.0	48.4		mg/Kg		97	80 - 120	3	20
Chromium	50.0	49.6		mg/Kg		99	80 - 120	3	20
Cobalt	50.0	51.5		mg/Kg		103	80 - 120	1	20
Copper	50.0	49.1		mg/Kg		98	80 - 120	3	20
Lead	50.0	50.1		mg/Kg		100	80 - 120	2	20
Molybdenum	50.0	50.4		mg/Kg		101	80 - 120	2	20
Nickel	50.0	50.2		mg/Kg		100	80 - 120	2	20
Selenium	50.0	47.6		mg/Kg		95	80 - 120	2	20
Silver	25.0	23.4		mg/Kg		94	80 - 120	4	20
Thallium	50.0	50.0		mg/Kg		100	80 - 120	2	20
Vanadium	50.0	48.3		mg/Kg		97	80 - 120	4	20
Zinc	50.0	50.5		mg/Kg		101	80 - 120	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-144578/1-A
Matrix: Solid
Analysis Batch: 144659

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 144578

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		09/19/13 14:51	09/20/13 13:50	1

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 720-144578/2-A
Matrix: Solid
Analysis Batch: 144659

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 144578

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.833	0.828		mg/Kg		99	80 - 120		

Lab Sample ID: LCSD 720-144578/3-A
Matrix: Solid
Analysis Batch: 144659

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 144578

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury			0.833	0.842		mg/Kg		101	80 - 120	2	20

GC/MS VOA

Analysis Batch: 144490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	8260B/CA_LUFT MS	144515
LCS 720-144490/7	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-144490/8	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
MB 720-144490/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 144515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	5030B	

GC Semi VOA

Prep Batch: 144599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Silica Gel Cleanup	Solid	3546	
LCS 720-144599/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	3546	
LCSD 720-144599/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	3546	
MB 720-144599/1-A	Method Blank	Silica Gel Cleanup	Solid	3546	

Analysis Batch: 144615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Silica Gel Cleanup	Solid	8015B	144599
MB 720-144599/1-A	Method Blank	Silica Gel Cleanup	Solid	8015B	144599

Analysis Batch: 144616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-144599/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	8015B	144599
LCSD 720-144599/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	8015B	144599

Metals

Prep Batch: 144442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	3050B	
LCS 720-144442/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 720-144442/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 720-144442/1-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 144496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	6010B	144442
LCS 720-144442/2-A	Lab Control Sample	Total/NA	Solid	6010B	144442
LCSD 720-144442/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	144442
MB 720-144442/1-A	Method Blank	Total/NA	Solid	6010B	144442

Prep Batch: 144578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	7471A	

Metals (Continued)

Prep Batch: 144578 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 720-144578/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 720-144578/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 720-144578/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 144659

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-52369-1	FCS-1	Total/NA	Solid	7471A	144578
LCS 720-144578/2-A	Lab Control Sample	Total/NA	Solid	7471A	144578
LCSD 720-144578/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	144578
MB 720-144578/1-A	Method Blank	Total/NA	Solid	7471A	144578

Lab Chronicle

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Client Sample ID: FCS-1

Lab Sample ID: 720-52369-1

Date Collected: 09/17/13 11:15

Matrix: Solid

Date Received: 09/17/13 12:14

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			144515	09/18/13 19:47	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	144490	09/19/13 03:58	PDR	TAL PLS
Silica Gel Cleanup	Prep	3546			144599	09/19/13 19:22	NDU	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	144615	09/20/13 12:51	DCH	TAL PLS
Total/NA	Prep	3050B			144442	09/17/13 21:48	CTD	TAL PLS
Total/NA	Analysis	6010B		4	144496	09/18/13 13:40	EFH	TAL PLS
Total/NA	Prep	7471A			144578	09/19/13 14:51	ECT	TAL PLS
Total/NA	Analysis	7471A		1	144659	09/20/13 14:35	EFH	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-14

Method Summary

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Specialized Contracting Services Inc
Project/Site: Calpine-Russell City

TestAmerica Job ID: 720-52369-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-52369-1	FCS-1	Solid	09/17/13 11:15	09/17/13 12:14

Chain of Custody Record

720-52369

Test America - San Francisco
1220 Quarry Lane - Pleasanton, CA
(925) 484-1919

SPECIALIZED CONTRACTING SERVICES, INC.

148670

9/20/2013

Company: Specialized Contracting Services, Inc.	Project Name: Calpine - Russell City	Sampled By: Cody Key	Report To: Cody Key, cody@getscsi.com
P.O. Box 1269 Valley Springs, CA 95252 Phone: (209) 763-2876	Project Location: Depot Rd. Hayward, CA	Signature: [signature] Date: 9/17/13	
Project Manager: Cody Key	PO/JOB #: 613147		
Phone: (916) 248-2130	Test America Quote#: 72008115		
E-Mail: cody@getscsi.com			

	Sample Date	Sample Time	# of Containers	Preservative	Matrix: Groundwater	Wastewater	Drinking Water	Sludge	Soil	Other	VOC w/GRO (EPA 8260)	TPH DRO and Motor Oil (EPA 8015B)	w/Silica Gel Cleanup (EPA 3630M)	Pesticides (EPA 8081A)	PCB's (EPA 8082)	SVOC (EPA 8270C)	CAM 17 (EPA 6010B)	TPH G/D/MO w/silica gel cleanup			Sample Specific Notes
Sample Identification																					
1 FCS-1	9/17	11:15	1	4 hr.					X								X	X	X		
2 FCS-2	↓	↓	↓	↓					X												HOLD
3																					
4																					
5																					
6																					RUSH
7																					
8																					
9																					
10																					

720-52369 Chain of Custody

Preservatives: Ice, HCL, H2SO4, HNO3, NaOH

Turn Around Time

Possible Hazard Identification

☒ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison

☐ 5 Days (standard) ☒ 72 Hours ☐ 48 Hours ☐ 24 Hours

Special Instructions/QC Requirements & Comments	Laboratory Comments.	Temperature:
		26.2

Relinquished by:	Company	Date	Time	Received by:	Company:	Date	Time
Cody Key [signature]	SCSI	9/17/13	12:14	[signature]	TA	9-17-13	1214
Relinquished by	Company	Date	Time	Received by	Company	Date	Time
Relinquished by:	Company	Date	Time	Received by:	Company:	Date	Time

Login Sample Receipt Checklist

Client: Specialized Contracting Services Inc

Job Number: 720-52369-1

Login Number: 52369

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Mullen, Joan

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

WASTE MANAGEMENT

EZ Profile™

Requested Facility: Altamont Landfill & Resource Recovery ☐ Unsure Profile Number: 615026CA

☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☑ Renewal? Original Profile Number: 615026CA

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: Calpine Corporation
2. Site Address: Russell City Energy Center
   (City, State, ZIP) Hayward CA 94514
3. County: Alameda
4. Contact Name: Erik Halden
5. Email: erik.halden@pscnow.com
6. Phone: (707) 333-0097 7. Fax: _____
8. Generator EPA ID: _____ ☑ N/A
9. State ID: _____ ☑ N/A

B. BILLING INFORMATION ☐ SAME AS GENERATOR

1. Billing Name: PSC
2. Billing Address: 1802 Shelton Drive
   (City, State, ZIP) Hollister CA 95023
3. Contact Name: David Matthews
4. Email: David.matthews@pscnow.com
5. Phone: (916) 955-3914 6. Fax: _____
7. WM Hauled? ☐ Yes ☑ No
8. P.O. Number: _____
9. Payment Method: ☐ Credit Account ☐ Cash ☐ Credit Card

C. MATERIAL INFORMATION

1. Common Name: Filter Cake
   Describe Process Generating Material: ☐ See Attached
   Cooling Tower Sludge
2. Material Composition and Contaminants: ☐ See Attached

1. Cooling Tower Sludge (Filter Cake)	100 %
2.	
3.	
4.	
Total composition must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ☑ N/A
4. Color: Brown
5. Physical State at 70°F: ☑ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☑ N/A
7. pH: 4 to 10 ☐ N/A
8. Strong Odor: ☐ Yes ☑ No Describe: _____
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☐ ≥200° ☑ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: _____
2. State Hazardous Waste? ☐ Yes ☑ No
   Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. Contains benzene **and** subject to Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☑ No
   a. Regulated by 40 CFR 761? ☐ Yes ☐ No
   b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
   c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes ☑ No
    → If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:
   J59102-1
2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 600
   ☑ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Roll Off Box
4. USDOT Proper Shipping Name: ☑ N/A

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Name (Print): DAVID MATTHEWS Date: 08/15/2014

Title: Sr. Project Manager

Company: PSC

Certification Signature

THINK GREEN®

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Revised May 2, 2014

CLS - Labs CHAIN OF CUSTODY CLS ID No.: ______ LOG NO. 153628

REPORT TO:	
NAME AND ADDRESS	Specialized Contracting Service Inc, P.O. Box 1265, Valley Springs CA 95252
PROJECT MANAGER	David Matthews
PHONE#	916 953-3514
PROJECT NAME	Russell City Energy Co LLC
SAMPLED BY	Vic Zorzynski
JOB DESCRIPTION	Filter Cake Study
SITE LOCATION	3862 Depot Rd Hayward CA

CLIENT JOB NUMBER: 122-1305-0024

DESTINATION LABORATORY

☐ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA. 95742

☒ OTHER: Test America

PRESERVATIVES

ANALYSIS REQUESTED: CAM 17; TPH G & D; w/Silica gel Cleanup

GEOTRACKER:
EDF REPORT ☐ YES ☐ NO
GLOBAL ID: ______

COMPOSITE:

FIELD CONDITIONS:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	CAM 17	TPH G & D	w/Silica gel Cleanup	TURN AROUND TIME: 1 DAY	2 DAY	3 DAY	5 DAY
8/6	12:10	Filter cake BD		1	Bag	X	X	X				X

SPECIAL INSTRUCTIONS OR ALT. ID: Send results to David@mepsc.com

INVOICE TO: SCSI

P.O. #: DM8-6-14

QUOTE #:

SUSPECTED CONSTITUENTS

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
[signature]	Vic Zorzynski Calpine	8/6/14 1210	[signature]	David Matthews PSC
[signature]	David Matthews PSC	8/6/14 1800	[signature]	J Gonzalez TAP

REC'D AT LAB BY:

DATE / TIME:

CONDITIONS / COMMENTS: 12.2°C

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER ______ AIR BILL #

PROJECT MGR./FIELD SAMPLER/TERMS & CONDITIONS

CLS - Labs 720-59102 CHAIN OF CUSTODY

CLS ID No.: 155431

LOG NO. 153628

REPORT TO:

NAME AND ADDRESS: Specialized Consulting Services Inc
P.O. Box 1269
Valley Springs, CA 95252

PROJECT MANAGER: Dave Matthews
PHONE#: 916-955-3914

PROJECT NAME: Russell City Energy Co LLC

SAMPLED BY: Vic Zorzynski

JOB DESCRIPTION: Filter Cake Sludge

SITE LOCATION: 3862 Depot Rd Hayward, CA

CLIENT JOB NUMBER: 122-1305-0024-Task5

DESTINATION LABORATORY:

☐ CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA.
95742

☒ OTHER
Test America

PRESERVATIVES

ANALYSIS REQUESTED

CAM 17 | TPH 6 D O | w/Silica gel Cleanup

GEOTRACKER:
EDF REPORT . ☐ YES ☐ NO
GLOBAL ID: _____

COMPOSITE:

FIELD CONDITIONS:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE	CAM 17	TPH 6 D O	w/Silica gel Cleanup	TURN AROUND TIME 1 DAY	2 DAY	3 DAY	5 DAY	SPECIAL INSTRUCTIONS OR ALT. ID:
8/6	12:10	Filter cake BD		1	Bty	X	X	X				X	
													Send result to:
													DaveDmepscrow.com
													INVOICE TO: SCSI
													PO. # DM8-6-14
													QUOTE #

720-59102 Chain of Custody

SUSPECTED CONSTITUENTS

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
	Vic Zorzynski Calpine	8/6/14 1210	Dave Matthews	Dave Matthews PSC
Dave Matthews	Dave Matthews PSC	8/6/14 1800		J Gonzales TAP

RECD AT LAB BY: | DATE / TIME: | CONDITIONS / COMMENTS: 12.2°C

SHIPPED BY: ☐ FED X ☐ UPS ☐ OTHER _____ AIR BILL #

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

TestAmerica Job ID: 720-59102-1
Client Project/Site: Russell City Energy Co, LLC

For:
PSC Environmental Services
1802 Shelton Drive
Hollister, California 95023

Attn: Sam Yearby

Authorized for release by:
8/13/2014 4:28:24 PM
Afsaneh Salimpour, Senior Project Manager
afsaneh.salimpour@testamericainc.com

Designee for

Dimple Sharma, Senior Project Manager
(925)484-1919
dimple.sharma@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: PSC Environmental Services
Project/Site: Russell City Energy Co, LLC

TestAmerica Job ID: 720-59102-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 720-59102-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-59102-1

Comments
No additional comments.

Receipt
The sample was received on 8/6/2014 1:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 12.2° C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method(s) 6010B: The serial dilution performed for the following sample associated with prep batch 164513 was outside control limits: (720-59112-1 SD)

Method(s) 6010B: The following sample was diluted due to the abundance of non-target analyte : FILTER CAKE BIN (720-59102-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: PSC Environmental Services
Project/Site: Russell City Energy Co, LLC

TestAmerica Job ID: 720-59102-1

Client Sample ID: FILTER CAKE BIN

Lab Sample ID: 720-59102-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Diesel Range Organics [C10-C28]	1.2		0.98		mg/Kg	1		8015B	Silica Gel Cleanup
Barium	11		1.4		mg/Kg	4		6010B	Total/NA
Chromium	1.4		1.4		mg/Kg	4		6010B	Total/NA
Cobalt	3.7		0.56		mg/Kg	4		6010B	Total/NA
Copper	8.6		4.2		mg/Kg	4		6010B	Total/NA
Molybdenum	6.7		1.4		mg/Kg	4		6010B	Total/NA
Nickel	6.6		1.4		mg/Kg	4		6010B	Total/NA
Vanadium	4.8		1.4		mg/Kg	4		6010B	Total/NA
Zinc	100		4.2		mg/Kg	4		6010B	Total/NA

5

This Detection Summary does not include radiochemical test results.

Client Sample ID: FILTER CAKE BIN
Date Collected: 08/06/14 12:10
Date Received: 08/06/14 13:00

Lab Sample ID: 720-59102-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		230		ug/Kg		08/07/14 19:18	08/08/14 04:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*80*		*45 - 131*	*08/07/14 19:18*	*08/08/14 04:11*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*60 - 140*	*08/07/14 19:18*	*08/08/14 04:11*	*1*
Toluene-d8 (Surr)	*90*		*58 - 140*	*08/07/14 19:18*	*08/08/14 04:11*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) - Silica Gel Cleanup

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	**1.2**		0.98		mg/Kg		08/11/14 16:28	08/12/14 22:37	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		08/11/14 16:28	08/12/14 22:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0*		*0 - 1*	*08/11/14 16:28*	*08/12/14 22:37*	*1*
p-Terphenyl	*92*		*38 - 148*	*08/11/14 16:28*	*08/12/14 22:37*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Arsenic	ND		2.8		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Barium	**11**		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Beryllium	ND		0.28		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Cadmium	ND		0.35		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Chromium	**1.4**		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Cobalt	**3.7**		0.56		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Copper	**8.6**		4.2		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Lead	ND		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Molybdenum	**6.7**		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Nickel	**6.6**		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Selenium	ND		2.8		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Silver	ND		0.70		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Thallium	ND		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Vanadium	**4.8**		1.4		mg/Kg		08/06/14 21:26	08/07/14 18:45	4
Zinc	**100**		4.2		mg/Kg		08/06/14 21:26	08/07/14 18:45	4

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0092		mg/Kg		08/07/14 14:44	08/12/14 18:12	1

Method: 8260B/CA_LUFTMS - 8260B / CA LUFT MS

Lab Sample ID: MB 720-164578/5
Matrix: Solid
Analysis Batch: 164578

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C5-C12	ND		250		ug/Kg			08/07/14 17:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*45 - 131*		*08/07/14 17:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*60 - 140*		*08/07/14 17:43*	*1*
Toluene-d8 (Surr)	*95*		*58 - 140*		*08/07/14 17:43*	*1*

Lab Sample ID: LCS 720-164578/8
Matrix: Solid
Analysis Batch: 164578

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C5-C12	1000	1080		ug/Kg		108	61 - 128

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*99*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*102*		*60 - 140*
Toluene-d8 (Surr)	*97*		*58 - 140*

Lab Sample ID: LCSD 720-164578/9
Matrix: Solid
Analysis Batch: 164578

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C5-C12	1000	1100		ug/Kg		110	61 - 128	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*100*		*45 - 131*
1,2-Dichloroethane-d4 (Surr)	*101*		*60 - 140*
Toluene-d8 (Surr)	*97*		*58 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 720-164730/1-A
Matrix: Solid
Analysis Batch: 164751

Client Sample ID: Method Blank
Prep Type: Silica Gel Cleanup
Prep Batch: 164730

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.99		mg/Kg		08/11/14 16:28	08/13/14 06:43	1
Motor Oil Range Organics [C24-C36]	ND		49		mg/Kg		08/11/14 16:28	08/13/14 06:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Capric Acid (Surr)	*0.01*		*0 - 1*	*08/11/14 16:28*	*08/13/14 06:43*	*1*
p-Terphenyl	*108*		*38 - 148*	*08/11/14 16:28*	*08/13/14 06:43*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 720-164730/2-A
Matrix: Solid
Analysis Batch: 164751

Client Sample ID: Lab Control Sample
Prep Type: Silica Gel Cleanup
Prep Batch: 164730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	82.9	70.2		mg/Kg		85	36 - 112

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
p-Terphenyl	*107*		*38 - 148*

Lab Sample ID: LCSD 720-164730/3-A
Matrix: Solid
Analysis Batch: 164751

Client Sample ID: Lab Control Sample Dup
Prep Type: Silica Gel Cleanup
Prep Batch: 164730

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	82.7	70.8		mg/Kg		86	36 - 112	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
p-Terphenyl	*105*		*38 - 148*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 720-164513/1-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 164513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Arsenic	ND		1.0		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Barium	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Beryllium	ND		0.10		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Cadmium	ND		0.13		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Chromium	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Cobalt	ND		0.20		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Copper	ND		1.5		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Lead	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Molybdenum	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Nickel	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Selenium	ND		1.0		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Silver	ND		0.25		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Thallium	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Vanadium	ND		0.50		mg/Kg		08/06/14 21:26	08/07/14 17:19	1
Zinc	ND		1.5		mg/Kg		08/06/14 21:26	08/07/14 17:19	1

Lab Sample ID: LCS 720-164513/2-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 164513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	43.2		mg/Kg		86	80 - 120
Arsenic	50.0	46.4		mg/Kg		93	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 720-164513/2-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 164513

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	50.0	49.2		mg/Kg		98	80 - 120
Beryllium	50.0	47.4		mg/Kg		95	80 - 120
Cadmium	50.0	46.3		mg/Kg		93	80 - 120
Chromium	50.0	47.7		mg/Kg		95	80 - 120
Cobalt	50.0	48.0		mg/Kg		96	80 - 120
Copper	50.0	47.5		mg/Kg		95	80 - 120
Lead	50.0	47.5		mg/Kg		95	80 - 120
Molybdenum	50.0	48.8		mg/Kg		98	80 - 120
Nickel	50.0	47.6		mg/Kg		95	80 - 120
Selenium	50.0	45.2		mg/Kg		90	80 - 120
Silver	25.0	23.8		mg/Kg		95	80 - 120
Thallium	50.0	48.4		mg/Kg		97	80 - 120
Vanadium	50.0	48.2		mg/Kg		96	80 - 120
Zinc	50.0	43.8		mg/Kg		88	80 - 120

Lab Sample ID: LCSD 720-164513/3-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 164513

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	50.0	45.5		mg/Kg		91	80 - 120	5	20
Arsenic	50.0	47.6		mg/Kg		95	80 - 120	3	20
Barium	50.0	51.3		mg/Kg		103	80 - 120	4	20
Beryllium	50.0	49.3		mg/Kg		99	80 - 120	4	20
Cadmium	50.0	47.3		mg/Kg		95	80 - 120	2	20
Chromium	50.0	48.6		mg/Kg		97	80 - 120	2	20
Cobalt	50.0	49.1		mg/Kg		98	80 - 120	2	20
Copper	50.0	48.6		mg/Kg		97	80 - 120	2	20
Lead	50.0	48.7		mg/Kg		97	80 - 120	3	20
Molybdenum	50.0	50.7		mg/Kg		101	80 - 120	4	20
Nickel	50.0	48.7		mg/Kg		97	80 - 120	2	20
Selenium	50.0	46.5		mg/Kg		93	80 - 120	3	20
Silver	25.0	24.2		mg/Kg		97	80 - 120	2	20
Thallium	50.0	49.5		mg/Kg		99	80 - 120	2	20
Vanadium	50.0	49.5		mg/Kg		99	80 - 120	3	20
Zinc	50.0	44.8		mg/Kg		90	80 - 120	2	20

Lab Sample ID: LCSSRM 720-164513/18-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 164513

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	74.6	37.0		mg/Kg		50	11 - 101
Arsenic	45.5	42.2		mg/Kg		93	69 - 119
Barium	579	586		mg/Kg		101	61 - 117
Beryllium	155	145		mg/Kg		94	56 - 102
Cadmium	201	181		mg/Kg		90	67 - 118
Chromium	106	97.9		mg/Kg		92	67 - 121
Cobalt	247	227		mg/Kg		92	64 - 133

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCSSRM 720-164513/18-A
Matrix: Solid
Analysis Batch: 164590

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 164513

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	130	125		mg/Kg		96	68 - 126
Lead	302	269		mg/Kg		89	62 - 113
Molybdenum	165	153		mg/Kg		93	62 - 128
Nickel	305	279		mg/Kg		91	65 - 117
Selenium	133	120		mg/Kg		90	63 - 126
Silver	33.5	32.6		mg/Kg		97	51 - 130
Thallium	191	172		mg/Kg		90	64 - 124
Vanadium	214	213		mg/Kg		100	67 - 123
Zinc	388	344		mg/Kg		89	62 - 110

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 720-164572/1-A
Matrix: Solid
Analysis Batch: 164817

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 164572

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.010		mg/Kg		08/07/14 14:44	08/12/14 16:18	1

Lab Sample ID: LCS 720-164572/2-A
Matrix: Solid
Analysis Batch: 164817

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 164572

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.833	0.858		mg/Kg		103	80 - 120

Lab Sample ID: LCSD 720-164572/3-A
Matrix: Solid
Analysis Batch: 164817

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 164572

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.833	0.858		mg/Kg		103	80 - 120	0	20

GC/MS VOA

Analysis Batch: 164578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	8260B/CA_LUFT MS	164591
LCS 720-164578/8	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
LCSD 720-164578/9	Lab Control Sample Dup	Total/NA	Solid	8260B/CA_LUFT MS	
MB 720-164578/5	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

Prep Batch: 164591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	5030B	

GC Semi VOA

Prep Batch: 164730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Silica Gel Cleanup	Solid	3546	
LCS 720-164730/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	3546	
LCSD 720-164730/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	3546	
MB 720-164730/1-A	Method Blank	Silica Gel Cleanup	Solid	3546	

Analysis Batch: 164751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Silica Gel Cleanup	Solid	8015B	164730
LCS 720-164730/2-A	Lab Control Sample	Silica Gel Cleanup	Solid	8015B	164730
LCSD 720-164730/3-A	Lab Control Sample Dup	Silica Gel Cleanup	Solid	8015B	164730
MB 720-164730/1-A	Method Blank	Silica Gel Cleanup	Solid	8015B	164730

Metals

Prep Batch: 164513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	3050B	
LCS 720-164513/2-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 720-164513/3-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
LCSSRM 720-164513/18-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 720-164513/1-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 164572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	7471A	
LCS 720-164572/2-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 720-164572/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 720-164572/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 164590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	6010B	164513
LCS 720-164513/2-A	Lab Control Sample	Total/NA	Solid	6010B	164513
LCSD 720-164513/3-A	Lab Control Sample Dup	Total/NA	Solid	6010B	164513

Metals (Continued)

Analysis Batch: 164590 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 720-164513/18-A	Lab Control Sample	Total/NA	Solid	6010B	164513
MB 720-164513/1-A	Method Blank	Total/NA	Solid	6010B	164513

Analysis Batch: 164817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-59102-1	FILTER CAKE BIN	Total/NA	Solid	7471A	164572
LCS 720-164572/2-A	Lab Control Sample	Total/NA	Solid	7471A	164572
LCSD 720-164572/3-A	Lab Control Sample Dup	Total/NA	Solid	7471A	164572
MB 720-164572/1-A	Method Blank	Total/NA	Solid	7471A	164572

Client Sample ID: FILTER CAKE BIN
Date Collected: 08/06/14 12:10
Date Received: 08/06/14 13:00

Lab Sample ID: 720-59102-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			164591	08/07/14 19:18	LPL	TAL PLS
Total/NA	Analysis	8260B/CA_LUFTMS		1	164578	08/08/14 04:11	ASC	TAL PLS
Silica Gel Cleanup	Prep	3546			164730	08/11/14 16:28	STL	TAL PLS
Silica Gel Cleanup	Analysis	8015B		1	164751	08/12/14 22:37	JL	TAL PLS
Total/NA	Prep	3050B			164513	08/06/14 21:26	ECT	TAL PLS
Total/NA	Analysis	6010B		4	164590	08/07/14 18:45	SLK	TAL PLS
Total/NA	Prep	7471A			164572	08/07/14 14:44	ASB	TAL PLS
Total/NA	Analysis	7471A		1	164817	08/12/14 18:12	SLK	TAL PLS

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: PSC Environmental Services
Project/Site: Russell City Energy Co, LLC

TestAmerica Job ID: 720-59102-1

Laboratory: TestAmerica Pleasanton

Unless otherwise noted, all analytes for this laboratory were covered under each certification below

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
6010B	3050B	Solid	Thallium

Method Summary

Client: PSC Environmental Services
Project/Site: Russell City Energy Co, LLC

TestAmerica Job ID: 720-59102-1

Method	Method Description	Protocol	Laboratory
8260B/CA_LUFTMS	8260B / CA LUFT MS	SW846	TAL PLS
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL PLS
6010B	Metals (ICP)	SW846	TAL PLS
7471A	Mercury (CVAA)	SW846	TAL PLS

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: PSC Environmental Services
Project/Site: Russell City Energy Co, LLC

TestAmerica Job ID: 720-59102-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-59102-1	FILTER CAKE BIN	Solid	08/06/14 12:10	08/06/14 13:00

CONDITION OF CERTIFICATION
WATER-4

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

DAILY WATER USAGE (Gallons per Day)

	RECYCLED WATER			POTABLE WATER	
	Cooling Tower			Fire Protection/ Service Water [1,2]	Domestic Use [1,2]
	Min.	Max.	Avg.	Avg.	Avg.
Jul-14	0	1,863,815	513,929	80,220	195
Aug-14	122,593	2,172,527	1,408,876	247,348	225
Sep-14	0	2,124,832	1,280,180	219,855	218
Oct-14	0	2,257,115	1,150,631	138,776	229
Nov-14	0	2,208,118	708,051	125,894	216
Dec-14	0	1,769,984	300,121	100,320	203
Jan-15	0	1,359,000	270,323	109,373	192
Feb-15	0	1,790,000	447,857	192,609	172
Mar-15	0	1,878,000	998,452	195,024	167
Apr-15	0	1,970,523	1,194,985	254,276	178
May-15	100,464	1,946,480	1,098,841	229,366	167
Jun-15	0	2,467,307	1,031,084	129,108	139

MONTHLY WATER USAGE TOTALS (Acre-Feet)

	RECYCLED WATER	POTABLE WATER	
	Cooling Tower	Fire Protection/ Service Water[1]	Domestic Use[1]
Jul-14	48.89	7.63	0.02
Aug-14	134.03	23.53	0.02
Sep-14	117.86	20.24	0.02
Oct-14	109.47	13.20	0.02
Nov-14	65.19	11.59	0.02
Dec-14	28.55	9.54	0.02
Jan-15	25.72	10.41	0.02
Feb-15	38.48	16.55	0.01
Mar-15	94.99	18.55	0.02
Apr-15	110.02	23.41	0.02
May-15	104.54	21.82	0.02
Jun-15	94.93	11.89	0.01

ANNUAL WATER USAGE TOTALS (Acre-Feet)

	RECYCLED WATER	POTABLE WATER	
	Cooling Tower	Fire Protection/ Service Water[1]	Domestic Use[1]
August 8, 2013 - June 30, 2014	972.67	188.37	0.22

[1] Potable water use obtained from the City of Hayward's potable water revenue meters. Potable water used for domestic purposes and various service water purposes.

[2] Average daily uses estimated from total volumes obtained from City of Hayward's potable water revenue meters. No volume ranges available.

CONDITION OF CERTIFICATION
WATER-9

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City Energy Company, LLC

3862 Depot Road
Hayward, CA 94545

September 4, 2014

Mr. Alejandro Perez
Sr. Water Pollution Source Control Inspector
Department of Public Works/Utilities & Environmental Services
City of Hayward
24499 Soto Road
Hayward, CA 94544

RE: Russell City Energy Center
Permit Number 13-8405.01-1SE
Official Self-Monitoring Report

Dear Mr. Perez:

Attached are the laboratory results of the required semiannual compliance monitoring for the Russell City Energy Center located at 3862 Depot Road in Hayward, California. This report is submitted as required by the City of Hayward Department of Public Works/Utilities & Environmental Services Water Pollution Source Control Program.

According to Industrial Wastewater Discharge Permit 13-8405.01-1SE the permittee is required on a semiannual basis to monitor its waste stream for all locally regulated pollutant constituents listed below:

1. pH
2. Arsenic (As)
3. Cadmium (Cd)
4. Chromium (Cr) Total
5. Copper (Cu)
6. Lead (Pb)
7. Mercury (Hg)
8. Nickel (Ni)
9. Silver (Ag)
10. Zinc (Zn)
11. Cyanide

In summary, the Russell City Energy Center sampled its sludge return waste stream on August 12, 2014 and is in compliance with all the aforementioned pollutant constituents.

If you have any questions or require further information, please contact me at (510)731-1407.

Sincerely,

Lauren Bresnahan
Authorized Signatory and EH&S Specialist
Russell City Energy Center

Alpha Analytical Laboratories Inc.
e-mail: clientservices@alpha-labs.com
Corporate: 208 Mason St., Ukiah, CA 95482 • Phone: (707) 468-0401 • Fax: (707) 468-5267
Bay Area: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309
Central Valley: 9090 Union Park Way, Suite 113, Elk Grove, CA 95624 • Phone: (916) 686-5190 • Fax: (916) 686-5192

ELAP Certificates 1551, 2728, and 2922

21 August 2014

Russell City Energy Co, LLC
Attn: Lauren Bresnahan
3590 Enterprise Avenue
Hayward, CA 94545
RE: RWF Sludge Return
Work Order: 14H0846

Enclosed are the results of analyses for samples received by the laboratory on 08/12/14 21:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanette Poplin

Jeanette L. Poplin For Robbie C. Phillips
Project Manager

Alpha Analytical Laboratories Inc.
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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 08/21/14 13:17
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RWF Sludge Return Comp.	14H0846-01	Water	08/12/14 10:00	08/12/14 21:10
RWF Sludge Return Grab	14H0846-02	Water	08/12/14 10:00	08/12/14 21:10

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 08/21/14 13:17
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
RWF Sludge Return Comp. (14H0846-01)			**Sample Type: Water**			**Sampled: 08/12/14 10:00**		
Metals by EPA 200 Series Methods								
Arsenic	EPA 200.7	AH40820	08/14/14 14:07	08/18/14 13:54	1	**0.012 mg/L**	**0.010**	
Cadmium	"	"	"	"	"	ND "	0.010	
Chromium	"	"	"	"	"	ND "	0.010	
Copper	"	"	"	"	"	**0.18 "**	**0.020**	
Lead	"	"	"	"	"	ND "	0.050	
Mercury	EPA 245.1	AH41436	08/14/14 11:49	08/15/14 14:55	"	ND ug/L	2.0	
Nickel	EPA 200.7	AH40820	08/14/14 14:07	08/18/14 13:54	"	**0.043 mg/L**	**0.010**	
Silver	"	"	"	"	"	ND "	0.010	
Zinc	"	"	"	"	"	**0.24 "**	**0.020**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Suspended Solids	SM2540D	AH41540	08/15/14 13:00	08/18/14 13:30	1	**1000 mg/L**	**1.0**	
Carbonaceous BOD	SM5210B	AH41357	08/13/14 10:30	08/18/14 11:30	"	**88 "**	**5.0**	
RWF Sludge Return Grab (14H0846-02)			**Sample Type: Water**			**Sampled: 08/12/14 10:00**		
Field Analyses								
pH	SM4500-H+ B	AH41814	08/12/14 10:00	08/12/14 10:00	1	**7.16 pH Units**	**1.68**	
Miscellaneous Physical/Conventional Chemistry Parameters								
Cyanide (total)	10-204-00-1X	AH41519	08/15/14 13:01	08/15/14 13:01	1	ND mg/L	0.020	

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 08/21/14 13:17
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH40820 - Metals Digest										
Blank (AH40820-BLK1)				Prepared: 08/08/14 Analyzed: 08/12/14						
Arsenic	ND	0.010	mg/L							
Cadmium	ND	0.010	"							
Chromium	ND	0.010	"							
Copper	ND	0.020	"							
Lead	ND	0.050	"							
Nickel	ND	0.010	"							
Silver	ND	0.010	"							
Zinc	ND	0.020	"							
LCS (AH40820-BS1)				Prepared: 08/08/14 Analyzed: 08/12/14						
Arsenic	0.174	0.010	mg/L	0.200		87.2	85-115			
Cadmium	0.184	0.010	"	0.200		92.0	85-115			
Chromium	0.191	0.010	"	0.200		95.7	85-115			
Copper	0.192	0.020	"	0.210		91.3	85-115			
Lead	0.189	0.050	"	0.200		94.4	85-115			
Nickel	0.189	0.010	"	0.200		94.7	85-115			
Silver	0.184	0.010	"	0.200		92.0	85-115			
Zinc	0.185	0.020	"	0.200		92.3	85-115			
Duplicate (AH40820-DUP1)	**Source: 14H0458-01**			Prepared: 08/08/14 Analyzed: 08/12/14						
Arsenic	ND	0.010	mg/L		ND				20	
Cadmium	ND	0.010	"		ND				20	
Chromium	ND	0.010	"		ND				20	
Copper	0.0827	0.020	"		0.0763			8.06	20	
Lead	ND	0.050	"		ND				20	
Nickel	0.0270	0.010	"		ND				20	
Silver	ND	0.010	"		ND				20	
Zinc	0.0362	0.020	"		0.0332			8.44	20	

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 08/21/14 13:17
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH40820 - Metals Digest										
Matrix Spike (AH40820-MS1)	**Source: 14H0458-01**			Prepared: 08/08/14 Analyzed: 08/12/14						
Arsenic	0.207	0.010	mg/L	0.200	ND	104	70-130			
Cadmium	0.192	0.010	"	0.200	ND	96.2	70-130			
Chromium	0.184	0.010	"	0.200	ND	92.0	70-130			
Copper	0.292	0.020	"	0.210	0.0763	103	70-130			
Lead	0.181	0.050	"	0.200	ND	90.3	70-130			
Nickel	0.207	0.010	"	0.200	ND	104	70-130			
Silver	0.193	0.010	"	0.200	ND	96.2	70-130			
Zinc	0.235	0.020	"	0.200	0.0332	101	70-130			
Matrix Spike (AH40820-MS2)	**Source: 14H0669-01**			Prepared: 08/11/14 Analyzed: 08/12/14						
Arsenic	0.203	0.010	mg/L	0.200	ND	101	70-130			
Cadmium	0.189	0.010	"	0.200	ND	94.3	70-130			
Chromium	0.195	0.010	"	0.200	ND	97.4	70-130			
Copper	2.61	0.020	"	0.210	2.55	26.9	70-130			QM-4X
Lead	0.227	0.050	"	0.200	ND	93.5	70-130			
Nickel	0.443	0.010	"	0.200	0.272	85.4	70-130			
Silver	0.194	0.010	"	0.200	ND	96.8	70-130			
Zinc	0.206	0.020	"	0.200	ND	93.8	70-130			
Matrix Spike Dup (AH40820-MSD1)	**Source: 14H0458-01**			Prepared: 08/08/14 Analyzed: 08/12/14						
Arsenic	0.200	0.010	mg/L	0.200	ND	99.8	70-130	3.83	20	
Cadmium	0.185	0.010	"	0.200	ND	92.3	70-130	4.09	20	
Chromium	0.176	0.010	"	0.200	ND	87.9	70-130	4.50	20	
Copper	0.272	0.020	"	0.210	0.0763	93.0	70-130	7.15	20	
Lead	0.174	0.050	"	0.200	ND	87.0	70-130	3.67	20	
Nickel	0.198	0.010	"	0.200	ND	99.2	70-130	4.27	20	
Silver	0.186	0.010	"	0.200	ND	92.5	70-130	3.92	20	
Zinc	0.223	0.020	"	0.200	0.0332	95.0	70-130	5.23	20	

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 08/21/14 13:17
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH41436 - EPA 245.1 Hg Water										
Blank (AH41436-BLK1)				Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	ND	0.20	ug/L							
LCS (AH41436-BS1)				Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	2.58	0.20	ug/L	2.50		103	85-115			
Duplicate (AH41436-DUP1)		**Source: 14H0899-02**		Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	ND	0.20	ug/L		ND				20	
Matrix Spike (AH41436-MS1)		**Source: 14H0899-02**		Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	2.59	0.20	ug/L	2.50	ND	104	70-130			
Matrix Spike (AH41436-MS2)		**Source: 14H0459-01**		Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	2.63	0.20	ug/L	2.50	ND	105	70-130			
Matrix Spike Dup (AH41436-MSD1)		**Source: 14H0899-02**		Prepared: 08/14/14 Analyzed: 08/15/14						
Mercury	2.54	0.20	ug/L	2.50	ND	102	70-130	1.95	20	

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Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH41357 - General Preparation										
Blank (AH41357-BLK1)				Prepared: 08/13/14 Analyzed: 08/18/14						
Carbonaceous BOD	ND	5.0	mg/L							
Blank (AH41357-BLK2)				Prepared: 08/13/14 Analyzed: 08/18/14						
Carbonaceous BOD	ND	5.0	mg/L							
LCS (AH41357-BS1)				Prepared: 08/13/14 Analyzed: 08/18/14						
Carbonaceous BOD	205	5.0	mg/L	200		102	84-115			
Duplicate (AH41357-DUP1)		**Source: 14H0761-02**		Prepared: 08/13/14 Analyzed: 08/18/14						
Carbonaceous BOD	8.66	5.0	mg/L		7.74			11.2	30	
Batch AH41540 - General Preparation										
Blank (AH41540-BLK1)				Prepared: 08/15/14 Analyzed: 08/18/14						
Total Suspended Solids	ND	1.0	mg/L							
Duplicate (AH41540-DUP1)		**Source: 14H0839-01**		Prepared: 08/15/14 Analyzed: 08/18/14						
Total Suspended Solids	173	1.0	mg/L		167			3.92	30	
Duplicate (AH41540-DUP2)		**Source: 14H0872-01**		Prepared: 08/15/14 Analyzed: 08/18/14						
Total Suspended Solids	370	1.0	mg/L		342			7.72	30	

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Miscellaneous Physical/Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH41519 - General Preparation										
Blank (AH41519-BLK1)				Prepared & Analyzed: 08/15/14						
Cyanide (total)	ND	0.020	mg/L							
LCS (AH41519-BS1)				Prepared & Analyzed: 08/15/14						
Cyanide (total)	0.215	0.020	mg/L	0.200		108	85-115			
Duplicate (AH41519-DUP1)	**Source: 14H0843-02**			Prepared & Analyzed: 08/15/14						
Cyanide (total)	ND	0.020	mg/L		ND				25	
Matrix Spike (AH41519-MS1)	**Source: 14H0843-02**			Prepared & Analyzed: 08/15/14						
Cyanide (total)	0.216	0.020	mg/L	0.200	ND	107	85-115			
Matrix Spike Dup (AH41519-MSD1)	**Source: 14H0843-02**			Prepared & Analyzed: 08/15/14						
Cyanide (total)	0.213	0.020	mg/L	0.200	ND	105	85-115	1.27	25	

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
14H0846	08/12/2014 21:10	RP RCEC	

Notes and Definitions

QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

Alpha Analytical Laboratories Inc.
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WATERS, SEDIMENTS, SOLIDS

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Temp

Work Order

Chain of Custody Record

Lab No. 14H0846 Page ____ of ____

Name:	Project ID:
Russell City Energy Co., LLC	RWF Sludge Return
Mailing Address: 3590 Enterprise Avenue Hayward, CA 94545	**Project No:** **Mail Stop RCE:** 3862 Depot Road, Hayward
Project Contact (PDF only to): Vic Zorynkski Vic.Zorzynski@calpine.com Lauren Bresnahan lauren.bresnahan@calpine.com	PO#RC020-2000000174
Phone/Fax: Mobile 925-639-1665 or Desk (510) 731-1367	**Invoice to:** APProcessing@calpine.com

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Print Name & Signature: Vic Zorzynski CB

Sample Identification	Sampling: Date	Sampling: Time	Container: 40ml VOA	Container: Poly	Container: Amber	Container: Sleeve		Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: NaOH	Preservative: None	Matrix: Water	Matrix: Soil		DU - CBOD	TSS	As, Cd, Cr, Cu, Pb, Ni, Ag, Zn	Hg	Cyanide	Field pH	Field Tech							
RWF Sludge Return Comp.	8/12/14	1000		3					1			2	x			x	x	x	x			x							
RWF Sludge Return Grab	8/12/14	1000		x							x		x							x									
RWF Sludge Return Grab	8/12/14	1000											x								x									

DU: 2.2°C

TAT: 24 hr ○ 48 hr ○ Lab Approval Required ○ 1 wk ○ 2 wk (standard) ○ — Lab Approval Required For Rush

24hr Composite
Start:
Stop:

pH
Result: 7.16
Dup: 7.16
Date: 8/12
Time: 1700

Result:
Meter: #5
Cal. Date: 8/12
Cal. Time: 1655

Relinquished by:	Received by:	Date	Time
Vic Zorzynski	Rodney Santillan	8/12/14	1418
RC		8/13/14	17:10
		8/12/14	1841
		8-12-14	2110

Russell City Energy Company, LLC

3862 Depot Road
Hayward, CA 94545

July 14, 2015

Mr. Alejandro Perez
Sr. Water Pollution Source Control Inspector
Department of Public Works/Utilities & Environmental Services
City of Hayward
24499 Soto Road
Hayward, CA 94544

RE: Russell City Energy Center
Permit Number 13-8405.01-1SE
Official Self-Monitoring Report

Dear Mr. Perez:

Attached are the laboratory results of the required semiannual compliance monitoring for the Russell City Energy Center located at 3862 Depot Road in Hayward, California. This report is submitted as required by the City of Hayward Department of Public Works/Utilities & Environmental Services Water Pollution Source Control Program.

According to Industrial Wastewater Discharge Permit 13-8405.01-1SE the permittee is required on a semiannual basis to monitor its waste stream for all locally regulated pollutant constituents listed below:

1. pH
2. Arsenic (As)
3. Cadmium (Cd)
4. Chromium (Cr) Total
5. Copper (Cu)
6. Lead (Pb)
7. Mercury (Hg)
8. Nickel (Ni)
9. Silver (Ag)
10. Zinc (Zn)
11. Cyanide

In summary, the Russell City Energy Center sampled its sludge return waste stream on June 25, 2015, and is in compliance with all the aforementioned pollutant constituents.

If you have any questions or require further information, please contact me at (510)731-1407.

Sincerely,

Lauren Bresnahan
Authorized Signatory and EH&S Specialist
Russell City Energy Center

Enclosure

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ELAP Certificates 1551, 2728, and 2922

13 July 2015

Russell City Energy Co, LLC
Attn: Lauren Bresnahan
3590 Enterprise Avenue
Hayward, CA 94545
RE: RWF Sludge Return
Work Order: 15F2738

Enclosed are the results of analyses for samples received by the laboratory on 06/25/15 22:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jeanette Poplin

Jeanette L. Poplin For Robbie C. Phillips
Project Manager

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 07/13/15 10:12
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RWF Sludge Return Comp.	15F2738-01	Water	06/25/15 13:00	06/25/15 22:40
RWF Sludge Return Grab	15F2738-02	Water	06/25/15 15:15	06/25/15 22:40

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

Alpha Analytical Laboratories, Inc.

	METHOD	BATCH	PREPARED	ANALYZED	DILUTION	RESULT	PQL	NOTE
RWF Sludge Return Comp. (15F2738-01)			**Sample Type: Water**			**Sampled: 06/25/15 13:00**		
Metals by EPA 200 Series Methods								
Arsenic	EPA 200.7	AG50225	07/06/15 15:41	07/07/15 13:14	1	ND mg/L	0.010	
Cadmium	"	"	"	"	"	ND "	0.010	
Chromium	"	"	"	"	"	**0.018 "**	**0.010**	
Copper	"	"	"	"	"	**0.12 "**	**0.020**	
Lead	"	"	"	"	"	ND "	0.050	
Mercury	EPA 245.1	AG50147	07/01/15 11:36	07/01/15 15:19	"	ND ug/L	0.20	
Nickel	EPA 200.7	AG50225	07/06/15 15:41	07/07/15 13:14	"	**0.025 mg/L**	**0.010**	
Silver	"	"	"	"	"	ND "	0.010	
Zinc	"	"	"	"	"	**0.18 "**	**0.020**	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Suspended Solids	SM2540D	AF52928	06/29/15 10:00	06/29/15 16:00	1	**1100 mg/L**	**1.0**	
Carbonaceous BOD	SM5210B	AF52628	06/26/15 10:00	07/01/15 10:30	"	**41 "**	**5.0**	
RWF Sludge Return Grab (15F2738-02)			**Sample Type: Water**			**Sampled: 06/25/15 15:15**		
Field Analyses								
pH	SM4500-H+ B	AG50724	06/25/15 15:15	06/25/15 15:25	1	**6.69 pH Units**	**1.68**	
Miscellaneous Physical/Conventional Chemistry Parameters								
Cyanide (total)	10-204-00-1X	AG50651	07/07/15 14:00	07/07/15 16:44	1	ND mg/L	0.020	

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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG50147 - EPA 245.1 Hg Water										
Blank (AG50147-BLK1)				Prepared & Analyzed: 07/01/15						
Mercury	ND	0.20	ug/L							
LCS (AG50147-BS1)				Prepared & Analyzed: 07/01/15						
Mercury	2.51	0.20	ug/L	2.50		100	85-115			
Duplicate (AG50147-DUP1)	**Source: 15F2474-01**			Prepared & Analyzed: 07/01/15						
Mercury	ND	0.20	ug/L		ND				20	
Matrix Spike (AG50147-MS1)	**Source: 15F2474-01**			Prepared & Analyzed: 07/01/15						
Mercury	2.71	0.20	ug/L	2.50	ND	108	70-130			
Matrix Spike (AG50147-MS2)	**Source: 15F2678-01**			Prepared & Analyzed: 07/01/15						
Mercury	2.73	0.20	ug/L	2.50	ND	109	70-130			
Matrix Spike Dup (AG50147-MSD1)	**Source: 15F2474-01**			Prepared & Analyzed: 07/01/15						
Mercury	2.74	0.20	ug/L	2.50	ND	110	70-130	1.10	20	
Batch AG50225 - Metals Digest										
Blank (AG50225-BLK1)				Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	ND	0.010	mg/L							
Cadmium	ND	0.010	"							
Chromium	ND	0.010	"							
Copper	ND	0.020	"							
Lead	ND	0.050	"							
Nickel	ND	0.010	"							
Silver	ND	0.010	"							
Zinc	ND	0.020	"							

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15F2738	06/25/2015 22:40	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG50225 - Metals Digest										
LCS (AG50225-BS1)				Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	0.205	0.010	mg/L	0.200		102	85-115			
Cadmium	0.197	0.010	"	0.200		98.6	85-115			
Chromium	0.206	0.010	"	0.200		103	85-115			
Copper	0.215	0.020	"	0.200		107	85-115			
Lead	0.206	0.050	"	0.200		103	85-115			
Nickel	0.202	0.010	"	0.200		101	85-115			
Silver	0.190	0.010	"	0.200		94.9	85-115			
Zinc	0.201	0.020	"	0.200		101	85-115			
Duplicate (AG50225-DUP1)		**Source: 15F2295-03**		Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	ND	0.010	mg/L		ND				20	
Cadmium	ND	0.010	"		ND				20	
Chromium	ND	0.010	"		ND				20	
Copper	ND	0.020	"		ND				20	
Lead	ND	0.050	"		ND				20	
Nickel	ND	0.010	"		ND				20	
Silver	ND	0.010	"		ND				20	
Zinc	ND	0.020	"		ND				20	
Matrix Spike (AG50225-MS1)		**Source: 15F2295-03**		Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	0.207	0.010	mg/L	0.200	ND	104	70-130			
Cadmium	0.203	0.010	"	0.200	ND	102	70-130			
Chromium	0.214	0.010	"	0.200	ND	107	70-130			
Copper	0.225	0.020	"	0.200	ND	112	70-130			
Lead	0.211	0.050	"	0.200	ND	105	70-130			
Nickel	0.207	0.010	"	0.200	ND	103	70-130			
Silver	0.199	0.010	"	0.200	ND	99.3	70-130			
Zinc	0.209	0.020	"	0.200	ND	104	70-130			

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15F2738	06/25/2015 22:40	RP RCEC	

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG50225 - Metals Digest										
Matrix Spike (AG50225-MS2)	**Source: 15F2408-01**			Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	0.205	0.010	mg/L	0.200	ND	102	70-130			
Cadmium	0.198	0.010	"	0.200	ND	98.9	70-130			
Chromium	0.206	0.010	"	0.200	ND	103	70-130			
Copper	0.251	0.020	"	0.200	0.0377	107	70-130			
Lead	0.208	0.050	"	0.200	ND	104	70-130			
Nickel	0.205	0.010	"	0.200	ND	102	70-130			
Silver	0.190	0.010	"	0.200	ND	94.9	70-130			
Zinc	0.224	0.020	"	0.200	0.0200	102	70-130			
Matrix Spike Dup (AG50225-MSD1)	**Source: 15F2295-03**			Prepared: 07/02/15 Analyzed: 07/06/15						
Arsenic	0.205	0.010	mg/L	0.200	ND	103	70-130	1.01	20	
Cadmium	0.198	0.010	"	0.200	ND	99.1	70-130	2.46	20	
Chromium	0.210	0.010	"	0.200	ND	105	70-130	1.75	20	
Copper	0.218	0.020	"	0.200	ND	109	70-130	2.82	20	
Lead	0.208	0.050	"	0.200	ND	104	70-130	1.49	20	
Nickel	0.204	0.010	"	0.200	ND	102	70-130	1.24	20	
Silver	0.195	0.010	"	0.200	ND	97.6	70-130	1.71	20	
Zinc	0.204	0.020	"	0.200	ND	102	70-130	2.25	20	

Alpha Analytical Laboratories Inc.
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Bay Area: 6398 Dougherty Rd., Suite 35, Dublin, CA 94568 • Phone: (925) 828-6226 • Fax: (925) 828-6309
Central Valley: 9090 Union Park Way, Suite 113, Elk Grove, CA 95624 • Phone: (916) 686-5190 • Fax: (916) 686-5192

CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 07/13/15 10:12
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
Project ID: RWF Sludge Return

Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AF52628 - General Preparation										
Blank (AF52628-BLK1)				Prepared: 06/26/15 Analyzed: 07/01/15						
Carbonaceous BOD	ND	5.0	mg/L							
Blank (AF52628-BLK2)				Prepared: 06/26/15 Analyzed: 07/01/15						
Carbonaceous BOD	ND	5.0	mg/L							
LCS (AF52628-BS1)				Prepared: 06/24/15 Analyzed: 06/29/15						
Carbonaceous BOD	195	5.0	mg/L	200		97.5	84-115			
Batch AF52928 - General Preparation										
Blank (AF52928-BLK1)				Prepared & Analyzed: 06/29/15						
Total Suspended Solids	ND	1.0	mg/L							
Duplicate (AF52928-DUP1)				**Source: 15F2662-01**	Prepared & Analyzed: 06/29/15					
Total Suspended Solids	125	1.0	mg/L		123			1.53	30	
Duplicate (AF52928-DUP2)				**Source: 15F2675-01**	Prepared & Analyzed: 06/29/15					
Total Suspended Solids	200	1.0	mg/L		194			2.90	30	

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

Miscellaneous Physical/Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AG50651 - General Preparation										
Blank (AG50651-BLK1)				Prepared & Analyzed: 07/07/15						
Cyanide (total)	ND	0.020	mg/L							
LCS (AG50651-BS1)				Prepared & Analyzed: 07/07/15						
Cyanide (total)	0.194	0.020	mg/L	0.200		96.9	85-115			
Duplicate (AG50651-DUP1)	**Source: 15F2742-02**			Prepared & Analyzed: 07/07/15						
Cyanide (total)	ND	0.020	mg/L		ND				25	
Matrix Spike (AG50651-MS1)	**Source: 15F2742-02**			Prepared & Analyzed: 07/07/15						
Cyanide (total)	0.179	0.020	mg/L	0.200	ND	89.6	85-115			
Matrix Spike (AG50651-MS2)	**Source: 15G0303-01**			Prepared & Analyzed: 07/07/15						
Cyanide (total)	0.222	0.020	mg/L	0.200	ND	107	85-115			
Matrix Spike Dup (AG50651-MSD1)	**Source: 15F2742-02**			Prepared & Analyzed: 07/07/15						
Cyanide (total)	0.183	0.020	mg/L	0.200	ND	91.7	85-115	2.29	25	

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CHEMICAL EXAMINATION REPORT

Russell City Energy Co, LLC
3590 Enterprise Avenue
Hayward, CA 94545
Attn: Lauren Bresnahan

Report Date: 07/13/15 10:12
Project No: Mail Stop RCE: 3862 Depot Road, Haywar
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Order Number	Receipt Date/Time	Client Code	Client PO/Reference
15F2738	06/25/2015 22:40	RP RCEC	

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
PQL	Practical Quantitation Limit

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WATERS, SEDIMENTS, SOLIDS

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Temp 4°

Work Order

Chain of Custody Record

Lab No. 15F2738 Page ____ of ____

Name:	Project ID:
Russell City Energy Co., LLC	RWF Sludge Return
Mailing Address: 3862 Depot Road, Hayward, CA 94545	**Project No:** **Mail Stop RCE:** 3862 Depot Road, Hayward
Project Contact (PDF only to): Lauren Bresnahan lauren.bresnahan@calpine.com	PO#RC020-2000000694
Phone/Fax: Mobile 925-639-1665 or Desk (510) 731-1367	**Invoice to:** APProcessing@calpine.com

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Print Name & Signature: Rodney Santillan	Sampling		Container					Preservative						Matrix		Analysis Request													Sample Notes	TAT
Sample Identification	**Date**	**Time**	40ml VOA	Poly	Amber	Sleeve		HCL	HNO3	H2SO4	NaOH	None		Water	Soil	DU - CBOD	TSS	As, Cd, Cr, Cu, Pb, Ni, Ag, Zn	Hg	Cyanide	Field pH	Field Tech								
RWF Sludge Return Comp.	6/25/15	1300		3					1			2		x		x	x	x	x			x							3.0°	24 hr ○ 48 hr ○ Lab Approval Required ○ 1 wk ○ 2 wk (standard) ○ Lab Approval Required For Rush
RWF Sludge Return Grab	6/25/15	1515		x							x			x						x									24hr Composite
RWF Sludge Return Grab	6/25/15	1515												x							x									Start: 6/24/15 1300
																														Stop: 6/25/15 1309
																														pH
																														Result: 5.69
																														Dup: 6.70
																														Date: 6/25/15
																														Time: 1525
																														Result: 6.86
																														Meter: #1
																														Cal. Date: 6/25/15
																														Cal. Time: 1100

Relinquished by:	Received by:	Date	Time
RS		6/25/15	1745
	Lizzi	6-25-15	2010
Lizzi	Lizzi	6-25-15	2240

CONDITION OF CERTIFICATION
VIS-2

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

VIS-2: During the reporting period from July 1, 2014 until June 30, 2015, five plants from the on-site landscaping needed to be replaced. In November 2014 the landscape contractor replaced one Peppermint Gum tree, one Catalina Ironwood tree, and one Pacific Wax Myrtle shrub. The two replaced trees failed to thrive and the replaced shrub was accidentally damaged during routine landscape maintenance and weed abatement. In December 2014 the landscape contractor repaired two leaks found in the irrigation system. The two trees replaced in November 2014 most likely did not get sufficient water as a result of the damaged irrigation system. In March 2015, two more Pacific Wax Myrtle shrubs were replaced because they were turning brown and dying. It is believed those two shrubs were irrevocably starved of water as a result of the irrigation leaks. No new leaks have been discovered since the repairs in December 2014.

The same company that installed the landscaping has been contracted to perform regular maintenance. Once a week the landscape contractor performs weed abatement throughout the RCEC facility including the VIS-2 planting areas. The landscape contractor has been responsible for the overall health of the trees. All plants replaced during the reporting period were replaced with like kind. All plants are alive and doing well since the last replacements in March 2015.

Pictures of the on-site landscaping can be found on the pages to follow.


08/12/2015


08/12/2015

CONDITION OF CERTIFICATION
VIS-10

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

VIS-10: As reported in the Annual Compliance Report for the first year of operation, the VIS-10 visual treatment and landscaping plan was submitted to the City of Hayward and the CPM in February 2014. Comments from the City of Hayward's landscape architect were incorporated in the final version of the plan that was submitted to the CEC in March 2014.

On August 8, 2014, Alex Ameri, City of Hayward Director of Utilities and Environmental Services, sent a letter to the CEC in support of modifications to VIS-10 plan. Tree installation was completed and the City of Hayward was notified of the completion on January 29, 2015.

The painting contemplated in the plan began in May 2014 and was completed in July 2014.

On January 5, 2015, the Project Owner withdrew the remaining, unapproved portion of Amendment #4 pertaining to condition VIS-10 that was not approved in the June 23, 2013 decision. On May 28, 2015, the Project Owner submitted the application for modification to Condition of Certification VIS-10 to the CEC as Amendment #5. This application is still pending.

Pictures of the off-site landscaping can be found on the pages to follow.


08/12/2015


08/12/2015

CONDITION OF CERTIFICATION COMPLIANCE-5

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
AQ	12	Ops	Quarterly	The owner/operator shall fire the gas turbines (S-1 & S-3) and HRSG duct burners (S-2 & S-4) exclusively on PUC-regulated natural gas with a maximum sulfur content of 1 grain per 100 standard cubic feet. To demonstrate compliance with this limit, the operator of S-1 through S-4 shall sample and analyze the gas from each supply source at least monthly to determine the sulfur content of the gas. PG&E monthly sulfur data may be used provided that such data can be demonstrated to be representative of the gas delivered to the RCEC. In the event that the rolling 12-month annual average sulfur content exceeds 0.25 grain per 100 standard cubic feet, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions. The reduced annual heat input rate shall be subject to District review and approval. (BACT for SO2 and PM10)	The project owner shall complete, on a monthly basis, a laboratory analysis showing the sulfur content of natural gas being burned at the facility. The sulfur analysis reports shall be incorporated into the quarterly compliance reports.	N/A	N/A			Ongoing
AQ	13	Ops	Quarterly Annual	The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a gas turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 2,238.6 MM BTU (HHV) per hour. (PSD for NOx)	As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	14	Ops	Quarterly Annual	The owner/operator shall not operate the units such that the combined heat input rate to each power train consisting of a gas turbine and its associated HRSG (S-1 & S-2 and S-3 & S-4) exceeds 53,726 MM BTU (HHV) per day. (PSD for PM10)	As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	15	Ops	Quarterly Annual	The owner/operator shall not operate the units such that the combined cumulative heat input rate for the gas turbines (S-1 & S-3) and the HRSGs (S-2 & S-4) exceeds 35,708,858 MM BTU (HHV) per year. (Offsets)	As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	16	Ops	Quarterly Annual	The owner/operator shall not fire the HRSG duct burners (S-2 & S-4) unless its associated gas turbine (S-1 & S-3, respectively) is in operation. (BACT for NOx)	As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	17	Ops	Quarterly Annual	The owner/operator shall ensure that the S-1 gas turbine and S-2 HRSG are abated by the properly operated and properly maintained A-1 SCR system and A-2 oxidation catalyst system whenever fuel is combusted at those sources and the A-1 SCR catalyst bed has reached minimum operating temperature. (BACT for NOx, POC and CO)	As part of the quarterly and annual compliance reports, the project owner shall provide information on any major problem in the operation of the oxidizing catalyst and SCR Systems for the gas turbines and HRSGs. The information shall include, at a minimum, the date and description of the problem and the steps taken to resolve the problem.	N/A	N/A			Ongoing
AQ	18	Ops	Quarterly Annual	The owner/operator shall ensure that the S-3 gas turbine and S-4 HRSG are abated by the properly operated and properly maintained A-3 SCR System and A-4 oxidation catalyst system whenever fuel is combusted at those sources and the A-3 SCR catalyst bed has reached minimum operating temperature. (BACT for NOx, POC and CO)	As part of the quarterly and annual compliance reports, the project owner shall provide information on any major problem in the operation of the oxidizing catalyst and SCR Systems for the gas turbines and HRSGs. The information shall include, at a minimum, the date and description of the problem and the steps taken to resolve the problem.	N/A	N/A			Ongoing
AQ	19	Ops	Quarterly Annual	The owner/operator shall ensure that the gas turbines (S-1 & S-3) and HRSGs (S-2 & S-4) comply with requirements (a) through (h) under all operating scenarios, including duct burner firing mode. Requirements (a) through (h) do not apply during a gas turbine start-up, combustor tuning operation or shutdown. (BACT, PSD, and Regulation 2, Rule 5) (a) Nitrogen oxide mass emissions (calculated as NO2) at P-1 (the combined exhaust point for S-1 gas turbine and S-2 HRSG after abatement by A-1 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired. Nitrogen oxide mass emissions (calculated as NO2) at P-2 (the combined exhaust point for S-3 gas turbine and S-4 HRSG after abatement by A-3 SCR System) shall not exceed 16.5 pounds per hour or 0.00735 lb/MM BTU (HHV) of natural gas fired (b) The nitrogen oxide emission concentration at emission points P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O2, averaged over any 1-hour period. (BACT for NOx) (c) Carbon monoxide mass emissions at P-1 and P-2 each shall not exceed 10 pounds per hour or 0.0045 lb/MM BTU of natural gas fired, averaged over any 1-hour period. (PSD for CO) (d) The carbon monoxide emission concentration at P-1 and P-2 each shall not exceed 2.0 ppmv, on a dry basis, corrected to 15% O2, averaged over any 1-hour period. (BACT for CO) (e) Ammonia (NH3) emission concentrations at P-1 and P-2 each shall not exceed 5 ppmv, on a dry basis, corrected to 15% O2, averaged over any rolling 3-hour period. This ammonia emission concentration shall be verified by the continuous recording of the ammonia injection rate to A-2 and A-4 SCR Systems. The correlation between the gas turbine and HRSG heat input rates, A-2 and A-4 SCR System ammonia injection rates, and corresponding ammonia emission concentration at emission points P-1 and P-2 shall be determined in accordance with permit condition 30. (Regulation 2-5) (f) Precursor organic compound (POC) mass emissions (as CH4) at P-1 and P-2 each shall not exceed 2.86 pounds per hour or 0.00128 lb/MM BTU of natural gas fired. (BACT) (g) Sulfur dioxide (SO2) mass emissions at P-1 & P-2 each shall not exceed 6.21 pounds per hour or 0.0028 lb/MM BTU of natural gas fired. (BACT) (h) Particulate matter (PM10) mass emissions at P-1 & P-2 each shall not exceed 7.5 pounds per hour or 0.0036 lb PM10/MM BTU of natural gas fired. (BACT)	The project owner shall submit to the District and CPM, quarterly reports for the proceeding calendar quarter within 30 days from the end of the quarter. The report for the fourth quarter can be an annual compliance summary for the preceding year. The quarterly and annual compliance summary reports shall contain the following information: (a) Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip. (b) Total plant operation time (hours), number of startups, hours in cold startup, hours in warm startup, hours in hot startup, and hours in shutdown. (c) Date and time of the beginning and end of each startup and shutdown period. (d) Average plant operation schedule (hours per day, days per week, weeks per year). (e) All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol. (f) Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, POC and SOx (including calculation protocol). (g) Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by the District. (h) A log of all excess emissions, including the information regarding malfunctions/breakdowns. (i) Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made. (j) Any maintenance to any air pollutant control system (recorded on an as performed basis). In addition, this information shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.	30	After end of the reporting period			Ongoing
AQ	20	Ops	Quarterly Annual	The owner/operator shall ensure that the regulated air pollutant mass emission rates from each of the gas turbines (S-1 & S-3) during a start-up does not exceed the limits established below. (PSD)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	21	Ops	Quarterly Annual	The owner/operator shall not perform combustor tuning on gas turbines more than once every rolling 365 day period for each S-1 and S-3. The owner/operator shall notify the District no later than 7 days prior to combustor tuning activity. (Offsets, Cumulative Emissions)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	22	Ops	Quarterly Annual	The owner/operator shall not allow total combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any calendar day: (a) 1,453 pounds of NOx (as NO2) per day. (Cumulative Emissions) (b) 1,225 pounds of NOx per day during ozone season from June 1 to September 30. (CEC Condition of Certification) (c) 7,360 pounds of CO per day (PSD) (d) 295 pounds of POC (as CH4) per day (Cumulative Emissions) (e) 413 pounds of PM10 per day (PSD) (f) 292 pounds of SO2 per day (BACT)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
AQ	23	Ops	Quarterly Annual	The owner/operator shall not allow cumulative combined emissions from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4), S-5 Cooling Tower, and S-6 Fire Pump Diesel Engine, including emissions generated during gas turbine start-ups, combustor tuning, and shutdowns to exceed the following limits during any consecutive twelve-month period: (a) 127 tons of NOx (as NO2) per year (Offsets, PSD) (b) 330 tons of CO per year (Cumulative Increase, PSD) (c) 28.5 tons of POC (as CH4) per year (Offsets) (d) 71.8 tons of PM10 per year (Cumulative Increase, PSD) (e) 12.2 tons of SO2 per year (Cumulative Increase, PSD)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	24	Ops	Quarterly Annual	The owner/operator shall not allow sulfuric acid emissions (SAM) from stacks P-1 and P-2 combined to exceed 7 tons in any consecutive 12 month period. (Basis: PSD)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	25	Ops	Quarterly Annual	The owner/operator shall not allow the maximum projected annual toxic air contaminant emissions (per AQ-28) from the gas turbines and HRSGs (S-1, S-2, S-3 & S-4) combined to exceed the following limits: formaldehyde 10,912 pounds per year benzene 226 pounds per year specified polycyclic aromatic hydrocarbons (PAHs) 1.8 pounds per year unless the following requirement is satisfied: The owner/operator shall perform a health risk assessment to determine the total facility risk using the emission rates determined by source testing and the most current Bay Area Air Quality Management District approved procedures and unit risk factors in effect at the time of the analysis. The owner/operator shall submit the risk analysis to the District and the CPM within 60 days of the source test date. The owner/operator may request that the District and the CPM revise the carcinogenic compound emission limits specified above. If the owner/operator demonstrates to the satisfaction of the APCO that these revised emission limits will not result in a significant cancer risk, the District and the CPM may, at their discretion, adjust the carcinogenic compound emission limits listed above. (Regulation 2, Rule 5.)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	26	All		The owner/operator shall demonstrate compliance with AQ-13 through AQ-16, AQ-19(a) through (d), AQ-20, AQ-22(a) and (b), AQ-23(a) and (b) by using properly operated and maintained continuous monitors (during all hours of operation including gas turbine start-up, combustor tuning, and shutdown periods) for all of the following parameters: (a) Firing Hours and Fuel Flow Rates for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined. (b) Oxygen (O2) concentration, Nitrogen Oxides (NOx) concentration, and Carbon Monoxide (CO) concentration at exhaust points P-1 and P-2. (c) Ammonia injection rate at A-1 and A-3 SCR Systems The owner/operator shall record all of the above parameters every 15 minutes (excluding normal calibration periods) and shall summarize all of the above parameters for each clock hour. For each calendar day, the owner/operator shall calculate and record the total firing hours, the average hourly fuel flow rates, and pollutant emission concentrations. The owner/operator shall use the parameters measured above and District approved calculation methods to calculate the following parameters: (d) Heat Input Rate for each of the following sources: S-1 & S-3 combined, S-2 & S-4 combined. (e) Corrected NOx concentration, NOx mass emission rate (as NO2), corrected CO concentration, and CO mass emission rate at each of the following exhaust points: P-1 and P-2. For each source, source grouping, or exhaust point, the owner/operator shall record the parameters specified in AQ-26(d) and (e) at least once every 15 minutes (excluding normal calibration periods). As specified below, the owner/operator shall calculate and record the following data: (f) total heat input rate for every clock hour. (g) on an hourly basis, the cumulative total heat input rate for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4)combined. (h) the average NOx mass emission rate (as NO2), CO mass emission rate, and corrected NOx and CO emission concentrations for every clock hour. (i) on an hourly basis, the cumulative total NOx mass emissions (as NO2) and the cumulative total CO mass emissions, for each calendar day for the following: each gas turbine and associated HRSG combined and all four sources (S-1, S-2, S-3 and S-4) combined.	At least 30 days before first fire, the project owner shall submit to the CPM a plan on how the measurements and recordings required by this condition will be performed.	30	Prior to first fire	9/25/2012	5/20/2013	Ongoing
AQ	27	Ops	Quarterly Annual	To demonstrate compliance with conditions AQ-19(f) thru (h), AQ-22(c) thru (e), and AQ-23(c) thru (e), the owner/operator shall calculate and record on a daily basis, the Precursor Organic Compound (POC) mass emissions, Fine Particulate Matter (PM10) mass emissions (including condensable particulate matter), and Sulfur Dioxide (SO2) mass emissions from each power train. The owner/operator shall use the actual heat input rates measured pursuant to AQ-26, actual gas turbine start-up times, actual gas turbine shutdown times, and CEC and District-approved emission factors developed pursuant to source testing under AQ-30 to calculate these emissions. The owner/operator shall present the calculated emissions in the following format: (a) For each calendar day, POC, PM10, and SO2 emissions, summarized for each power train (gas turbine and its respective HRSG combined) and all four sources (S-1, S-2, S-3 & S-4) combined (b) on a daily basis, the cumulative total POC, PM10, and SO2 mass emissions, for each year for all four sources (S-1, S-2, S-3 & S-4) combined (Offsets, PSD, Cumulative Increase)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
AQ	28	Ops	Quarterly Annual	To demonstrate compliance with AQ-25, the owner/operator shall calculate and record on an annual basis the maximum projected annual emissions of: Formaldehyde, Benzene, and Specified PAH's. The owner/operator shall calculate the maximum projected annual emissions using the maximum annual heat input rate of 35,708,858 MM BTU/year and the highest emission factor (pounds of pollutant per MM BTU of heat input) determined by any source test of the S-1 and S-3 gas turbines and/or S-2 and S-4 HRSGs. If the highest emission factor for a given pollutant occurs during minimum-load turbine operation, a reduced annual heat input rate may be utilized to calculate the maximum projected annual emissions to reflect the reduced heat input rates during gas turbine start-up and minimum-load operation. The reduced annual heat input rate shall be subject to District review and approval. (Regulation 2, Rule 5)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	29	Ops		District-approved source test on exhaust point P-1 or P-2 to determine the corrected ammonia (NH3) emission concentration to determine compliance with AQ-19(e). The source test shall determine the correlation between the heat input rates of the gas turbine and associated HRSG, A-2 or A-4 SCR System ammonia injection rate, and the corresponding NH3 emission concentration at emission point P-1 or P-2. The source test shall be conducted over the expected operating range of the turbine and HRSG (including, but not limited to, minimum and full load modes) to establish the range of ammonia injection rates necessary to achieve NOx emission reductions while maintaining ammonia slip levels. The owner/operator shall repeat the source testing on an annual basis thereafter. Ongoing compliance with AQ-19(e) shall be demonstrated through calculations of corrected ammonia concentrations based upon the source test correlation and continuous records of ammonia injection rate.	The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	7/19/2013		Ongoing
AQ	29	Ops		The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (Regulation 2, Rule 5)	Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing			Ongoing
AQ	30	Ops		The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (BACT, offsets)	Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing			Ongoing
AQ	30	Ops		Within 90 days of start-up of the RCEC and on an annual basis thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and associated Heat Recovery Steam Generator are operating at maximum load to determine compliance with AQ-19(a),(b),(c),(d),(f),(g), and (h) and while each gas turbine and associated Heat Recovery Steam Generator are operating at minimum load to determine compliance with AQ-19(c) and (d), and to verify the accuracy of the continuous emission monitors required in AQ-26. The owner/operator shall test for (as a minimum): water content; stack gas flow rate; oxygen concentration; precursor organic compound concentration and mass emissions; nitrogen oxide concentration and mass emissions (as NO2); carbon monoxide concentration and mass emissions; sulfur dioxide concentration and mass emissions; methane; ethane; and, particulate matter (PM10) emissions, including condensable particulate matter.	The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	7/19/2013 6/5/2014		Ongoing
AQ	31	Ops		The owner/operator shall obtain approval for all source test procedures from the District's Source Test Section and the CPM prior to conducting any tests. The owner/operator shall comply with all applicable testing requirements for continuous emission monitors as specified in Volume V of the District's Manual of Procedures. The owner/operator shall notify the District's Source Test Section and the CPM in writing of the source test protocols and projected test dates at least 7 days prior to the testing date(s). As indicated above, the owner/operator shall measure the contribution of condensable PM (back half) to the total PM10 emissions. However, the owner/operator may propose alternative measuring techniques to measure condensable PM such as the use of a dilution tunnel or other appropriate method used to capture semi-volatile organic compounds.	Approval of the source test procedures, as required in AQ-31, and the source test reports shall be deemed as verification for this condition. The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	4/5/2013	5/1/2013	Ongoing
AQ	31	Ops		The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (BACT)	Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing			Ongoing
AQ	32	Ops		Within 90 days of start-up of the RCEC and on a biennial basis (once every two years) thereafter, the owner/operator shall conduct a District-approved source test on exhaust point P-1 or P-2 while the gas turbine and associated Heat Recovery Steam Generator are operating at maximum allowable operating rates to demonstrate compliance with AQ-25. The owner/operator shall also test the gas turbine while it is operating at minimum load. If three consecutive biennial source tests demonstrate that the annual emission rates calculated pursuant to AQ-25 for any of the compounds listed below are less than the BAAQMD trigger levels, pursuant to Regulation 2, Rule 5, shown, then the owner/operator may discontinue future testing for that pollutant: Benzene ≤6.4 pounds/year and 2.9 pounds/hour Formaldehyde <30 pounds/year and 0.21 pounds/hour Specified PAHs ≤0.011 pounds/year (Regulation 2, Rule 5)	The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	7/19/2013		Ongoing
AQ	32	Ops			Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing	10/17/2013		Ongoing
AQ	33	Ops		The owner/operator shall calculate the SAM emission rate using the total heat input for the sources and the highest results of any source testing conducted pursuant to AQ-30. If this SAM mass emission limit of AQ-24 is exceeded, the owner/operator must utilize air dispersion modeling to determine the impact (in µg/m3) of the sulfuric acid mist emissions pursuant to Regulation 2-2-306. (PSD)	The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	7/19/2013 6/5/2014		Ongoing
AQ	33	Ops			Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing			Ongoing
AQ	34	All		The owner/operator shall submit the source test results to the District and the CPM within 60 days of conducting the tests. (PSD)	Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.	60	After testing			Ongoing

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AQ	34	All		Within 90 days of start-up of the RCEC and on a semi-annual basis (twice per year) thereafter, the owner/operator shall conduct a District-approved source test on exhaust points P-1 and P-2 while each gas turbine and HRSG duct burner is operating at maximum heat input rates to demonstrate compliance with the SAM emission rates specified in AQ-24. The owner/operator shall test for (as a minimum) SO2, SO3, and H2SO4. After acquiring one year of source test data on these sources, the owner/operator may petition the District to reduce the test frequency to an annual basis if test result variability is sufficiently low as determined by the District.	The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition.	7	Prior to testing	7/19/2013		Ongoing
AQ	35	Ops		The owner/operator of the RCEC shall submit all reports (including, but not limited to monthly CEM reports, monitor breakdown reports, emission excess reports, equipment breakdown reports, etc.) as required by District Rules or Regulations and in accordance with all procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual. (Regulation 2-6-502)	The project owner shall submit to the District and CPM the reports as required by procedures and time limits specified in the Rule, Regulation, Manual of Procedures, or Enforcement Division Policies & Procedures Manual.	N/A	N/A			Ongoing
AQ	36	All		The owner/operator of the RCEC shall maintain all records and reports on site for a minimum of 5 years. These records shall include but are not limited to: continuous monitoring records (firing hours, fuel flows, emission rates, monitor excesses, breakdowns, etc.), source test and analytical records, natural gas sulfur content analysis results, emission calculation records, records of plant upsets and related incidents. The owner/operator shall make all records and reports available to District and the CPM staff upon request. (Regulation 2-6-501)	During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.	N/A	N/A			Ongoing
AQ	37	All	Quarterly Annual	The owner/operator of the RCEC shall notify the District and the CPM of any violations of these permit conditions. Notification shall be submitted in a timely manner, in accordance with all applicable District Rules, Regulations, and the Manual of Procedures. Notwithstanding the notification and reporting requirements given in any District Rule, Regulation, or the Manual of Procedures, the owner/operator shall submit written notification (facsimile is acceptable) to the Enforcement Division within 96 hours of the violation of any permit condition. (Regulation 2-1-403)	Submittal of these notifications as required by this condition is the verification of these permit conditions. In addition, as part of the quarterly and annual compliance reports of AQ-19, the project owner shall include information on the dates when these violations occurred and when the project owner notified the District and the CPM.	N/A	N/A			Ongoing
AQ	41	Ops		Pursuant to BAAQMD Regulation 2, Rule 6, section 404.1, the owner/operator of the RCEC shall submit an application to the BAAQMD for a major facility review permit within 12 months of completing construction as demonstrated by the first firing of any gas turbine or HRSG duct burner. (Regulation 2-6-404.1)	The project owner shall submit to the CPM copies of the Federal (Title IV) Acid Rain and (Title V) Operating Permit within 30 days after they are issued by the District.	30	After issuance	Application submitted 5/21/14		In Progress
AQ	42	Ops		Pursuant to 40 CFR Part 72.30(b)(2)(ii) of the Federal Acid Rain Program, the owner/operator of the Russell City Energy Center shall submit an application for a Title IV operating permit to the BAAQMD at least 24 months before operation of any of the gas turbines (S-1, S-3, S-5, or S-7) or HRSGs (S-2, S-4, S-6, or S-8). (Regulation 2, Rule 7)	The project owner shall submit to the CPM copies of the Federal (Title IV) Acid Rain and (Title V) Operating Permit within 30 days after they are issued by the District.	30	After issuance	Application submitted 6/26/2007		In Progress
AQ	45	Ops	Quarterly Annual	The owner/operator shall perform a visual inspection of the cooling tower drift eliminators at least once per calendar year, and repair or replace any drift eliminator components which are broken or missing. The CPM may require the owner/operator to perform source tests to verify continued compliance with the vendor-guaranteed drift rate specified in AQ-44. (PSD)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	46	Ops	Quarterly Annual	The owner/operator shall not operate S-6 Fire Pump Diesel Engine more than 50 hours per year for reliability-related activities. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(2)(A)(3)or (e)(2)(B)(3), offsets)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	47	Ops	Quarterly Annual	The owner/operator shall operate S-6 Fire Pump Diesel Engine only for the following purposes: to mitigate emergency conditions, for emission testing to demonstrate compliance with a District, State or Federal emission limit, or for reliability-related activities (maintenance and other testing, but excluding emission testing). Operating hours while mitigating emergency conditions or while emission testing to show compliance with District, State or Federal emission limits is not limited. ["Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection 9e)(2)(A)(3) or (e)(2)(B)(3)]	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	48	Ops	Quarterly Annual	The owner/operator shall operate S-6 Fire Pump Diesel Engine only when a non-resettable totalizing meter (with a minimum display capability of 9,999 hours) that measures the hours of operation for the engine is installed, operated and properly maintained. ("Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(G)(1), cumulative increase)	The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by AQ-19.	N/A	N/A			Ongoing
AQ	49	All		Records: The owner/operator shall maintain the following monthly records in a District-approved log for at least 60 months from the date of entry. Log entries shall be retained on-site, either at a central location or at the engine's location, and made immediately available to the District staff upon request. a. Hours of operation for reliability-related activities (maintenance and testing). b. Hours of operation for emission testing to show compliance with emission limits. c. Hours of operation (emergency). d. For each emergency, the nature of the emergency condition. e. Fuel usage for each engine(s). (Basis: "Stationary Diesel Engine ATCM" section 93115, title 17, CA Code of Regulations, subsection (e)(4)(I), cumulative increase)	During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.	N/A	N/A			Ongoing
AQ	SC06	All		The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) for the facility. The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit.	The project owner shall submit any ATC, PTO, and any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency.	5	After submittal	12/6/2010 (ATC) 7/16/14 (ATC & PTO)	N/A	Ongoing
AQ	SC06	All		The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.	The project owner shall submit all modified air permits to the CPM within 15 days of receipt.	15	After receipt	8/7/2009 (PSD)	N/A	Ongoing
AQ	SC07	All	Quarterly Annual	The facility's emissions shall not exceed 1,225 lbs of NOx per day during the June 1 to September 30 periods. In addition, NOx emissions in excess of 848 lbs per calendar day shall be mitigated through the surrender of emission reduction credits (ERCs). The amount of credits to be surrendered shall be the difference between 848 lbs per day and the actual daily emissions.	As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing

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AQ	SC08	All	Quarterly Annual	Turbine hot/warm startup NOx emissions shall not exceed 95/125 pounds per startup event, respectively.	As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	SC09	All	Quarterly Annual	The project owner shall not operate both gas turbines (S-1 and S-3) simultaneously in start-up mode.	As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	SC15	All	Quarterly Annual	The owner/operator shall not operate S-6 Fire pump Diesel Engine for testing to demonstrate compliance with a District. State or Federal emission limit. or for reliability-related activities (maintenance and other testing. but excluding emission testing simultaneously with the operation of either gas turbine (S-1 or S-3) in start-up mode.	As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
AQ	SC16	All	Quarterly Annual	The owner/operator shall limit the operation of S-6 Fire pump Diesel Engine to no more than 30 minutes per hour for reliability-related activities (maintenance and other testing, but excluding emission testing or emergency operation).	As part of the quarterly and annual compliance reports as required by AQ-19, the project owner shall include information on the date, time, and duration of any violation of this permit condition.	N/A	N/A			Ongoing
BIO	2	Ops	Annual		During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.	N/A	N/A			Ongoing
BIO	4	Comm			Within 30 days after completion of project construction, the project owner shall provide to the CPM for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.	30	After completion			In Progress
BIO	5	Ops			During project operation, signed statements for active project operational personnel shall be kept on file for the duration of their employment and for six months after their termination.	N/A	N/A	N/A	N/A	Ongoing
BIO	11	Closure		The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources. The biological resource facility closure measures will also be incorporated into the project Biological Resources Mitigation Implementation and Monitoring Plan.	At least 12 months (or a mutually agreed upon time) prior to the commencement of closure activities, the project owner shall address all biological resource-related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element will be incorporated into the Facility Closure Plan, and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.	365	Prior to closure			In Progress
CIVIL	4	Comm		After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [2001 CBC, Section 109, Certificate of Occupancy].	Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes.	30	After completion			Not Started
COMPLIANCE	1	All		Unrestricted Access	The CPM, responsible Energy Commission staff, and delegate agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related Staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.	N/A	N/A	N/A	N/A	Ongoing
COMPLIANCE	2	All		Compliance Record	The project owner shall maintain project files onsite or at an alternative site approved by the CPM, for the life of the project unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all "as-built" drawings, all documents submitted as verification for conditions, and all other project-related documents. Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.	N/A	N/A	N/A	N/A	Ongoing
COMPLIANCE	3	All		Compliance Verification Submittals	Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure postcertification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified as necessary by the CPM, and in most cases without full Energy Commission approval. A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal. The project owner shall also identify those submittals not required by a condition of certification with a statement such as: "This submittal is for information only and is not required by a specific condition of certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.	N/A	N/A	N/A	N/A	Ongoing
COMPLIANCE	5	All	Annual	Compliance Matrix	A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all conditions of certification in a spreadsheet format. The compliance matrix must identify: 1. the technical area; 2. the condition number; 3. a brief description of the verification action or submittal required by the condition; 4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.); 5. the expected or actual submittal date; 6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; and 7. the compliance status of each condition, e.g., "not started," "in progress" or "completed" (include the date). Satisfied conditions do not need to be included in the compliance matrix after they have been identified as satisfied in at least one monthly or annual compliance report.	N/A	N/A	N/A	N/A	Ongoing

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
COMPLIANCE	7	Ops	Annual	Annual Compliance Report	After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following: 1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed); 2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year; 3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and submitted as attachments to the Annual Compliance Report; 4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM; 5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided; 6. a listing of filings submitted to, or permits issued by, other governmental agencies during the year; 7. a projection of project compliance activities scheduled during the next year; 8. a listing of the year's additions to the on-site compliance file; 9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see Compliance Conditions for Facility Closure addressed later in this section]; and 10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.	N/A	After end of the reporting period		N/A	Ongoing
COMPLIANCE	8	All	Quarterly	Confidential Information	Any information that the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.	N/A	N/A	N/A	N/A	Ongoing
COMPLIANCE	9	All		Annual Energy Facility Compliance Fee	Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual fee currently seventeen thousand six hundred seventy six dollars ($17,676), which will be adjusted annually on July 1. The initial payment is due on the date the Energy Commission adopts the final decision. All subsequent payments are due by July 1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office, California Energy Commission, 1516 9th St., MS-2, Sacramento, CA 95814.	N/A	N/A	7/1/2001	N/A	Ongoing
COMPLIANCE	10	All			Any changes to the telephone number shall be submitted immediately to the CPM, who will update the web page. In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the NOISE conditions of certification. All other complaints shall be recorded on the complaint form (Attachment A).	10	After receipt	N/A	N/A	Ongoing
COMPLIANCE	11	Closure		Planned Closure	In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least 12 months (or other period of time agreed to by the CPM) prior to commencement of closure activities. The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission. The plan shall: 1. identify and discuss any impacts and mitigation to address significant impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site; 2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project; 3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and 4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification. Prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.	365	Prior to closure			Not Started

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
COMPLIANCE	14	All		Post Certification Changes to the Energy Commission Decision: Amendments, Ownership Changes, Insignificant Project Changes, and Verification Changes	The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769. Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code. A petition is required for amendments and for insignificant project changes as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.	N/A	N/A	N/A	N/A	Ongoing
CUL	3	Comm			The CRR shall be submitted to the CPM within 90 days after completion of ground disturbance (including landscaping) for review and approval.	90	After completion	7/24/2014		Submitted
CUL	3	Comm			Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the curating institution (if archaeological materials were collected), the SHPO and the CHRIS.	10	After approval			Not Started
GEN	8	Constr		The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location during the operating life of the project [2001 CBC, Section 106.4.2, Retention of plans].	After storing final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.	N/A	N/A			In Progress
GEO	2	Comm			(2) Within 90 days following the completion of the final grading, the project Owner shall submit copies of the Final Geologic Report required by the 2001 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO, with a copy of the transmittal letter forwarded to the CPM.	90	After completion			In Progress
HAZ	1	All	Annual	The project owner shall not use any hazardous material in any quantity or strength not listed in Tables 3.5-1 and 3.5-2 of the amendment unless reviewed in advance by the Hayward Fire Department and approved in advance by the CPM.	The project owner shall provide to the Compliance Project Manager (CPM), in the Annual Compliance Report, a list of all hazardous materials contained at the facility.	N/A	N/A			Ongoing
HAZ	1	All			If any changes are requested, the project owner shall do so in writing, with a copy to the Hayward Fire Department, at least 30 days before the change is needed, to the CPM for approval.	30	Prior to proposed change	5/23/2012	6/13/2012	Ongoing
HAZ	6	All		The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles, which meet or exceed the specifications of DOT Code MC-307.	At least sixty (60) days prior to receipt of aqueous ammonia on site, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.	60	Prior to delivery	5/11/2012	6/13/2012	Ongoing
HAZ	7	All		If the route must be changed for any reason. the project owner shall obtain the review and approval of the CPM not later than ten (10) days before the next shipment of hazardous materials is due to arrive at the facility and shall notify the Hayward Fire Department at the same time a request for route change is submitted to the CPM.	Any change to the route must be reviewed and approved by the CPM and must be made in writing not less than ten (10) days prior to the next shipment of hazardous materials to the facility.	10	Prior to proposed change	5/15/2012	6/13/2012	Ongoing
HAZ	7	All		The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (SR92 to Clawiter to Depot Road to the facility).	At least sixty (60) days prior to receipt of any hazardous materials on site, the project owner shall submit to the CPM for review and approval, a copy of the letter to be mailed to the vendors. The letter shall state the required transportation route limitation.	60	Prior to delivery	5/15/2012	6/13/2012	Ongoing
HAZ	8	Ops		The project owner shall ensure that the portion of the natural gas pipeline owned by the project undergo a complete design review and detailed inspection **30 years after initial installation** and each 5 years thereafter.	This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, not later than one year before the plan is implemented.	N/A	N/A	N/A	N/A	Complete
HAZ	9	Ops		**After any significant seismic event in the area** where surface rupture occurs within one mile of the pipeline, the gas pipeline portion owned by the project shall be inspected by the project owner.	This plan shall be amended, as appropriate, and submitted to the CPM for review and approval, at **least every five years.**	N/A	N/A	N/A	N/A	Complete
NOISE	2	All		Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.	Within 30 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the City of Hayward, and with the CPM, documenting the resolution of the complaint.	30	After receipt	Various	Various	Ongoing
NOISE	2	All			If mitigation is required to resolve a complaint and the complaint is not resolved within a 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.	30	After resolution			Ongoing
NOISE	6	Ops		The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the project will not cause resultant noise levels to exceed the noise standards of the City of Hayward Municipal Code or Noise Element. Included shall be a sound wall along the southern edge of the project site. No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.	Within 30 days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures.	30	After completion	1/23/2014		Submitted
NOISE	6	Ops			Within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.	30	After completion	1/23/2014		Submitted
NOISE	7	Ops		Within 30 days after the facility is in full operation, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure. The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.	Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.	30	After completion	1/23/2014		Submitted

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
PAL	5	All		The Project Owner, through the designated Paleontologic Resource Specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontologic resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.	The Project Owner shall maintain in its compliance files copies of signed contracts or agreements with the designated Paleontologic Resource Specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for delivery of all significant paleontologic resource materials collected during data recovery and mitigation for the project. The Project Owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontologic Resources Report and shall keep these files available for periodic audit by the CPM.	N/A	N/A			Ongoing
PAL	7	Closure		The Project Owner shall include in the facility closure plan a description regarding potential impact to paleontologic resources by the closure activities. The conditions for closure will be determined when a facility closure plan is submitted to the CPM, twelve months prior to closure of the facility. If no activities are proposed that would potentially impact paleontologic resources, then no mitigation measures for paleontologic resource management are required in the facility closure plan.	The Project Owner shall include a description of closure activities described above in the facility closure plan.	N/A	N/A			In Progress
SW	3	Comm		The project owner shall comply with the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the operation of the RCEC. The Industrial SWPPP shall abide by the City of Hayward's Stormwater Management and Urban Runoff Control Ordinances (Chapter 11, Article 5) set forth in NPDES Permit No. CA0029831.	The project owner shall submit to the CPM a copy of the Industrial SWPPP that includes all requirements of Hayward Municipal Code Chapter 11, Article 5 for Stormwater Management and Urban Runoff Control prior to commercial operation and retain a copy on-site. The project owner shall submit copies to the CPM of all correspondence between the project owner and the City about the City's Stormwater Management and Urban Runoff Control Ordinances and the General NPDES permit for the Discharge of Stormwater Associated with Industrial Activity within 10 days of its receipt or submittal. The Industrial SWPPP shall include a copy of the Notice of Intent for the project.	10	After receipt	7/17/2014		Submitted
SW	4	All			Any significant changes in the water supply for the project during construction or operation of the plant shall be noticed in writing to the CPM at least 60 days prior to the effective date of the proposed change.	60	Prior to proposed change			Not Started
SW	4	All			The project owner shall submit copies to the CPM of all correspondence between themselves and DHS or the SFRWQCB within 10 days of receipt or submittal.	10	After receipt			Ongoing
SW	4	Ops	Annual		The project owner will submit as part of its annual compliance report a water use summary to the CPM on an annual basis for the life of the project.	N/A	N/A			Ongoing
SW	6	All			The project owner shall submit any notice of violations from the City to the CPM within ten (10) days of receipt and fully explain the corrective actions taken in the annual compliance report.	10	After receipt			Not Started
SW	6	All			The project owner shall submit any notice of violation of the agreements' terms and conditions to the CPM within ten (10) days of receipt and shall fully explain the corrective actions taken in the next monthly compliance report or annual compliance report, as appropriate.	10	After receipt			Not Started
SW	6	Ops	Annual		During operations, the project owner shall submit any water quality monitoring reports for potable or recycled water use required by the City to the CPM in the annual compliance report.	N/A	N/A			Not Started
SW	7	Comm		The project owner shall provide evidence of submittal of as-built plans to City of Hayward in order to obtain a final letter of map revision (LOMR).	Within sixty (60) days following the RCEC ~~commercial operation date~~ **completion of final site grading**, the project owner shall submit to the CPM evidence of submittal of as-built plans to the City of Hayward in order to obtain a final letter of map revision (LOMR).	60	After completion			In Progress
SW	9	Ops	Annual	During operation, any monitoring reports provided to the City shall be provided to the CPM.	During operations, the project owner shall submit any water quality monitoring required by the City to the CPM in the annual compliance report.	N/A	N/A			Ongoing
SW	9	Ops	Annual	The CPM shall be notified of any violations of discharge limits or amounts.	The project owner shall submit any notice of violations from the City to the CPM within ten (10) days of receipt and fully explain the corrective actions taken in the annual compliance report.	10	After receipt			Not Started
TLSN	2	Ops	Annual	Every reasonable effort shall be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related lines and associated switchyards. Written records shall be maintained for a period of five years, of all complaints of radio or television interference attributable to plant operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.	All reports of line-related complaints shall be summarized for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.	N/A	N/A			Not Started
TLSN	4	Ops	Annual	The rights-of-way of the proposed transmission line shall be kept free of combustible materials, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.	During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report.	N/A	N/A			Ongoing
TRANS	6			The degree of rehabilitation is dependent on a condition inspection by the City Engineer after completion of the RCEC project.	If required, the project owner shall resurface Enterprise Avenue and Clawiter Road in accordance with City of Hayward standards.	N/A	N/A			In Progress
VIS	1	Comm		• All evidence of construction activities, including ground disturbance due to staging and storage areas shall be removed and remediated upon completion of construction. Any vegetation removed in the course of construction would be replaced on a 1-to-1 in-kind basis. Such replacement planting would be monitored for a period of three years to ensure survival. During this period, all dead plant material shall be replaced.	The project owner shall notify the CPM within seven days after completing the surface restoration that the areas disturbed during construction are ready for inspection.	7	After completion			In Progress
VIS	2	Ops	Annual		The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.	N/A	N/A			Ongoing
VIS	3	Ops	Annual		The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.	N/A	N/A			Ongoing
VIS	6	All		The project owner shall design project signs using non-reflective materials and unobtrusive colors. The project owner shall ensure that signs comply with the applicable City of Hayward zoning requirements that relate to visual resources. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.	At least 60 days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval.	60	Prior to start of installation			Ongoing
VIS	6	All			If the CPM notifies the project owner that revisions of the plan are needed before the CPM would approve the submittal, within 30 days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.	30	After notification			Ongoing

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
VIS	10	Comm			The project owner shall notify the CPM within seven days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.	7	After completion			In Progress
VIS	10	Ops	Annual		The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.	N/A	N/A			Ongoing
WASTE	1	All		Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.	The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.	10	After notification			Not Started
WASTE	2	Ops	Annual		In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year and provide a comparison of the actual methods used to those proposed in the original Operation Waste Management Plan.	N/A	N/A			Ongoing
WASTE	2	Ops			The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date).	20	After notification			Not Started
WASTE	5	Ops	Annual	The project owner shall ensure that the ZLD salt cake is tested twice the first year of operation as per 22 CCR 66262.10 and report the findings to the CPM.	The project owner shall include the results of salt cake testing in annual report provided to the CPM. If two consecutive tests, taken six months apart, show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing.	N/A	N/A	11/25/2014	3/16/2015	Complete

CONDITION OF CERTIFICATION
BIO-2

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Report

Russell City Energy Center Biological Resources Post-construction Compliance Monitoring Report (BIO-4)

Prepared for

Russell City Energy Company, LLC

August 2015

Prepared by

CH2MHILL®

2485 Natomas Park Drive
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Contents

SECTION 1

Introduction

The Russell City Energy Center (RCEC) is an approximately 600 megawatt natural gas fired combined cycle power plant built by Russell City Energy Company, LLC. The RCEC is located on an 18.8-acre site characterized as a mixed-used industrial area at 3862 Depot Road, near the corner of Depot Road and Cabot Boulevard, in Hayward, California. The City of Hayward's Water Pollution Control Facility is located to the east, with waste water treatment settling pond located to the west. Commercial and Industrial areas are located to the north and south.

RCEC includes two Siemens Westinghouse "F-class" combustion turbine generators equipped with dry, low oxides of nitrogen combustors; two heat recovery steam generators (HRSG); a single condensing steam turbine-generator; a deaerating surface condenser; a mechanical draft hybrid (wet/dry) plume-abated cooling tower; and support equipment. Each HRSG unit has a 145-foot exhaust stack and is equipped with duct burners for additional steam production when increased electric power generation is necessary.

The RCEC also includes a new 230 kilovolt above ground electrical transmission line, underground natural gas pipeline, underground domestic water line, and an underground effluent pipeline. These linear offsite facilities associated with the project occur in previously disturbed areas characterized by mixed industrial uses similar to the power plant site. Five temporary laydown yards were used during construction of the RCEC at offsite locations as well, including vacant lots, graveled areas, and former wrecking yards, all similarly characterized as mix-used industrial. The temporary laydown yards were returned to their pre-project condition following completion of the RCEC.

A Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) for the RCEC was prepared in April 2010 as required under the Conditions of Certification (COC) set forth by the CEC in their final decision dated October 3, 2007 (01-AFC-7C). The purpose of the BRMIMP was to ensure that actions authorized, funded, or carried out by state or federal led agencies were not likely to jeopardize the continued existence of endangered, threatened or other special-status species. The BRMIMP described mitigation measures and guidance to protect biological resources within the project area.

In accordance with the COCs, construction and substantial completion of the RCEC occurred from September 1, 2010 to August 7, 2013. Due to issues with the onsite recycled water facility, a temporary system was installed onsite in August 2013 in order to allow facility commissioning activities and operations to continue while repairs were being made. The repair work was completed in March 2014 and the temporary water treatment system was removed November 2014, followed by final site restoration including completion of interior paved roads and other hardscape in December 2014.

The Designated Biologist and/or Biological Monitor were available during all phases of construction to ensure compliance with the mitigation measures outlined in the BRMIMP. Throughout the project construction phase, monthly compliance reports (MCR) were

prepared by the Designated Biologist and were submitted to the CEC CPM. The monthly reports included summaries of daily logs, wildlife observation forms, worker environmental awareness training logs, summaries of the construction activities, documentation of compliance and non-compliance, and contacts with agencies. By early August 2013, construction activities had been completed and the remaining recycled water facility repair work, commissioning activities, and final site restoration were limited to areas within the RCEC site. During this time, the Designated Biologist remained on call.

The purpose of this final construction monitoring report is to fulfill the requirements of CEC COC BIO-4. Sections 2 and 3 summarize the status of the eight RCEC biological resources CEC COCs. Section 4 of this report summarizes any modifications to the mitigation measures or conditions made during the construction phase. Representative photographs that document final site completion and restoration are included in an appendix to this report.

SECTION 2

Status of Conditions of Certification and other Regulatory Permit Conditions

As noted in the Section 1, this section summarizes the status of compliance with the eight biological resources mitigation measures required by the CEC COCs.

TABLE 1
Biological Resources Conditions of Certification
Russell City Energy Center

Condition ID	Condition Description	Status	Modifications / Comments / How Implemented
BIO-1 (Designated Biologist Selection)	The project owner shall submit the resume, including contact information, of the proposed Designated Biologist to the CPM for approval. The Designated Biologist must meet the following minimum qualifications: 1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field; 2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and 3. At least one year of field experience with biological resources found in the project area.	Complete	The RCEC Designated Biologist duties were conducted by Russell Huddleston of CH2M HILL until June 16, 2012. Thereafter, the duties were transferred to Todd Ellwood of CH2M HILL as authorized by the CEC on May 21, 2012. Both Mr. Huddleston's and Mr. Ellwood's credentials as the designated biologist were submitted for review and approval to the CEC.
BIO-2 (Designated Biologist Duties)	The Designated Biologist shall perform the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities: 1. Advise the project owner's Construction/Operation Manager, supervising construction and operations engineer on the implementation of the biological resources conditions of certification; 2. Be available to supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species or their habitat; 3. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions; 4. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. Inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity at the end of the construction day. Periodically inspect areas with high vehicle activity (parking lots) for animals in harm's way. This inspection may be carried out by a person with qualifications in biological resources who is identified and selected by the Designated Biologist; 5. Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification; and 6. Respond directly to inquiries of the CPM regarding biological resource issues.	Complete	Successfully implemented. Monthly Compliance Reports were prepared for the duration of construction (September 2010 through January 2014). Russell City LLC received approval from the CEC CPM to discontinue MCRs following substantial completion of the project. The approved monitoring biologist(s) was onsite during construction checking that work activities occurred within the approved project site and in compliance with the BRMIMP.
BIO-3 (Designated Biologist Authority)	The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist to ensure conformance with the biological resources conditions of certification. If required by the Designated Biologist, the project owner's Construction/Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall: 1. Require a halt to all activities in any area when determined that there would be adverse impact to biological resources if the activities continued; 2. Inform the project owner and the Construction/Operation Manager when to resume activities; and 3. Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the halt.	Complete	Successfully implemented. No construction activities were halted regarding biological resources. On occasion construction work was temporarily stopped to safely move non-listed animals (mostly skunks) from the construction zone.

TABLE 1
Biological Resources Conditions of Certification
Russell City Energy Center

Condition ID	Condition Description	Status	Modifications / Comments / How Implemented
BIO-4 (Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP))	The project owner shall submit to the CPM for review and approval a copy of the final BRMIMP and, once approved, shall implement the measures identified in the plan. The BRMIMP shall identify: 1. All Biological Resource conditions included in the Energy Commission's Final Decision; 2. A listing, including approval dates, of plans addressing storm water treatment at the project site including the Drainage, Erosion, and Sedimentation control Plan (DESCP) and the Storm Water Pollution Protection Plan (SWPPP); 3. A list of all measures which will be implemented to mitigate the construction impacts caused by the proposed RCEC; 4. A list and a map of locations of all sensitive biological resources to be impacted, avoided, or mitigated by project construction and operation; 5. A list of all terms and conditions set forth by USACE Section 404 permits and state SFRWQCB 401 certifications, should these become necessary throughout the life of the project; 6. Detailed descriptions of all measures that will be implemented to avoid and/or minimize impacts to sensitive species and reduce habitat disturbance; 7. All locations, on a map of suitable scale, of areas requiring temporary protection and avoidance during construction; 8. Aerial photographs (scale 1:200) of all areas to be disturbed during construction activities-one set prior to site disturbance and one set after project construction. Include planned timing of aerial photography and a description of why times were chosen; 9. Duration for each type of monitoring and a description of monitoring methodologies and frequency; 10. Performance standards to be used to help decide if/when proposed mitigation is or is not successful; 11. All performance standards and remedial measures to be implemented if performance standards are not met; 12. A discussion of biological resource-related facility closure measures; 13. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; 14. A copy of any State or USFWS Biological Opinion, and incorporation of all terms and conditions into the final BRMIMP, should a biological opinion become necessary any time throughout the life of the project; 15. A discussion of bird flight diverters and how they will be installed, replaced and maintained during the life of the project; and 16. A copy of the final construction noise mitigation plan	Complete	The BRMIMP was approved by the CPM in April 2010 and implemented throughout all areas of construction. This final report is being submitted following completion of construction. Implementation of BRMIMP measures were reported in the monthly compliance reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, species observed). Post-construction photographs of the RCEC site are provided in Appendix A of this report. The restored laydown yards were not photographed because privacy fencing being maintained by respective landowners obstructed the views to each site.
BIO-5 (Worker Environmental Awareness Program (WEAP))	The project owner shall develop and implement a CPM approved WEAP in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities during construction and operation, are informed about sensitive biological resources associated with the project. The training may be presented on electronic media in the form of a video recording. The Worker Environmental Awareness Program must: 1. Be developed by the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants; 2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas; 3. Present the reasons for protecting these resources; 4. Present the meaning of various temporary and permanent habitat protection measures; and 5. Identify whom to contact if there are further comments and questions about the material discussed in the program. 6. The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist. 7. Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.	Complete	The WEAP was implemented throughout all areas of construction. A total of 3,044 site construction workers were provided the WEAP training. Training affidavits are on file with Russell City Energy Company, LLC and are available upon request. All construction personnel received the worker education training via a CEC pre-approved video of the Designated Biologist. In addition, an educational brochure and hard hat sticker were issued to each site worker during the training. While onsite the monitoring biologist verified that all site workers were properly trained.
BIO-6 through BIO-10, Deleted.			

TABLE 1
Biological Resources Conditions of Certification
Russell City Energy Center

Condition ID	Condition Description	Status	Modifications / Comments / How Implemented
BIO-11 (Facility Closure)	The project owner will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources. The biological resource facility closure measures will also be incorporated into the project Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP).	not applicable at this time	As provided by Section 4.3 of the BRMIMP, the RCEC will experience either a planned closure or be unexpectedly (either temporarily or permanently) closed. To address unanticipated facility closure, the project owner will develop "on-site contingency plan" to be approved by the CPM. The facility closure plan is due 12 months prior to permanent closure of the RCEC.
BIO-12 (Construction Noise Levels)	The project owner will develop an approved construction noise mitigation plan that addresses how noise impacts to state and federally listed nesting and breeding sensitive vertebrate species will be minimized during construction. The noise mitigation plan will discuss how pile-driving and HRSG steam blow noise will be mitigated. The final plan must be approved by the Energy Commission CPM in consultation with the USFWS, CDFG, and EBRPD.	Complete	The CPM-approved Noise Mitigation Plan was contained in Appendix E of the BRMIMP.
BIO-13 (Bird Flight Diverters)	Bird flight diverters will be placed on all overhead ground wires associated with the RCEC power plant. During construction of the RCEC transmission line, bird flight diverters will be installed to manufacturer's specification. Energy Commission staff, in consultation with the USFWS and CDFG, will provide final approval of the bird flight diverter to be installed. Staff recommends that the Swan Flight Diverter be given careful consideration when making a decision about which diverter is to be installed.	Complete	The Bird Flight Diverters (BFD) were installed on the transmission line at the time the line was installed. They were placed on the top wire along the length of the line using spacing of 5 meters between BFDs. Proof of the diverters being installed was provided by Russell City Energy Company, LLC to the CPM using photographs on July 3, 2012.

SECTION 3

Outstanding or Ongoing Conditions of Certification

All applicable CEC Conditions of Certification were successfully completed during construction of the RCEC.

SECTION 4

Modifications to Mitigation Measures

No modifications to mitigation measures were required for activities during construction of RCEC.

Appendix A
Representative Post-construction Photographs of the Russell City Energy Center

PHOTO 1
View north from the new administration building of the RCEC main access road from Depot Road.
Photo taken: 2/23/2015

PHOTO 2
View south from the new administration building of the RCEC switchyard and power plant in distant background.
Photo taken: 2/23/2015

PHOTO 3
View south of the RCEC water treatment facility (background left) and power plant (background right). Also shown are completed interior roads and other hardscape.
Photo taken: 2/23/2015

PHOTO 4
View east of the RCEC water treatment facility (background center) power plant (left), interior roads and other hardscape, and site perimeter sound wall (right).
Photo taken: 2/23/2015

PHOTO 5
View north of the RCEC cooling towers and completed interior roads and other hardscape.
Photo taken: 2/23/2015

PHOTO 6
View northwest of the RCEC stormwater detention basin.
Photo taken: 2/23/2015

CONDITION OF CERTIFICATION
HAZ-1

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Table 3.5.1
Use and Location of Hazardous Materials

	Chemical	Use	Storage Location	State	Type of Storage
1	Aqueous Ammonia (29.45%)	Selective catalytic reduction	Outdoors, in the ammonia unloading/storage area	Liquid	Continuously onsite
2	Sulfuric Acid (93%)	Cooling tower pH control; ZLD pH adjustment; RWF pH adjustment	Outdoors, in the Cooling Tower Chemical Feed Area; ZLD Chemical Feed Area; RWF Chemical Feed Area	Liquid	Continuously onsite
3	Sodium Hypochlorite (12.5%)	Disinfection in the recycled water facility; Ultrafiltration membrane cleaning	RWF Chemical Feed Area; Trial Demin. System	Liquid	Continuously onsite
4	Chlorine Dioxide (1%)	Biocide in cooling tower	Cooling Tower Chemical Feed Area	Liquid	No bulk storage onsite -- consumed as soon as it's produced
5	Hydrochloric Acid (32%)	Biocide in cooling tower	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
6	Sodium Chlorite (25%)	Biocide in cooling tower	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
7	Propylene glycol (30%)	Closed cooling tower water system antifreeze	Closed Cooling Water Pumps	Liquid	Continuously onsite
8	Hydrogen gas	Steam turbine generator cooling	Adjacent to steam turbine	Gas	Continuously onsite
9	Lubricating Oil	Rotating equipment	Contained within equipment	Liquid	Continuously onsite
10	Mineral Insulating Oil	Transformers	Contained within transformers	Liquid	Continuously onsite
11	Hydraulic oil	Combustion turbine starting system, turbine control valve actuators	Combustion turbine and steam turbine areas	Liquid	Continuously onsite
12	No. 2 Diesel Fuel	Emergency fire pump engine	Near emergency fire pump	Liquid	Continuously onsite
13	Various Cleaning Chemicals	Chemical cleaning of HRSG	Water treatment building/laboratory	Liquid	Continuously onsite
14	Various Laboratory Reagents (Liquid)	Laboratory analysis	Water treatment building/laboratory	Liquid	Continuously onsite
15	Various Laboratory Reagents (Solid)	Laboratory analysis	Water treatment building/laboratory	Solid	Continuously onsite
16	Ferric Sulfate	Coagulant for RWF clarification	RWF Chemical Feed Area	Liquid	Continuously onsite
17	Polymer	Anionic Polymer for RWF clarification	RWF Chemical Feed Area	Liquid	Continuously onsite
18	Polymer	RWF Filter Aid	RWF Chemical Feed Area	Liquid	Continuously onsite
19	Calcium Sulfate (Snow White)	Initial startup seeding of brine concentrator	ZLD Chemical Feed Area	Liquid	Periodically - once/twice per year
20	*OR* Calcium Sulfate (Terra Alba)	Initial startup seeding of brine concentrator	ZLD Chemical Feed Area	Solid	Continuously onsite
21	Chelating agents (EDTA)	Brine concentrator cleaning	ZLD Chemical Feed Area	Liquid	Periodically - once/twice per year
22	Sodium Hydroxide (50%)	ZLD pH Adjustment; RWF sludge pH adjustment; and CO2 control for RO membranes	ZLD Chemical Feed Area, RWF Chemical Feed Area, and Trial Demin. System	Liquid	Continuously onsite
23	Sulfur Hexafluoride	Transformers/switchyards	Switchyard circuit breakers	Gas	Continuously onsite
24	Corrosion Inhibitor	Boiler water corrosion inhibitor	STG Chemical Feed Skid	Liquid	Continuously onsite

Table 3.5.1
Use and Location of Hazardous Materials

	Chemical	Use	Storage Location	State	Type of Storage
25	Antifoam	ZLD antifoam	RWF Chemical Feed Area	Liquid	Continuously onsite
26	Drewgard 315	Closed cooling tower water system corrosive inhibitor	Closed Cooling Water Pumps	Liquid	Continuously onsite
27	Antifoulant/ Dispersant	Cooling tower dispersant	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
28	Citric Acid (50%)	Ultrafiltration membrane cleaning	Trial Demin. System	Liquid	Onsite for trial
29	Drewphos PT	Boiler pH control	HRSG Chemical Feed Skids	Liquid	Continuously onsite
30	Antifoam	Cooling Tower Antifoam	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
31	Sodium Bisulfite	Chlorine control for RO membranes	Trial Demin. System	Liquid	Onsite for trial
32	Antiscalant	Antiscalant for RO membranes	Trial Demin. System	Liquid	Onsite for trial

TABLE 3.5.2
RCEC Chemical Inventory

	Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite	CERCLA SARA RQ [a]	RQ of Material as Used Onsite [b]	EHS TPQ [c]	Regulated Substance TQ [f]	Prop 65
1	Aqueous Ammonia (29.45%)	Ammonium Hydroxide	Mixture	15,030 gal	100 lb	340 lb	500 lb	20,000 lb (State)	No
2	Sulfuric Acid (93%)	Sulfuric Acid	7664-93-9	12,500 gal	1,000 lb	1,075 lb	1,000 lb	[d, g]	No
3	Bleach	Sodium Hypochlorite (15%)	7681-52-9	8,000 gal	100 lb	667 lb	[d]	[d]	No
4	Chlorine Dioxide	Chlorine Dioxide	10049-04-4	0 gal	[d]	[d]	[d]	1000 lb	No
5	Hydrochloric Acid (32%)	Hydrogen chloride Water	7647-01-0 7732-18-5	1,500 gal	5,000 lb [d]	16,000 lb [d]	[d] [d]	[d] [d]	No
6	Sodium chlorite (25%)	Sodium chlorite	7758-19-2	5,500 gal	[d]	[d]	[d]	[d]	No
7	Propylene glycol	Propylene glycol	57-55-6	250 gal	[d]	[d]	[d]	[d]	No
8	Hydrogen gas	Hydrogen	1333-74-0	9,500 scf	[d]	[d]	[d]	[d]	No
9	Lubricating Oil	Oil	None	19,500 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
10	Mineral Insulating Oil	Oil	None	60,900 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
11	Hydraulic oil	Oil	None	600 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
12	No. 2 Diesel Fuel	Oil	None	350 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
13	Various Cleaning Chemicals	Various	None	100 gal	[d]	[d]	[d]	[d]	No
14	Various Laboratory Reagents (liquid)	Various	None	10 gal	[d]	[d]	[d]	[d]	No
15	Various Laboratory Reagents (Solid)	Various	None	100 lbs	[d]	[d]	[d]	[d]	No
16	Ferric Sulfate	Ferric Sulfate (50%) Sulfuric Acid (<0.1%)	010028-22-5 7664-93-9	8,000 gal	1,000 lb 1,000 lb	2,000 lb 1,000,000 lb	[d] [d]	[d] [d]	No
17	Drewfloc 2270	Aliphatic Hydrocarbon (30%) Alcohols, C12-16 Ethoxylated (5%) Polyethylene Glycol Alkyl(C10-16) Ether (5%) Nonylphenol Polyethoxylate Ethoxylated Nonylphenol Polyoxyalkylene (5%) Nonionic Surfactant (5%) Sodium Metabisulfite (1.5%) Acrylamide (0.5%) Alcohols, C12-14, Ethoxylated (4%)	254504001-5164 68551-12-2 68002-97-1 9016-45-9 127087-87-0 7681-57-4 79-06-1 68439-50-9	300 gal	[d] [d] [d] [d] [d] [d] 5,000 lb [d]	[d] [d] [d] [d] [d] [d] 1,000,000 lb [d]	[d] [d] [d] [d] [d] [d] 1,000 lb [d]	[d] [d] [d] [d] [d] [d] [d] [d]	Yes
18	Amerfloc 490	Polymer (100%)	42751-79-1	300 gal	[d]	[d]	[d]	[d]	No
19	Snow White	Anhydrous Calcium Sulfate (> 99%) Crystalline Silica (<5%)	7778-18-9 14808-60-7	6,250 lb	[d] [d]	[d] [d]	[d] [d]	[d] [d]	Yes
20	OR Terra Alba	Gypsum /anhydrite blend (>95%) Crystalline Silica (<5%)	13397-24-5 14808-60-7	9,000 lb	[d] [d]	[d] [d]	[d] [d]	[d] [d]	Yes
21	Chelating agents	EDTA Ethylenediaminetetraacetic Acid (38%)	60-00-4	5,000 gal	5,000 lb	13,158 lb	[d]	[d]	No
22	Caustic Soda (50%)	Sodium Hydroxide (50%)	1310-73-2	5,200 gal	1,000 lb	2,000 lb	[d]	[d]	No
23	Sulfur Hexafluoride	Sulfur Hexafluoride	2551-62-4	650 lb	[d]	[d]	[d]	[d]	No

TABLE 3.5.2
RCEC Chemical Inventory

	Trade Name	Chemical Name	CAS Number	Maximum Quantity Onsite	CERCLA SARA RQ [a]	RQ of Material as Used Onsite [b]	EHS TPQ [c]	Regulated Substance TQ [f]	Prop 65
24	Amercor KB	Ammonia (15%) Monoethanolamine (5%)	7664-41-7 141-43-5	450 gal	100 lb [d]	666 lb [d]	500 lb [d]	20,000 lb [d]	No
25	Drewplus ED 795 Foam Control Agent	Polyaklylene Glycol (20%)	254504001-5000	300 gal	[d]	[d]	[d]	[d]	Yes
26	Drewgard 315	Inorganic Salt (10%) Triazole Derivative (1.5%) Sodium Hydroxide (1%)	254504001-5271 254504001-5183 1310-73-2	55 gal	[d] [d] 1,000 lb	[d] [d] 100,000 lb	[d] [d] [d]	[d] [d] [d]	No
27	Drew 11-644 Antifoulant	Acrylic Polymer (40%)	254504001-5727	300 gal	[d]	[d]	[d]	[d]	No
28	Citric Acid (50%)	Citric Acid (50%)	77-92-9	960 gal	[d]	[d]	[d]	[d]	No
29	Drephos PT	Sodium Hydroxide (5%) Inorganic Salt (5%)	1310-73-2 254504001-5309	600 gal	1,000 lb [d]	16,440 lb [d]	[d] [d]	[d] [d]	No
30	Drewplus L718 Foam Control Agent	Poly(oxy-1,2-ethanediyl),.alpha.-undecyl-.omega.-hydroxy-, branched and linear (5%)	127036-24-2	300 gal	[d]	[d]	[d]	[d]	No
31	Sodium Bisulfite	Sodium Bisulfite (38-40%)	7631-90-5	960 gal	5,000 lb	12,500 lb	[d]	[d]	No
32	Hypersperse MDC714	Phosphoric Acid Disodium Salt (3-7%)	13708-85-5	960 gal	[d]	[d]	[d]	[d]	Yes

[a] Reportable quantity for a pure chemical, per the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Superfund Amendments and Reauthorization Act (SARA) [Ref. 40 CFR 302, Table 302.4]. Release equal to or greater than RQ must be reported. Under California law, any amount that has a realistic potential to adversely affect the environment or human health or safety must be reported.

[b] Reportable quantity for materials as used onsite. Since some of the hazardous materials are mixtures that contain only a percentage of a reportable chemical, the reportable quantity of the mixture can be different than for a pure chemical. For example, if a material only contains 10 percent of a reportable chemical and the RQ is 100 lb, the reportable quantity for that material would be (100 lb)/(10percent) = 1,000 lb

[c] Extremely Hazardous Substance Threshold Planning Quantity [Ref. 40 CFR Part 355, Appendix A]. If quantities of extremely hazardous materials equal to or greater than TPQ are handled or stored, they must be registered with the local Administering Agency.

[d] No reporting requirement. Chemical has no listed threshold under this requirement.

[e] State reportable quantity for oil spills that will reach California state waters [Ref. CA Water Code Section 13272(f)]

[f] TQ is Threshold Quantity from 19 CCR 2770.5 (state) or 40 CFR 68.130 (federal)

[g] There is a state TQ of 1,000 pounds for sulfuric acid that does not apply to this form of sulfuric acid

TABLE 3.5.3

Toxicity, Reactivity, and Flammability of Hazardous Substances Stored Onsite

	Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
1	Aqueous Ammonia (29%)	Color gas with pungent odor.	Corrosive. Irritation to permanent damage from inhalation, ingestion, and skin contact.	Acids, halogens, strong oxidizers, salts of silver and zinc.	Combustible but difficult to burn.
2	Sulfuric Acid (93%)	Colorless, dense, oily liquid.	Strongly corrosive. Strong irritant to all tissue. Minor burns to permanent damage to tissue.	Organic materials, chlorates, carbides, fulminates, metals in powdered form. Reacts violently with water.	Not combustible.
3	Bleach	Pale green; sweet, disagreeable odor. Usually in solution with water or sodium hydroxide.	Corrosive. Toxic by ingestion. Strong irritant to tissue.	Ammonia and organic materials.	Fire risk when in contact with organic materials.
4	Chlorine Dioxide (1%)	Yellow to reddish gas, with pungent odor	Slightly toxic. Low human hazard.	Avoid contact with: metals, reducing agents, strong oxidizing agents, sulfur components.	Chlorine dioxide gas is explosive at concentration of 10% in air or greater.
5	Hydrochloric Acid (32%)	Colorless gas	Irritant to eyes, skin, nose, throat and lungs	Extremely reactive or incompatible with the following materials: alkalis and moisture. Highly reactive or incompatible with the following materials: metals.	Non-Flammable
6	Sodium Chlorite (25%)	Colorless Liquid	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, or inhalation	The product is stable.	Non-Flammable
7	Propylene glycol (30%)	Colorless, dense, oily liquid.	Hazardous in case of ingestion. Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation.		May be combustible at high temperature.
8	Hydrogen gas	Colorless, odorless gas	Simple asphyxiant, flammable	None known.	Flammable gas.
9	Lubricating Oil	Oily, dark liquid.	Ingestion hazardous.	Sodium hypochlorite.	Flammable.
10	Mineral Insulating Oil	Oily, clear liquid.	Minor.	Sodium hypochlorite.	May be combustible.
11	Hydraulic oil	Oily, clear liquid.	Minor.	Sodium hypochlorite.	May be combustible.
12	No. 2 Diesel Fuel	Oily, light liquid.	May be carcinogenic.	Sodium hypochlorite.	Flammable.
13	Various Cleaning Chemicals	Varies	Varies	Varies	Varies
14	Various Laboratory Reagents (liquid)	Varies	Varies	Varies	Varies
15	Various Laboratory Reagents (Solid)	Varies	Varies	Varies	Varies
16	Ferric Sulfate	Red brown liquid.	Irritating to skin, eyes, and mucous membranes	Incompatible with carbon steel, brasses, and nylon. Avoid contact with mineral acids, excessive heat, and bases/alkalis	Non-flammable
17	Anionic Poly Acrylamide	White Milky Liquid	May affect central nervous system causing dizziness, headache, or nausea. May be harmful if inhaled or swallowed. Causes eye irritation. May cause skin and respiratory tract irritation. Prolonged or repeated contact may dry skin and cause dermatitis and burns	Strong oxidizers, strong reducing agents, strong acids, strong bases	Combustible. Flash point >200^{o} F.
18	Polymer	Light yellow liquid	May cause eye irritation	Aluminum, iron, copper, strong mineral acids, strong oxidizing agents	Non-flammable
19	Anhydrous Calcium Sulfate (> 99%)	Solid. (Crystals solid. Powdered solid.) Odorless	May cause skin and eye irritation. Prolonged or repeated breathing of material may result in bronchitis.	Non reactive	Non-flammable
20	Gypsum /anhydrite blend (>95%)	Solid. (Crystals solid. Powdered solid.) Odorless	May cause skin and eye irritation. Prolonged or repeated breathing of material may result in bronchitis.	Non reactive	Non-flammable.

TABLE 3.5.3

Toxicity, Reactivity, and Flammability of Hazardous Substances Stored Onsite

	Hazardous Materials	Physical Description	Health Hazard	Reactive and Incompatibles	Flammability*
21	Versene 100 Chelating Agent	Liquid colorless to yellow. Mild odor.	Causes severe eye burns. Causes burns of the mouth and throat. May cause skin irritation. Aspiration hazard.	Aluminum, Aluminum Alloys, Copper, Copper Alloys, Nickel, and Zinc.	Non-flammable
22	Sodium Hydroxide	Clear to slightly turbid, colorless liquid having no characteristic odor	Mists and liquid are corrosive to all tissues contacted. Inhalation of mists may cause permanent lung damage.	Strong acids	Non-flammable
23	Sulfur Hexafluoride	Colorless, odorless liquefied gas	High concentrations can cause an oxygen deficient environment	Non reactive	Non-flammable
24	Corrosion Inhibitor	Light yellow liquid with ammoniacal odor	May cause severe burns of respiratory and digestive tracts. May be fatal if swallowed. Causes severe eye burns. Causes severe skin burns.	Alkali metals, aluminum, brass, copper, galvanized metals, hypochlorites, iodine, iron, ketones, metals, metallic mercury, organic anhydrides, organic halides, strong acids, strong alkalis, strong mineral acids, strong oxidizing agents, zinc	Combustible. Flash point >200^{o} F.
25	Antifoam	Colorless	May be harmful if swallowed. May cause eye, skin, and respiratory tract irritation.	Strong acids, strong bases, strong oxidizing agents	Combustible. Flash point >200^{o} F.
26	Drewgard 315	Light yellow liquid	May cause severe burns of respiratory and digestive tracts. Causes severe burns of eyes and skin.	Strong oxidizing agents, strong minderal acids, organic materials, strong organic acids, copper alloys, glycols, halogenated hydrocarbons, organic nitro compounds	Non-flammable
27	Antifoulant/ Dispersant	amber-colored liquid	May be harmful if swallowed.	Avoid contact with: strong bases and strong oxidizing agents	Non-flammable
28	Citric Acid (50%)	Clear to light yellow liquid with no characteristic odor	Severe eye irritant, skin & respiratory irritant	strong oxidizers, caustics, & alkali, chlorine releasers, sulfides, sulfites, cyanides, aluminum, magnesium, zinc, and alloys of these metals	Non-flammable
29	Drewphos PT	Colorless Liquid	May cause severe burns of respiratory and digestive tracts. Causes severe burns of eyes and skin.	Organic materials, strong mineral acids, copper alloys, glycols, halogenated hydrocarbons, organic nitro compounds, strong oxidizing agents	Non-flammable
30	Antifoam	Off-white liquid	May be harmful if inhaled or swallowed. Causes eye irritation. May cause skin and respiratory tract irritation.	Strong oxidizing agents.	Non-flammable
31	Sodium Bisulfite	Clear, colorless to pale yellow solultion with slight odor of sulfur dioxide	Can cause burns and severe irritation to eyes, skin and mucous membranes. Mist can cause respiratory discomfort. Can cause burned to gastrointestinal system which could possibly be fatal	Strong acids and oxidizers	Non-flammable
32	Antiscalant	Colorless to Yellow with slight odor	May cause slight irritation to skin and eyes. Mists/aerosols may cause irritation to upper respiratory tract	May react violently with water reactive compounds	Minimal Hazard, Flash point >213° F

Data were obtained from Material Safety Data Sheets (MSDSs) and Lewis, 1991. MSDSs provided as Appendix 3.5A.

* Per Department of Transportation regulations, under 49 CFR 173: "Flammable" liquids have a flash point less than or equal to 141 deg F; "Combustible" liquids have a flash point greater than 141 ^{o}F.

CONDITION OF CERTIFICATION
Air Quality Report

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19a

Operating Parameters of Emission Control Equipment

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
April - 2015

	Turbine 1				*Turbine 2*			
Day	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)
04/01/2015	172.4	25.0	1.66	0.6	159.8	25.6	1.64	0.73
04/02/2015	167.9	24.9	1.64	0.63	153.8	25.4	1.63	0.73
04/03/2015	166.5	24.7	1.67	0.6	153.6	25.4	1.64	0.67
04/04/2015	163.2	24.9	1.66	0.57	147.4	25.8	1.63	0.7
04/05/2015	**Down**	**Down**	**Down**	**Down**	44.6	24.7	0.00	0
04/06/2015	166.1	24.8	1.65	0.5	165.0	26.2	1.65	0.6
04/07/2015	172.0	24.7	1.73	0.57	161.4	25.7	1.66	0.6
04/08/2015	169.9	25.4	1.64	0.6	159.2	26.5	1.64	0.8
04/09/2015	169.8	24.3	1.65	0.6	156.9	24.9	1.66	0.77
04/10/2015	166.6	24.7	1.73	0.53	152.6	25.1	1.64	0.53
04/11/2015	162.3	24.3	1.66	0.53	147.3	24.6	1.63	0.5
04/12/2015	156.7	22.4	1.64	0.5	147.9	23.3	1.62	0.5
04/13/2015	168.0	23.2	1.67	0.43	165.9	24.8	1.64	0.47
04/14/2015	168.4	24.0	1.66	0.6	158.5	24.9	1.64	0.63
04/15/2015	172.3	24.0	1.70	0.6	163.1	25.0	1.68	0.8
04/16/2015	178.7	25.3	1.65	0.33	179.6	27.3	1.64	0.4
04/17/2015	178.0	24.8	1.71	0.3	177.6	26.7	1.66	0.4
04/18/2015	164.0	23.4	1.66	0.57	155.6	24.5	1.63	0.57
04/19/2015	160.4	23.6	1.66	0.57	146.7	24.2	1.75	0.6
04/20/2015	164.0	23.7	1.63	0.6	148.3	24.0	1.62	0.5
04/21/2015	165.1	24.5	1.63	0.6	148.1	24.8	1.62	0.57
04/22/2015	163.4	23.2	1.64	0.53	151.7	23.8	1.62	0.7
04/23/2015	163.3	24.8	1.65	0.57	145.9	24.9	1.62	0.53
04/24/2015	158.7	24.0	1.66	0.53	146.0	24.6	1.64	0.5
04/25/2015	157.8	23.4	1.67	0.5	144.5	23.8	1.63	0.5
04/26/2015	157.8	23.0	1.65	0.47	145.6	23.7	1.62	0.57
04/27/2015	164.9	23.7	1.66	0.5	158.3	24.8	1.63	0.5
04/28/2015	174.7	25.8	1.70	0.3	178.1	28.2	1.67	0.3
04/29/2015	174.4	24.6	1.68	0.53	162.0	25.2	1.66	0.63
04/30/2015	171.6	25.1	1.67	0.3	174.3	27.3	1.67	0.4

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
May - 2015

	Turbine 1				*Turbine 2*			
Day	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)
05/01/2015	175.4	26.4	1.71	0.3	177.7	28.7	1.66	0.33
05/02/2015	161.9	23.7	1.71	0.6	150.8	24.7	1.67	0.7
05/03/2015	160.5	24.0	1.67	0.57	147.3	24.5	1.63	0.7
05/04/2015	164.8	24.7	1.66	0.53	151.0	24.8	1.63	0.73
05/05/2015	166.7	22.7	1.67	0.4	163.3	24.1	1.63	0.43
05/06/2015	170.1	23.9	1.64	0.47	156.3	24.1	1.62	0.57
05/07/2015	180.6	24.5	1.63	0.4	166.9	24.8	1.61	0.43
05/08/2015	173.4	23.0	1.66	0.33	169.5	24.2	1.65	0.4
05/09/2015	161.3	21.9	1.66	0.3	166.9	24.2	1.64	0.43
05/10/2015	161.5	22.0	1.62	0.3	165.7	24.2	1.62	0.43
05/11/2015	159.6	23.0	1.68	0.47	158.7	25.4	1.64	0.47
05/12/2015	146.1	21.9	1.63	0.4	135.6	23.0	1.62	0.5
05/13/2015	159.1	22.9	1.63	0.5	144.1	23.5	1.63	0.5
05/14/2015	167.8	24.2	1.65	0.5	151.1	24.5	1.64	0.53
05/15/2015	157.8	25.1	1.63	0.5	144.8	25.7	1.62	0.6
05/16/2015	16.4	22.9	0.00	0	161.4	23.7	1.63	0.47
05/17/2015	158.1	24.9	1.68	0.47	144.0	23.3	1.64	0.47
05/18/2015	171.2	26.0	1.62	0.5	137.1	23.9	1.62	0.47
05/19/2015	171.3	25.5	1.66	0.47	139.8	23.6	1.62	0.43
05/20/2015	147.1	22.6	1.63	0.4	130.9	22.8	1.65	0.4
05/21/2015	150.7	22.3	1.65	0.37	141.7	23.1	1.63	0.5
05/22/2015	163.9	22.6	1.65	0.3	167.6	24.3	1.63	0.37
05/23/2015	153.4	22.9	1.86	0.4	141.4	23.5	1.67	0.5
05/24/2015	143.4	22.6	1.62	0.4	136.4	24.5	1.61	0.4
05/25/2015	149.5	21.6	1.66	0.33	138.5	22.3	1.63	0.4
05/26/2015	149.0	21.7	1.67	0.3	138.7	22.4	1.63	0.37
05/27/2015	146.3	21.7	1.63	0.4	138.8	23.3	1.63	0.4
05/28/2015	149.9	22.0	1.64	0.3	140.5	22.8	1.63	0.4
05/29/2015	143.6	21.5	1.62	0.4	133.0	22.6	1.63	0.4
05/30/2015	140.9	21.8	1.64	0.4	136.2	24.0	1.62	0.47
05/31/2015	141.2	22.0	1.64	0.4	137.4	24.6	1.61	0.5

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
June - 2015

	Turbine 1				*Turbine 2*			
Day	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)	NH3 Flow (lb/hr)	SCR NOx (ppm)	Max NOx @15% O2 (ppm)	Max 3-Hr NH3 Slip @15% O2 (ppm)
06/01/2015	143.9	20.9	1.66	0.4	134.6	21.8	1.64	0.5
06/02/2015	150.2	21.3	1.69	0.4	141.6	22.1	1.62	0.47
06/03/2015	172.7	24.0	1.66	0.4	150.4	23.2	1.62	0.5
06/04/2015	179.0	23.6	1.61	0.3	151.8	21.5	1.61	0.37
06/05/2015	170.3	24.1	1.67	0.3	169.1	24.9	1.63	0.33
06/06/2015	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/07/2015	191.3	27.0	1.63	0.13	170.3	28.0	1.62	0.13
06/08/2015	171.9	26.5	1.69	0.27	171.3	28.0	1.64	0.3
06/09/2015	161.2	23.7	1.66	0.4	159.8	25.3	1.65	0.37
06/10/2015	149.6	21.8	1.69	0.5	147.8	24.2	1.63	0.53
06/11/2015	170.6	25.0	1.66	0.33	162.7	24.3	1.66	0.53
06/12/2015	171.9	25.1	1.64	0.47	152.3	24.7	1.63	0.37
06/13/2015	175.2	26.0	1.67	0.5	140.6	23.5	1.62	0.33
06/14/2015	156.6	23.3	1.68	0.33	155.8	24.4	1.63	0.33
06/15/2015	165.0	23.8	1.68	0.3	162.2	25.0	1.65	0.3
06/16/2015	170.4	24.5	1.66	0.33	168.6	24.8	1.63	0.4
06/17/2015	169.4	25.2	1.79	0.33	167.9	25.3	1.63	0.43
06/18/2015	165.4	22.7	1.65	0.2	164.1	23.9	1.70	1
06/19/2015	167.0	25.0	1.63	0.17	165.8	26.9	1.61	1.63
06/20/2015	161.5	25.4	1.66	0.37	157.9	25.9	1.64	0.17
06/21/2015	173.0	25.0	1.66	0.4	163.3	25.1	1.63	0.33
06/22/2015	173.7	25.3	1.69	0.3	164.2	25.3	1.66	0.3
06/23/2015	171.2	25.8	1.67	0.2	172.2	27.3	1.64	0.2
06/24/2015	173.2	27.0	1.68	0.3	169.8	27.3	1.64	0.43
06/25/2015	178.9	27.1	1.69	0.23	170.9	27.2	1.67	0.3
06/26/2015	160.4	22.6	1.65	0.23	161.8	24.0	1.63	0.33
06/27/2015	155.9	21.8	1.70	0.43	155.0	23.2	1.67	0.6
06/28/2015	173.4	23.9	1.64	0.33	167.4	24.0	1.65	0.63
06/29/2015	187.0	24.4	1.63	0.3	177.6	24.4	1.63	0.57
06/30/2015	180.1	23.9	1.64	0.4	165.6	23.4	1.74	0.5

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19b

Total Plant Operation Time, Number of Startups, Hours in Cold Startup, Hours in Warm Startup, Hours in Hot Startup, Hours in Shutdown

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City Energy Center
01-AFC-7C Condition Verification 19b
Annual Compliance Report – Q2
2015

Number of Startups

	Cold Startups	Warm Startups	Hot Startups
Turbine 1	0	5	6
Turbine 2	0	3	1

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
April - 2015

	Unit 1					Unit 2				
Day	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)
04/01/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/02/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/03/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/04/2015	22.8	0.00	0.00	0.00	0.23	23.2	0.00	0.00	0.00	0.17
04/05/2015	0.0	0.00	0.00	0.00	0.00	0.9	0.00	0.93	0.00	0.00
04/06/2015	20.6	0.00	1.46	0.00	0.00	24.0	0.00	1.92	0.00	0.00
04/07/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/08/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/09/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/10/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/11/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/12/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/13/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/14/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/15/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/16/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/17/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/18/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/19/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/20/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/21/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/22/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/23/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/24/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/25/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/26/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/27/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/28/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/29/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
04/30/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
Monthly Total	691	0.0	1.5	0.0	0.23	696	0.0	2.9	0.0	0.17

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
May - 2015

	Unit 1					*Unit 2*				
Day	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)
05/01/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/02/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/03/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/04/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/05/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/06/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/07/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/08/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/09/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/10/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/11/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/12/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/13/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/14/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/15/2015	23.8	0.00	0.00	0.00	0.17	24.0	0.00	0.00	0.00	0.00
05/16/2015	0.7	0.00	0.48	0.22	0.00	24.0	0.00	0.00	0.00	0.00
05/17/2015	13.8	0.00	1.08	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/18/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/19/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/20/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/21/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/22/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/23/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/24/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/25/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/26/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/27/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/28/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/29/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/30/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
05/31/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
Monthly Total	710	0.0	1.6	0.2	0.17	744	0.0	0.0	0.0	0.00

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
June - 2015

	Unit 1					Unit 2				
Day	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)	Turbine Online (hours)	Cold Startup (hours)	Warm Startup (hours)	Hot Startup (hours)	Shutdown (hours)
06/01/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/02/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/03/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/04/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/05/2015	22.1	0.00	0.00	0.00	0.08	21.8	0.00	0.00	0.00	0.47
06/06/2015	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/07/2015	9.6	0.00	1.26	0.00	0.00	13.8	0.00	2.55	0.00	0.00
06/08/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/09/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/10/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/11/2015	15.1	0.00	0.00	0.90	0.28	22.1	0.00	0.00	0.00	0.13
06/12/2015	18.0	0.00	0.99	0.00	0.00	17.7	0.00	0.00	0.85	0.23
06/13/2015	24.0	0.00	0.00	0.00	0.00	12.1	0.00	0.82	0.00	0.00
06/14/2015	17.1	0.00	0.00	0.85	0.13	24.0	0.00	0.00	0.00	0.00
06/15/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/16/2015	19.2	0.00	0.00	0.89	0.13	24.0	0.00	0.00	0.00	0.00
06/17/2015	18.2	0.00	0.00	0.42	0.15	24.0	0.00	0.00	0.00	0.00
06/18/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/19/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/20/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/21/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/22/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/23/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/24/2015	19.5	0.00	0.00	0.83	0.25	24.0	0.00	0.00	0.00	0.00
06/25/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/26/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/27/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/28/2015	18.7	0.00	0.00	0.81	0.15	24.0	0.00	0.00	0.00	0.00
06/29/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
06/30/2015	24.0	0.00	0.00	0.00	0.00	24.0	0.00	0.00	0.00	0.00
Monthly Total	638	0.0	2.3	4.7	1.17	664	0.0	3.4	0.9	0.83

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19c

Date and Time of Beginning and End of Each Startup and Shutdown

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Turbine 1 Episodes

Russell City

Cold Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action

There are no episodes for this report.

Turbine 1 Episodes

Russell City

Warm Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Warm Startup Episode	4/6/2015 3:22 AM	4/6/2015 4:49 AM	1 hour, 28 minutes	Warm Startup	
Warm Startup Episode	5/16/2015 12:02 PM	5/16/2015 12:08 PM	7 minutes	Warm Startup	
Warm Startup Episode	5/16/2015 12:38 PM	5/16/2015 1:12 PM	35 minutes	Warm Startup	
Warm Startup Episode	5/17/2015 10:10 AM	5/17/2015 11:14 AM	1 hour, 5 minutes	Warm Startup	
Warm Startup Episode	6/7/2015 2:22 PM	6/7/2015 3:37 PM	1 hour, 16 minutes	Warm Startup	
Warm Startup Episode	6/12/2015 5:59 AM	6/12/2015 6:57 AM	59 minutes	Warm Startup	

Total duration 5 hours, 30 minutes

There are 6 episodes in this report

Turbine 1 Episodes

Russell City

Hot Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Hot Startup Episode	6/11/2015 7:12 AM	6/11/2015 8:05 AM	54 minutes	Hot Startup	
Hot Startup Episode	6/14/2015 8:55 AM	6/14/2015 9:45 AM	51 minutes	Hot Startup	
Hot Startup Episode	6/16/2015 7:20 AM	6/16/2015 8:12 AM	53 minutes	Hot Startup	
Hot Startup Episode	6/17/2015 7:20 AM	6/17/2015 7:44 AM	25 minutes	Hot Startup	
Hot Startup Episode	6/24/2015 5:08 AM	6/24/2015 5:57 AM	50 minutes	Hot Startup	
Hot Startup Episode	6/28/2015 5:49 AM	6/28/2015 6:37 AM	49 minutes	Hot Startup	

Total duration 4 hours, 42 minutes

There are 6 episodes in this report

Turbine 1 Episodes

Russell City

Shutdown Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Shutdown Episode	4/4/2015 10:34 PM	4/4/2015 10:47 PM	14 minutes	Shutdown	
Shutdown Episode	5/15/2015 11:39 PM	5/15/2015 11:48 PM	10 minutes	Shutdown	
Shutdown Episode	6/5/2015 9:36 PM	6/5/2015 10:04 PM	29 minutes	Shutdown	
Shutdown Episode	6/11/2015 12:22 AM	6/11/2015 12:30 AM	9 minutes	Shutdown	
Shutdown Episode	6/11/2015 9:38 PM	6/11/2015 9:45 PM	8 minutes	Shutdown	
Shutdown Episode	6/14/2015 1:50 AM	6/14/2015 1:57 AM	8 minutes	Shutdown	
Shutdown Episode	6/16/2015 2:24 AM	6/16/2015 2:31 AM	8 minutes	Shutdown	
Shutdown Episode	6/17/2015 1:21 AM	6/17/2015 1:29 AM	9 minutes	Shutdown	
Shutdown Episode	6/24/2015 12:22 AM	6/24/2015 12:36 AM	15 minutes	Shutdown	
Shutdown Episode	6/28/2015 12:21 AM	6/28/2015 12:29 AM	9 minutes	Shutdown	

Total duration 1 hour, 59 minutes

There are 10 episodes in this report

Turbine 2 Episodes

Russell City

Cold Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action

There are no episodes for this report.

Turbine 2 Episodes

Russell City

Warm Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Warm Startup Episode	4/5/2015 11:04 PM	4/6/2015 1:54 AM	2 hours, 51 minutes	Warm Startup	
Warm Startup Episode	6/7/2015 10:10 AM	6/7/2015 12:42 PM	2 hours, 33 minutes	Warm Startup	
Warm Startup Episode	6/13/2015 11:54 AM	6/13/2015 12:42 PM	49 minutes	Warm Startup	

Total duration 6 hours, 13 minutes

There are 3 episodes in this report

Turbine 2 Episodes

Russell City

Hot Startup Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Hot Startup Episode	6/12/2015 3:39 AM	6/12/2015 4:29 AM	51 minutes	Hot Startup	
Total duration			51 minutes		

There are 1 episodes in this report

Turbine 2 Episodes

Russell City

Shutdown Episode Episodes for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Reason	Action
Shutdown Episode	4/4/2015 11:04 PM	4/4/2015 11:13 PM	10 minutes	Shutdown	
Shutdown Episode	6/5/2015 9:16 PM	6/5/2015 9:43 PM	28 minutes	Shutdown	
Shutdown Episode	6/11/2015 10:00 PM	6/11/2015 10:07 PM	8 minutes	Shutdown	
Shutdown Episode	6/12/2015 9:04 PM	6/12/2015 9:17 PM	14 minutes	Shutdown	

Total duration 1 hour

There are 4 episodes in this report

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19d

Average Plant Operation Schedule

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City Energy Center
01-AFC-7C Condition Verification 19d
Annual Compliance Report – 2015 Q2

Average Plant Operation Schedule

	Hours per day	Days per week	Weeks per year
Turbine 1	15.0	4.9	48
Turbine 2	15.5	5.0	49

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19e

All Continuous Emissions Data in Accordance with District Approved CEMS Protocol

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

April - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-1 AND S-2
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.66	0.00611	11.28	219.5	1.58	0.00353	4.81	67.8
02	1.64	0.006	10.91	213.5	1.78	0.00398	5.39	78.9
03	1.67	0.00612	11.33	215.1	1.79	0.00401	5.43	79.6
04	1.66	0.00612	10.43	195.5	1.75	0.00392	5.31	103.9
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	1.65	0.00607	11.37	286.9	1.17	0.00262	3.51	1186.8
07	1.73	0.00636	11.22	228.6	1.45	0.00324	4.34	38.8
08	1.64	0.00602	11.27	211.0	1.72	0.00384	5.19	77.0
09	1.65	0.00608	10.99	228.7	1.56	0.00349	4.71	45.6
10	1.73	0.00636	11.12	218.8	1.66	0.0037	4.99	69.8
11	1.66	0.0061	10.64	213.5	1.85	0.00415	5.62	79.2
12	1.64	0.00601	11.32	229.3	1.80	0.00404	5.53	54.5
13	1.67	0.00615	12.47	251.1	1.19	0.00265	3.82	27.8
14	1.66	0.00612	11.32	224.6	1.77	0.00395	5.41	62.7
15	1.70	0.00623	12.62	245.4	1.74	0.00389	5.28	39.4
16	1.65	0.00605	12.53	265.9	0.28	0.00062	1.16	10.0
17	1.71	0.00627	12.52	269.9	0.26	0.00059	1.07	9.5
18	1.66	0.00609	11.02	227.6	1.72	0.00386	5.2	51.8
19	1.66	0.00612	10.64	219.4	1.78	0.00399	5.4	66.9
20	1.63	0.00602	11.26	224.8	1.69	0.00378	5.12	60.2
21	1.63	0.00601	11.3	212.2	1.72	0.00385	5.2	76.0
22	1.64	0.00601	11.44	231.8	1.64	0.00367	4.96	51.5
23	1.65	0.00606	11.1	209.6	1.70	0.0038	5.14	79.4
24	1.66	0.00609	11.42	212.0	1.77	0.00395	5.35	81.1
25	1.67	0.00612	11.58	222.0	1.79	0.00402	5.46	63.6
26	1.65	0.00609	10.92	226.0	1.73	0.00386	5.27	58.6
27	1.66	0.0061	12.58	253.5	1.76	0.00395	5.37	31.6
28	1.70	0.00623	12.63	278.3	0.63	0.00138	2.22	10.9
29	1.68	0.00618	12.2	237.3	1.74	0.00389	5.3	53.3
30	1.67	0.00612	12.23	275.4	0.23	0.00053	1	6.1
Mon Total				6747				2722

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

May - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-1 AND S-2
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.71	0.00626	12.67	277.9	0.24	0.00053	1.04	3.4
02	1.71	0.00627	10.71	219.6	1.71	0.00383	5.18	59.2
03	1.67	0.00613	10.97	214.4	1.71	0.00381	5.15	71.8
04	1.66	0.00612	11.29	216.3	1.71	0.00382	5.18	74.7
05	1.67	0.00612	11.25	247.8	0.84	0.00186	2.86	19.1
06	1.64	0.00603	10.97	235.0	1.57	0.00351	4.78	35.1
07	1.63	0.006	11.21	247.6	0.23	0.00052	0.85	12.5
08	1.66	0.00607	11.85	261.6	0.15	0.00034	0.61	11.4
09	1.66	0.00611	11.82	255.2	0.46	0.00101	1.67	17.3
10	1.62	0.00596	11.51	253.6	0.33	0.00073	1.26	11.8
11	1.68	0.00616	10.37	229.4	1.29	0.0029	4.05	22.0
12	1.63	0.00599	9.48	214.7	1.14	0.00255	3.69	46.9
13	1.63	0.006	9.81	223.1	1.45	0.00325	4.48	28.3
14	1.65	0.00606	10.03	224.6	0.63	0.00138	2.1	19.0
15	1.63	0.00599	8.8	193.9	1.83	0.00409	5.6	120.5
16	0.00	**Down**	**Down**	28.3	0.00	**Down**	**Down**	67.8
17	1.68	0.0062	10.14	182.0	1.73	0.00386	5.49	845.1
18	1.62	0.00595	9.26	209.1	1.85	0.00414	5.85	95.3
19	1.66	0.0061	10	221.3	1.79	0.00399	5.62	57.2
20	1.63	0.00599	9.34	199.4	1.92	0.00429	6.11	89.0
21	1.65	0.00607	11.53	226.4	1.86	0.00417	5.91	64.0
22	1.65	0.00609	11.36	255.9	0.61	0.00132	2.23	15.7
23	1.86	0.00686	11.21	226.4	1.91	0.00428	6.15	91.4
24	1.62	0.00598	9.57	207.5	1.97	0.0044	6.38	133.2
25	1.66	0.00612	11.01	237.2	1.79	0.004	5.87	65.7
26	1.67	0.00614	10.93	231.8	1.74	0.00389	5.73	54.3
27	1.63	0.006	10.06	212.0	1.91	0.00427	6.2	66.6
28	1.64	0.00604	10.78	231.9	1.88	0.0042	6.19	55.9
29	1.62	0.00595	9.63	218.0	1.78	0.00398	5.79	76.5
30	1.64	0.00603	9.36	209.0	1.79	0.00401	5.8	110.2
31	1.64	0.00603	9.04	205.8	1.79	0.00399	5.78	122.0
Mon Total				6817				2563

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

June - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-1 AND S-2
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.66	0.00611	11.16	229.8	1.89	0.00423	6.15	61.5
02	1.69	0.00621	11.02	238.1	1.79	0.00399	5.75	56.8
03	1.66	0.00612	10.94	238.9	1.63	0.00364	5.28	48.4
04	1.61	0.00592	11.37	262.7	0.43	0.00096	1.8	13.2
05	1.67	0.00614	11.73	238.9	0.66	0.00148	2.77	39.6
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	1.63	0.006	12.27	179.1	0.15	0.00033	0.64	1039.1
08	1.69	0.00622	12.23	272.8	0.56	0.00124	2.39	7.6
09	1.66	0.0061	12.44	256.5	1.30	0.0029	4.21	22.4
10	1.69	0.00619	10.64	223.4	1.90	0.00426	6	78.4
11	1.66	0.0061	11.7	170.6	0.21	0.00046	0.76	83.5
12	1.64	0.00602	11.82	213.3	1.40	0.00315	4.42	79.8
13	1.67	0.00616	12.33	254.0	1.70	0.00381	5.26	36.9
14	1.68	0.00618	11.18	177.9	0.69	0.00152	2.18	65.7
15	1.68	0.00619	12.26	256.4	0.38	0.00084	1.32	9.7
16	1.66	0.00612	11.68	202.7	1.77	0.00396	5.62	83.9
17	1.79	0.00656	12.26	205.8	0.69	0.00153	2.96	76.3
18	1.65	0.00608	11.71	246.2	0.65	0.00146	2.69	14.0
19	1.63	0.00599	12	255.1	0.44	0.00098	1.8	3.2
20	1.66	0.00607	12.12	264.7	0.36	0.00079	1.45	12.9
21	1.66	0.0061	12.41	258.7	0.83	0.00184	2.96	28.5
22	1.69	0.00619	12.53	271.5	0.47	0.00103	1.92	16.0
23	1.67	0.00614	12.44	274.4	0.41	0.0009	1.58	14.3
24	1.68	0.00615	12.42	221.7	0.48	0.00105	1.75	64.2
25	1.69	0.00621	12.27	273.9	0.21	0.00047	0.84	8.2
26	1.65	0.00604	12.14	263.8	0.42	0.00094	1.84	18.5
27	1.70	0.00628	11.51	247.2	1.87	0.00416	5.94	39.4
28	1.64	0.00602	11.59	212.7	0.51	0.00112	1.91	68.2
29	1.63	0.00596	11.66	264.5	0.72	0.00158	2.61	13.4
30	1.64	0.00603	11.79	259.5	0.44	0.00097	1.85	14.0
Mon Total				6935				2118

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

April - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-3 AND S-4
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.64	0.00601	11.34	221.3	1.66	0.00371	5.14	74.4
02	1.63	0.00599	10.9	215.5	1.71	0.00383	5.35	73.7
03	1.64	0.00602	11.3	217.2	1.69	0.00377	5.14	59.9
04	1.63	0.006	10.34	201.0	1.48	0.0033	4.57	93.9
05	0.00	**Down**	**Down**	81.7	0.00	**Down**	**Down**	1265.4
06	1.65	0.00605	11.3	241.1	1.12	0.0025	3.38	86.9
07	1.66	0.00612	11.38	229.6	1.41	0.00314	4.25	35.7
08	1.64	0.00601	11.33	213.4	1.67	0.00374	5.08	75.2
09	1.66	0.0061	11.21	231.4	1.39	0.00311	4.28	38.1
10	1.64	0.00602	11.1	219.8	1.97	0.0044	5.99	64.0
11	1.63	0.00599	10.94	216.5	1.84	0.00411	5.72	87.2
12	1.62	0.00595	11.25	232.3	1.86	0.00417	5.9	70.4
13	1.64	0.00602	12.52	251.8	1.28	0.00287	4.2	40.7
14	1.64	0.00602	11.41	226.7	1.75	0.00391	5.49	70.3
15	1.68	0.00617	12.58	245.0	1.78	0.00398	5.47	51.2
16	1.64	0.00603	12.65	267.2	0.37	0.00084	1.59	16.0
17	1.66	0.00611	12.54	271.3	0.22	0.00048	0.91	9.0
18	1.63	0.00599	11.18	225.6	1.87	0.00419	5.77	59.3
19	1.75	0.00643	10.82	222.7	1.82	0.00406	5.6	78.9
20	1.62	0.00595	11.38	228.1	1.69	0.00379	5.28	70.7
21	1.62	0.00595	11.31	214.8	1.66	0.00373	5.18	85.3
22	1.62	0.00596	11.34	233.6	1.78	0.00397	5.43	65.0
23	1.62	0.00597	11.15	212.4	1.87	0.00418	5.74	86.7
24	1.64	0.00602	11.39	215.0	1.74	0.00389	5.4	88.8
25	1.63	0.006	11.39	223.8	1.75	0.00391	5.39	73.7
26	1.62	0.00597	10.96	227.1	1.81	0.00405	5.59	67.8
27	1.63	0.00599	12.65	255.2	1.75	0.00392	5.42	38.8
28	1.67	0.00612	12.79	279.8	0.59	0.0013	2.11	13.0
29	1.66	0.0061	12.4	240.1	1.66	0.00373	5.14	54.5
30	1.67	0.00611	12.29	275.7	0.24	0.00052	0.93	9.2
Mon Total				6837				3004

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

May - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-3 AND S-4
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.66	0.00609	12.57	279.1	0.21	0.00046	0.84	6.8
02	1.67	0.00614	10.97	221.5	1.73	0.00387	5.32	72.1
03	1.63	0.006	10.9	217.1	1.68	0.00377	5.25	80.1
04	1.63	0.00599	11.48	219.1	1.83	0.0041	5.63	82.8
05	1.63	0.00599	11.4	248.5	0.98	0.00218	3.38	26.4
06	1.62	0.00597	10.98	236.5	1.41	0.00317	4.39	38.3
07	1.61	0.00593	11.25	248.5	0.32	0.00071	1.18	17.4
08	1.65	0.00603	11.93	263.0	0.23	0.00051	0.95	17.2
09	1.64	0.00602	11.81	256.0	0.57	0.00127	2.18	26.0
10	1.62	0.00595	11.49	253.9	0.44	0.00099	1.71	24.9
11	1.64	0.00603	10.37	229.8	1.46	0.00328	4.61	39.4
12	1.62	0.00594	9.5	216.1	1.33	0.00297	4.33	68.5
13	1.63	0.00599	9.8	223.9	1.56	0.00349	4.86	41.5
14	1.64	0.00603	10.03	225.5	0.88	0.00195	2.99	34.3
15	1.62	0.00596	9.72	199.3	1.84	0.00412	5.66	113.0
16	1.63	0.00597	11.19	249.0	1.44	0.00323	4.69	45.7
17	1.64	0.00602	11.13	228.8	1.65	0.0037	5.24	68.0
18	1.62	0.00597	9.25	207.8	1.89	0.00424	5.9	93.3
19	1.62	0.00597	9.99	222.3	1.69	0.00378	5.27	58.4
20	1.65	0.00604	9.39	191.1	1.80	0.00404	5.65	72.0
21	1.63	0.00601	11.46	225.6	1.81	0.00405	5.59	59.9
22	1.63	0.00599	11.35	256.4	0.51	0.00113	1.91	14.5
23	1.67	0.00614	10.94	223.1	1.83	0.0041	5.76	84.2
24	1.61	0.0059	9.73	202.5	1.92	0.00429	6.05	124.9
25	1.63	0.006	11.17	235.5	1.78	0.00397	5.62	70.1
26	1.63	0.00601	10.89	220.9	1.61	0.0036	5.14	51.9
27	1.63	0.00601	9.96	208.3	1.77	0.00396	5.58	62.7
28	1.63	0.006	10.75	230.3	1.78	0.00397	5.66	65.9
29	1.63	0.006	9.68	216.7	1.76	0.00395	5.59	82.1
30	1.62	0.00598	9.34	205.4	1.82	0.00407	5.75	107.1
31	1.61	0.00594	9.17	199.5	1.77	0.00395	5.54	115.6
Mon Total				7061				1865

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

June - 2015

COMPANY: Russell City Energy Company, LLC
PLANT NO.: B8136

SOURCE: S-3 AND S-4
POLLUTANT: NOx and CO

	NOX				CO			
Day	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs	* Max 1-Hr ppm@15% O2	* Max 1-Hr lb/mmBtu	* Max 1-Hr lbs	Daily Total lbs
01	1.64	0.00602	11.06	228.1	1.91	0.00427	6.14	70.2
02	1.62	0.00596	11.06	237.2	1.67	0.00374	5.26	61.8
03	1.62	0.00597	10.99	238.6	1.47	0.00328	4.6	52.3
04	1.61	0.00592	11.35	263.6	0.37	0.00082	1.56	24.0
05	1.63	0.00599	11.49	236.5	0.76	0.00169	3.18	44.8
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	1.62	0.00595	12.36	224.2	0.35	0.00078	1.34	1158.9
08	1.64	0.00603	12.31	272.4	0.63	0.00141	2.72	10.1
09	1.65	0.00606	12.4	256.6	1.10	0.00245	3.48	18.9
10	1.63	0.00597	10.68	220.2	1.79	0.004	5.59	76.8
11	1.66	0.00611	11.47	236.8	0.54	0.0012	2.04	40.9
12	1.63	0.00599	11.62	209.2	1.05	0.00235	3.31	77.6
13	1.62	0.00595	10.7	156.8	0.93	0.00209	2.9	1183.3
14	1.63	0.006	11.21	239.2	0.94	0.0021	3.03	20.5
15	1.65	0.00604	12.34	257.7	0.49	0.00107	1.69	7.9
16	1.63	0.00601	11.79	257.7	1.41	0.00315	4.45	22.2
17	1.63	0.00601	12.04	260.8	1.57	0.00351	4.94	34.0
18	1.70	0.00625	11.9	262.0	0.67	0.0015	2.76	20.0
19	1.61	0.00593	12.18	258.5	0.69	0.00155	2.42	16.1
20	1.64	0.00604	12.08	266.7	0.35	0.00079	1.36	12.2
21	1.63	0.006	12.52	258.7	0.82	0.00181	2.88	27.8
22	1.66	0.00612	12.51	270.4	0.29	0.00064	1.2	17.0
23	1.64	0.006	12.51	274.3	0.32	0.00071	1.22	10.1
24	1.64	0.00603	12.38	256.2	1.55	0.00347	4.93	25.8
25	1.67	0.00615	12.29	274.3	0.21	0.00045	0.88	8.0
26	1.63	0.00599	12.11	264.9	0.34	0.00077	1.51	17.9
27	1.67	0.00614	11.49	246.9	1.66	0.00371	5.21	40.2
28	1.65	0.00605	11.58	254.8	1.26	0.00282	4.19	35.8
29	1.63	0.00598	11.71	264.3	0.59	0.00131	2.16	11.8
30	1.74	0.00641	11.84	259.7	0.30	0.00068	1.25	10.7
Mon Total				7207				3158

* Max. 1-hr values exclude startup and shutdown

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19f

Maximum Hourly, Maximum Daily, Total Quarterly, and Total Calendar Year Emissions of NOx, CO, PM_{10}, POC, and SOx (including calculation protocol)

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
April - 2015

	Turbine 1										*Turbine 2*									
Day	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)
04/01/2015	11.28	219.5	4.81	67.8	1.73	33.7	0.38	7.4400	0.96	18.7	11.34	221.3	5.14	74.4	1.54	30.2	0.58	11.3400	0.96	18.8
04/02/2015	10.91	213.5	5.39	78.9	1.65	32.7	0.37	7.2800	0.92	18.2	10.9	215.5	5.35	73.7	1.48	29.4	0.55	11.0300	0.92	18.4
04/03/2015	11.33	215.1	5.43	79.6	1.72	32.9	0.38	7.3000	0.96	18.3	11.3	217.2	5.14	59.9	1.53	29.5	0.57	11.0800	0.96	18.4
04/04/2015	10.43	195.5	5.31	103.9	1.59	30.1	0.35	6.7100	0.88	16.7	10.34	201.0	4.57	93.9	1.42	27.5	0.53	10.3400	0.89	17.2
04/05/2015	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	81.7	**Down**	1265.4	0.6	0.6	0.22	0.2200	0.38	0.4
04/06/2015	11.37	286.9	3.51	1186.8	1.73	29.7	0.38	6.5900	0.96	16.5	11.3	241.1	3.38	86.9	1.54	30.8	0.58	11.5200	0.96	19.3
04/07/2015	11.22	228.6	4.34	38.8	1.71	35.0	0.38	7.7700	0.95	19.4	11.38	229.6	4.25	35.7	1.52	31.3	0.57	11.7300	0.95	19.5
04/08/2015	11.27	211.0	5.19	77.0	1.72	32.4	0.38	7.2100	0.96	18.1	11.33	213.4	5.08	75.2	1.54	29.1	0.58	10.9100	0.96	18.2
04/09/2015	10.99	228.7	4.71	45.6	1.67	35.2	0.37	7.8100	0.93	19.6	11.21	231.4	4.28	38.1	1.49	31.5	0.56	11.8200	0.93	19.7
04/10/2015	11.12	218.8	4.99	69.8	1.7	33.4	0.38	7.4300	0.95	18.5	11.1	219.8	5.99	64.0	1.52	30.0	0.57	11.2500	0.95	18.7
04/11/2015	10.64	213.5	5.62	79.2	1.66	32.8	0.37	7.3000	0.92	18.2	10.94	216.5	5.72	87.2	1.48	29.5	0.56	11.0700	0.93	18.4
04/12/2015	11.32	229.3	5.53	54.5	1.72	35.3	0.38	7.8500	0.96	19.6	11.25	232.3	5.9	70.4	1.53	31.7	0.58	11.8900	0.96	19.8
04/13/2015	12.47	251.1	3.82	27.8	1.92	38.9	0.43	8.6500	1.07	21.7	12.52	251.8	4.2	40.7	1.72	34.8	0.65	13.0700	1.08	21.8
04/14/2015	11.32	224.6	5.41	62.7	1.73	34.4	0.39	7.6600	0.96	19.1	11.41	226.7	5.49	70.3	1.54	30.9	0.58	11.5800	0.96	19.3
04/15/2015	12.62	245.4	5.28	39.4	1.93	37.6	0.43	8.3600	1.07	20.9	12.58	245.0	5.47	51.2	1.72	33.6	0.64	12.5800	1.07	21.0
04/16/2015	12.53	265.9	1.16	10.0	1.91	40.9	0.43	9.1000	1.06	22.7	12.65	267.2	1.59	16.0	1.72	36.5	0.64	13.6800	1.07	22.8
04/17/2015	12.52	269.9	1.07	9.5	1.92	41.6	0.43	9.2500	1.06	23.1	12.54	271.3	0.91	9.0	1.71	37.1	0.64	13.9000	1.07	23.2
04/18/2015	11.02	227.6	5.2	51.8	1.71	35.0	0.38	7.7900	0.95	19.4	11.18	225.6	5.77	59.3	1.52	31.3	0.57	11.7500	0.95	19.6
04/19/2015	10.64	219.4	5.4	66.9	1.61	33.6	0.36	7.4900	0.89	18.7	10.82	222.7	5.6	78.9	1.43	30.2	0.54	11.3200	0.9	18.9
04/20/2015	11.26	224.8	5.12	60.2	1.73	34.5	0.38	7.6700	0.96	19.2	11.38	228.1	5.28	70.7	1.54	31.1	0.58	11.6600	0.96	19.4
04/21/2015	11.3	212.2	5.2	76.0	1.73	32.6	0.38	7.2500	0.96	18.1	11.31	214.8	5.18	85.3	1.54	29.3	0.58	11.0100	0.96	18.3
04/22/2015	11.44	231.8	4.96	51.5	1.73	35.7	0.38	7.8900	0.96	19.8	11.34	233.6	5.43	65.0	1.54	31.9	0.58	11.9400	0.96	19.9
04/23/2015	11.1	209.6	5.14	79.4	1.68	32.2	0.37	7.1700	0.93	17.9	11.15	212.4	5.74	86.7	1.49	29.0	0.56	10.9000	0.93	18.1
04/24/2015	11.42	212.0	5.35	81.1	1.73	32.7	0.39	7.2300	0.96	18.1	11.39	215.0	5.4	88.8	1.54	29.4	0.58	11.0200	0.97	18.4
04/25/2015	11.58	222.0	5.46	63.6	1.74	34.1	0.39	7.5600	0.97	18.9	11.39	223.8	5.39	73.7	1.55	30.5	0.58	11.4200	0.97	19.1
04/26/2015	10.92	226.0	5.27	58.6	1.66	34.6	0.37	7.6900	0.92	19.2	10.96	227.1	5.59	67.8	1.48	30.9	0.56	11.6000	0.93	19.3
04/27/2015	12.58	253.5	5.37	31.6	1.93	39.2	0.43	8.7200	1.07	21.8	12.65	255.2	5.42	38.8	1.72	35.0	0.65	13.1100	1.08	21.9
04/28/2015	12.63	278.3	2.22	10.9	1.94	42.5	0.43	9.4800	1.08	23.7	12.79	279.8	2.11	13.0	1.74	38.1	0.65	14.2700	1.09	23.8
04/29/2015	12.2	237.3	5.3	53.3	1.9	36.6	0.42	8.0900	1.05	20.3	12.4	240.1	5.14	54.5	1.7	32.7	0.64	12.3000	1.06	20.4
04/30/2015	12.23	275.4	1	6.1	1.87	42.2	0.42	9.4000	1.04	23.4	12.29	275.7	0.93	9.2	1.67	37.6	0.63	14.1200	1.04	23.5
Monthly Total		6747		2722		1022		227.1400		568		6837		3004		921		345.4300		576
Year-to-Month Tot.		17473		15282		2508		557.2600		1393		17970		19849		2278		853.9800		1423

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
May - 2015

	Turbine 1										*Turbine 2*									
Day	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)
05/01/2015	12.67	277.9	1.04	3.4	1.92	42.6	0.43	9.5000	1.07	23.6	12.57	279.1	0.84	6.8	1.71	38.0	0.64	14.2500	1.07	23.7
05/02/2015	10.71	219.6	5.18	59.2	1.66	33.5	0.37	7.4600	0.92	18.6	10.97	221.5	5.32	72.1	1.48	30.0	0.56	11.2600	0.93	18.8
05/03/2015	10.97	214.4	5.15	71.8	1.66	33.0	0.37	7.3200	0.92	18.3	10.9	217.1	5.25	80.1	1.48	29.6	0.55	11.1100	0.92	18.5
05/04/2015	11.29	216.3	5.18	74.7	1.72	33.2	0.38	7.3600	0.96	18.5	11.48	219.1	5.63	82.8	1.53	29.9	0.58	11.2200	0.96	18.7
05/05/2015	11.25	247.8	2.86	19.1	1.73	38.1	0.38	8.5000	0.96	21.2	11.4	248.5	3.38	26.4	1.54	34.0	0.58	12.7900	0.96	21.2
05/06/2015	10.97	235.0	4.78	35.1	1.67	36.1	0.37	8.0200	0.93	20.1	10.98	236.5	4.39	38.3	1.49	32.3	0.56	12.1100	0.93	20.2
05/07/2015	11.21	247.6	0.85	12.5	1.72	38.1	0.38	8.4600	0.95	21.1	11.25	248.5	1.18	17.4	1.53	33.9	0.57	12.6900	0.96	21.2
05/08/2015	11.85	261.6	0.61	11.4	1.82	40.2	0.4	8.9000	1.01	22.3	11.93	263.0	0.95	17.2	1.62	35.8	0.61	13.4400	1.01	22.4
05/09/2015	11.82	255.2	1.67	17.3	1.83	39.2	0.41	8.6800	1.02	21.8	11.81	256.0	2.18	26.0	1.63	34.9	0.61	13.1100	1.02	21.8
05/10/2015	11.51	253.6	1.26	11.8	1.77	38.9	0.39	8.6200	0.98	21.6	11.49	253.9	1.71	24.9	1.57	34.7	0.59	13.0000	0.98	21.6
05/11/2015	10.37	229.4	4.05	22.0	1.58	35.3	0.35	7.8300	0.88	19.6	10.37	229.8	4.61	39.4	1.41	31.5	0.53	11.8000	0.88	19.6
05/12/2015	9.48	214.7	3.69	46.9	1.45	33.0	0.32	7.3500	0.8	18.3	9.5	216.1	4.33	68.5	1.29	29.4	0.48	11.0100	0.81	18.4
05/13/2015	9.81	223.1	4.48	28.3	1.49	34.2	0.33	7.5900	0.83	19.0	9.8	223.9	4.86	41.5	1.33	30.5	0.5	11.4300	0.83	19.1
05/14/2015	10.03	224.6	2.1	19.0	1.53	34.5	0.34	7.6600	0.85	19.2	10.03	225.5	2.99	34.3	1.36	30.8	0.51	11.5400	0.85	19.3
05/15/2015	8.8	193.9	5.6	120.5	1.34	29.7	0.3	6.5900	0.75	16.5	9.72	199.3	5.66	113.0	1.3	27.2	0.49	10.1800	0.82	17.0
05/16/2015	**Down**	28.3	**Down**	67.8	0.26	0.5	0.06	0.1100	0.15	0.3	11.19	249.0	4.69	45.7	1.58	34.1	0.59	12.8000	0.99	21.3
05/17/2015	10.14	182.0	5.49	845.1	1.53	18.8	0.34	4.1800	0.85	10.4	11.13	228.8	5.24	68.0	1.51	31.1	0.57	11.6600	0.94	19.4
05/18/2015	9.26	209.1	5.85	95.3	1.42	32.0	0.31	7.1300	0.79	17.8	9.25	207.8	5.9	93.3	1.26	28.4	0.47	10.6500	0.79	17.7
05/19/2015	10	221.3	5.62	57.2	1.52	34.1	0.34	7.5900	0.85	18.9	9.99	222.3	5.27	58.4	1.36	30.3	0.51	11.4000	0.85	19.0
05/20/2015	9.34	199.4	6.11	89.0	1.43	32.3	0.32	7.2000	0.79	17.9	9.39	191.1	5.65	72.0	1.27	28.7	0.48	10.8000	0.8	18.0
05/21/2015	11.53	226.4	5.91	64.0	1.75	34.8	0.39	7.7600	0.97	19.3	11.46	225.6	5.59	59.9	1.56	30.8	0.58	11.5400	0.97	19.2
05/22/2015	11.36	255.9	2.23	15.7	1.75	39.2	0.39	8.7300	0.97	21.8	11.35	256.4	1.91	14.5	1.56	34.9	0.58	13.1000	0.97	21.8
05/23/2015	11.21	226.4	6.15	91.4	1.67	34.4	0.37	7.6600	0.93	19.1	10.94	223.1	5.76	84.2	1.49	30.3	0.56	11.3800	0.93	18.9
05/24/2015	9.57	207.5	6.38	133.2	1.49	31.9	0.33	7.0800	0.83	17.7	9.73	202.5	6.05	124.9	1.32	27.6	0.5	10.3600	0.83	17.3
05/25/2015	11.01	237.2	5.87	65.7	1.69	36.5	0.38	8.1000	0.94	20.2	11.17	235.5	5.62	70.1	1.51	32.1	0.57	12.0500	0.94	20.1
05/26/2015	10.93	231.8	5.73	54.3	1.67	35.8	0.37	7.9400	0.93	19.9	10.89	220.9	5.14	51.9	1.49	31.7	0.56	11.9000	0.93	19.8
05/27/2015	10.06	212.0	6.2	66.6	1.52	34.1	0.34	7.5800	0.84	18.9	9.96	208.3	5.58	62.7	1.35	30.2	0.51	11.3000	0.85	18.9
05/28/2015	10.78	231.9	6.19	55.9	1.64	35.5	0.37	7.8800	0.91	19.7	10.75	230.3	5.66	65.9	1.46	31.4	0.55	11.7900	0.91	19.6
05/29/2015	9.63	218.0	5.79	76.5	1.48	33.5	0.33	7.4100	0.82	18.6	9.68	216.7	5.59	82.1	1.31	29.6	0.49	11.0900	0.82	18.5
05/30/2015	9.36	209.0	5.8	110.2	1.43	32.1	0.32	7.1000	0.8	17.8	9.34	205.4	5.75	107.1	1.28	28.0	0.48	10.4800	0.8	17.5
05/31/2015	9.04	205.8	5.78	122.0	1.39	31.6	0.31	7.0100	0.77	17.5	9.17	199.5	5.54	115.6	1.23	27.2	0.46	10.2100	0.77	17.0
Monthly Total		6817		2563		1037		230.3000		576		7061		1865		969		363.4500		606
Year-to-Month Tot.		24290		17845		3545		787.5600		1969		25031		21714		3247		1217.4300		2029

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
June - 2015

	Turbine 1										*Turbine 2*									
Day	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)	Max NOx (lbs/hr)	Total NOx (lbs)	Max CO (lbs/hr)	Total CO (lbs)	Max PM (lbs/hr)	Total PM (lbs)	Max POC (lbs/hr)	Total POC (lbs)	Max SOx (lbs/hr)	Total SOx (lbs)
06/01/2015	11.16	229.8	6.15	61.5	1.68	35.3	0.37	7.8400	0.93	19.6	11.06	228.1	6.14	70.2	1.5	31.2	0.56	11.6800	0.94	19.5
06/02/2015	11.02	238.1	5.75	56.8	1.68	36.5	0.37	8.0900	0.93	20.3	11.06	237.2	5.26	61.8	1.49	32.3	0.56	12.1200	0.93	20.1
06/03/2015	10.94	238.9	5.28	48.4	1.68	36.7	0.37	8.1700	0.93	20.4	10.99	238.6	4.6	52.3	1.49	32.5	0.56	12.1900	0.93	20.3
06/04/2015	11.37	262.7	1.8	13.2	1.75	40.4	0.39	8.9600	0.97	22.4	11.35	263.6	1.56	24.0	1.56	36.0	0.58	13.5100	0.97	22.5
06/05/2015	11.73	238.9	2.77	39.6	1.83	36.7	0.41	8.1600	1.02	20.4	11.49	236.5	3.18	44.8	1.63	32.3	0.61	12.1000	1.02	20.2
06/06/2015	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/07/2015	12.27	179.1	0.64	1039.1	1.87	16.4	0.42	3.6300	1.04	9.1	12.36	224.2	1.34	1158.9	1.67	20.1	0.63	7.5600	1.05	12.6
06/08/2015	12.23	272.8	2.39	7.6	1.88	41.8	0.42	9.2700	1.05	23.2	12.31	272.4	2.72	10.1	1.68	37.2	0.63	13.9300	1.05	23.2
06/09/2015	12.44	256.5	4.21	22.4	1.89	39.4	0.42	8.7400	1.05	21.9	12.4	256.6	3.48	18.9	1.68	35.0	0.63	13.1400	1.05	21.9
06/10/2015	10.64	223.4	6	78.4	1.62	34.3	0.36	7.6200	0.9	19.0	10.68	220.2	5.59	76.8	1.44	30.1	0.54	11.2700	0.9	18.8
06/11/2015	11.7	170.6	0.76	83.5	1.78	24.1	0.4	5.3600	0.99	13.4	11.47	236.8	2.04	40.9	1.57	32.3	0.59	12.1500	0.98	20.2
06/12/2015	11.82	213.3	4.42	79.8	1.86	27.6	0.41	6.1100	1.03	15.3	11.62	209.2	3.31	77.6	1.55	23.6	0.58	8.8300	0.97	14.7
06/13/2015	12.33	254.0	5.26	36.9	1.86	38.8	0.41	8.6400	1.03	21.6	10.7	156.8	2.9	1183.3	1.47	14.7	0.55	5.5400	0.92	9.2
06/14/2015	11.18	177.9	2.18	65.7	1.71	25.8	0.38	5.7400	0.95	14.4	11.21	239.2	3.03	20.5	1.53	32.7	0.57	12.2700	0.95	20.5
06/15/2015	12.26	256.4	1.32	9.7	1.87	39.5	0.42	8.7500	1.04	21.9	12.34	257.7	1.69	7.9	1.67	35.2	0.62	13.1600	1.04	22.0
06/16/2015	11.68	202.7	5.62	83.9	1.78	30.5	0.4	6.7700	0.99	17.0	11.79	257.7	4.45	22.2	1.63	35.2	0.61	13.1900	1.02	22.0
06/17/2015	12.26	205.8	2.96	76.3	1.84	30.9	0.41	6.8800	1.02	17.2	12.04	260.8	4.94	34.0	1.63	35.7	0.61	13.4000	1.02	22.4
06/18/2015	11.71	246.2	2.69	14.0	1.81	39.9	0.4	8.8900	1.01	22.2	11.9	262.0	2.76	20.0	1.62	35.6	0.61	13.3800	1.01	22.3
06/19/2015	12	255.1	1.8	3.2	1.85	40.1	0.41	8.9100	1.03	22.2	12.18	258.5	2.42	16.1	1.65	35.7	0.62	13.4100	1.03	22.3
06/20/2015	12.12	264.7	1.45	12.9	1.85	40.9	0.41	9.0800	1.03	22.7	12.08	266.7	1.36	12.2	1.65	36.4	0.62	13.7000	1.03	22.8
06/21/2015	12.41	258.7	2.96	28.5	1.91	39.6	0.42	8.8300	1.06	22.0	12.52	258.7	2.88	27.8	1.71	35.3	0.64	13.2500	1.07	22.1
06/22/2015	12.53	271.5	1.92	16.0	1.91	41.4	0.42	9.1900	1.06	23.0	12.51	270.4	1.2	17.0	1.7	36.9	0.64	13.8600	1.06	23.1
06/23/2015	12.44	274.4	1.58	14.3	1.92	41.9	0.43	9.3200	1.06	23.3	12.51	274.3	1.22	10.1	1.71	37.4	0.64	14.0200	1.07	23.3
06/24/2015	12.42	221.7	1.75	64.2	1.91	32.3	0.42	7.1900	1.06	18.0	12.38	256.2	4.93	25.8	1.7	35.0	0.64	13.1400	1.06	21.9
06/25/2015	12.27	273.9	0.84	8.2	1.89	42.1	0.42	9.3300	1.05	23.4	12.29	274.3	0.88	8.0	1.68	37.5	0.63	14.0600	1.05	23.4
06/26/2015	12.14	263.8	1.84	18.5	1.83	41.0	0.41	9.0900	1.02	22.8	12.11	264.9	1.51	17.9	1.64	36.6	0.61	13.7200	1.02	22.9
06/27/2015	11.51	247.2	5.94	39.4	1.79	37.9	0.4	8.4200	0.99	21.0	11.49	246.9	5.21	40.2	1.59	33.6	0.6	12.5800	0.99	21.0
06/28/2015	11.59	212.7	1.91	68.2	1.76	30.8	0.39	6.8500	0.98	17.1	11.58	254.8	4.19	35.8	1.61	34.8	0.6	13.0500	1	21.7
06/29/2015	11.66	264.5	2.61	13.4	1.78	40.6	0.4	9.0300	0.99	22.5	11.71	264.3	2.16	11.8	1.58	36.1	0.59	13.5300	0.99	22.6
06/30/2015	11.79	259.5	1.85	14.0	1.77	39.8	0.39	8.8400	0.98	22.1	11.84	259.7	1.25	10.7	1.6	35.4	0.6	13.2800	1	22.2
Monthly Total		6935		2118		1043		231.7000		579		7207		3158		962		361.0200		602
Year-to-Month Tot.		31225		19963		4588		1019.2600		2548		32238		24872		4209		1578.4500		2631

Russell City Energy Center
01-AFC-7C
2015 Q2

	Turbine 1						*Turbine 2*					
Month	Total Heat Input (mmBtu)	Total NOx (tons)	Total CO (tons)	Total PM (tons)	Total POC (tons)	Total SOx (tons)	Total Heat Input (mmBtu)	Total NOx (tons)	Total CO (tons)	Total PM (tons)	Total POC (tons)	Total SOx (tons)
April 2015	1135492	3.4	1.4	0.5	0.1	0.3	1151204	3.4	1.5	0.5	0.2	0.3
May 2015	1151805	3.4	1.3	0.5	0.1	0.3	1211391	3.5	0.9	0.5	0.2	0.3
June 2015	1158895	3.5	1.1	0.5	0.1	0.3	1203115	3.6	1.6	0.5	0.2	0.3
Quarterly Total	3446187	10.2	3.7	1.6	0.3	0.9	3565709	10.6	4.0	1.4	0.5	0.9

CALCULATION PROTOCOL

Formula ID 0050	Parameters:
To calculate emissions rate in lb/mmBtu from ppmvd $E = C_d \times F_{d,gen} \times K \times MW \times \left(\frac{20.9}{20.9 - O_2\%} \right)$ Units: lb/mmBtu Reference: 40CFR60 Appendix A Method 19, Eq. 19-1	• E = Emissions expressed as lb/mmBtu • C_d = Concentration measured, ppmvd • $F_{d,gen}$ = General Dry Fuel Factor, dscf/mmBtu (see formula F-7, F-7a, or prorating using Formula F-8) • K = Constant, 2.59E-9 (lb-mol/(dscf ppmvd)) • MW = Molecular Wt (SO_2 64 lb/lb-mol, NO_2 46 lb/lb-mol, CO 28 lb/lb-mol, NH_3 17 lb/lb-mol)
Formula ID 0100	**Parameters:** Mass Emission Rate lb/hr
To calculate mass emissions rate in lb/hr using plant fuel flows $M_i = E_i \times \sum H_i$ Units: lb/hr Reference: CiSCO Formula ID 0100	• M_i = Mass emission rate of pollutant i, lb/hr • E_i = Emission rate, lb/mmBtu see formula 0050 • H_i = Heat input from each fuel

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19g

Fuel Sulfur Content (Monthly Laboratory Analyses)

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

ZALCO LABORATORIES, INC.
4309 Armour Avenue, Bakersfield, CA 93308 (661) 395-0539 FAX (661) 395-3069 www.zalcolabs.com
2186 Eastman Avenue, Suite 103, Ventura, CA 93003 (805) 477-0114 Fax (805) 477-0125

Calpine - Russell City Energy Center
3862 Depot Road
Hayward CA 94545

Attention: Lauren Bresnahan

Sample Description: RCEC Fuel Gas
Sampled: 4/21/2015 @ 8:10:00 AM by Client

Laboratory No: 1504239-01
Date Received: 04/22/15
Date Analyzed: 04/22/15
Date Completed: 4/23/15 9:09 AM

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3246-11

Constituent:	Result	Units
Sulfur	0.11	grs S/100 SCF
Total Sulfur	1.81	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-09, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM	GPM Fractions	CHONS%
					Carbon, C
Oxygen	2.358	4.134	(Gallons per		61.67
Nitrogen	8.288	12.719	1000.000		
Hydrogen	0.002	0.000	cubic feet)		Hydrogen, H
Carbon Dioxide	0.819	1.976			20.04
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	84.433	74.208			5.57
Ethane	3.877	6.386			
Propane	0.180	0.434	0.049	(C3....C3) = 0.049	Nitrogen, N
IsoButane	0.018	0.057	0.006		12.72
n-Butane	0.017	0.055	0.005	(C3....C4) = 0.061	
IsoPentane	0.004	0.016	0.001		Sulfur, S
n-Pentane	0.002	0.009	0.001	(C3....C5) = 0.063	0.00
Hexanes	0.001	0.006	0.001	(C3....C6+) = 0.063	
Totals:	100.00	100.00	0.063	0.236	100.00

Flammable Gases: 88.532
Gas Properties calculated @ STP: degrees F. 60
Measurement Base Pressure @ STP: psia 14.696 **H/C Ratio:** 0.32

Gas State	Dry Btu / Cu. Ft	Btu / lb	Wet Btu / Cu. Ft
Gross, Ideal Gas	927.36	19279.74	911.23
Net, Ideal Gas	836.10	17382.13	821.55
Gross, Real Gas	**929.17**		913.00
Net, Real Gas	837.73		823.15

Relative Gas Density; [Air=1] Ideal:	0.6302	"F" Factor, DSCF/MMBtu @ 60F	8507	9436.0
Specific Gravity, [Air=1] Real gas:	0.6311	"F" Factor, DSCF/MMBtu @ 68F	8637	9579.7
Real Gas Density, Lb/Cu.Ft.:	0.0482	"F" Factor, DSCF/MMBtu @ 70F	8670	9616.1
Specific Volume, Cu.Ft./Lb:	20.7491	"FC" Factor, DSCF CO2/MMBtu @ 60F	1011.4	1121.8
Relative Liquid Density @ 60F/60F:	0.3471	"FC" Factor, DSCF CO2/MMBtu @ 68F	1026.8	1138.9
Compressibility, 'z':	0.9981			
Fuel kg per kg-mole Molecular wt avg	18.253			

ZALCO LABORATORIES, INC.
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2186 Eastman Avenue, Suite 103, Ventura, CA 93003 (805) 477-0114 Fax (805) 477-0125

Calpine - Russell City Energy Center
3862 Depot Road
Hayward CA 94545

Attention: Lauren Bresnahan

Sample Description: RCEC Fuel Gas
Sampled: 5/12/2015 @ 9:40:00 AM by Client

Laboratory No: 1505174-01
Date Received: 05/13/15
Date Analyzed: 05/14/15
Date Completed: 5/18/15 8:34 AM

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3246-11

Constituent:	Result	Units
Sulfur	0.15	grs S/100 SCF
Total Sulfur	2.53	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-09, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM	GPM Fractions	CHONS%
					Carbon, C
Oxygen	2.734	4.729	(Gallons per		60.18
Nitrogen	9.327	14.127	1000.000		
Hydrogen	0.002	0.000	cubic feet)		Hydrogen, H
Carbon Dioxide	0.844	2.008			19.50
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	82.594	71.638			6.19
Ethane	4.302	6.994			
Propane	0.158	0.377	0.043	(C3....C3) = 0.043	Nitrogen, N
IsoButane	0.016	0.049	0.005		14.13
n-Butane	0.015	0.048	0.005	(C3....C4) = 0.053	
IsoPentane	0.004	0.015	0.001		Sulfur, S
n-Pentane	0.002	0.008	0.001	(C3....C5) = 0.056	0.00
Hexanes	0.002	0.007	0.001	(C3....C6+) = 0.056	
Totals:	100.00	100.00	0.056	0.209	100.00

Flammable Gases: 87.093
Gas Properties calculated @ STP: degrees F. 60
Measurement Base Pressure @ STP: psia 14.696 **H/C Ratio:** 0.32

Gas State	Dry Btu / Cu. Ft	Btu / lb	Wet Btu / Cu. Ft
Gross, Ideal Gas	915.64	18785.72	899.70
Net, Ideal Gas	825.63	16938.96	811.27
Gross, Real Gas	**917.41**		901.44
Net, Real Gas	827.23		812.84

Relative Gas Density; [Air=1] Ideal:	0.6386	"F" Factor, DSCF/MMBtu @ 60F	8504	9431.7
Specific Gravity, [Air=1] Real gas:	0.6395	"F" Factor, DSCF/MMBtu @ 68F	8634	9575.3
Real Gas Density, Lb/Cu.Ft.:	0.0488	"F" Factor, DSCF/MMBtu @ 70F	8667	9611.7
Specific Volume, Cu.Ft./Lb:	20.4767	"FC" Factor, DSCF CO2/MMBtu @ 60F	1012.9	1123.4
Relative Liquid Density @ 60F/60F:	0.3528	"FC" Factor, DSCF CO2/MMBtu @ 68F	1028.4	1140.5
Compressibility, 'z':	0.9981			
Fuel kg per kg-mole Molecular wt avg	18.496			

ZALCO LABORATORIES, INC.
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Calpine - Russell City Energy Center
3862 Depot Road
Hayward CA 94545

Attention: Lauren Bresnahan

Sample Description: RCEC Fuel Gas
Sampled: 6/16/2015 @ 10:00:00 AM by Client

Laboratory No: 1506228-01
Date Received: 06/17/15
Date Analyzed: 06/18/15
Date Completed: 6/22/15 3:39 PM

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3246-11

Constituent:	Result	Units
Sulfur	0.10	grs S/100 SCF
Total Sulfur	1.59	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-09, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM	GPM Fractions	CHONS%
					Carbon, C
Oxygen	9.345	13.485	(Gallons per		34.72
Nitrogen	31.538	39.840	1000.000		
Hydrogen	0.002	0.000	cubic feet)		Hydrogen, H
Carbon Dioxide	0.599	1.190			11.09
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	54.020	39.081			14.35
Ethane	4.113	5.577			
Propane	0.299	0.594	0.082	(C3....C3) = 0.082	Nitrogen, N
IsoButane	0.031	0.081	0.010		39.84
n-Butane	0.036	0.095	0.011	(C3....C4) = 0.104	
IsoPentane	0.008	0.026	0.003		Sulfur, S
n-Pentane	0.005	0.017	0.002	(C3....C5) = 0.108	0.00
Hexanes	0.003	0.014	0.001	(C3....C6+) = 0.110	
Totals:	100.00	100.00	0.110	0.404	100.00

Flammable Gases: 58.516
Gas Properties calculated @ STP: degrees F. 60
Measurement Base Pressure @ STP: psia 14.696 **H/C Ratio:** 0.32

Gas State	Dry Btu / Cu. Ft	Btu / lb	Wet Btu / Cu. Ft
Gross, Ideal Gas	628.79	10760.48	617.85
Net, Ideal Gas	567.42	9710.07	557.54
Gross, Real Gas	**629.64**		618.68
Net, Real Gas	568.18		558.30

Relative Gas Density; [Air=1] Ideal:	0.7657	"F" Factor, DSCF/MMBtu @ 60F	8465	9380.2
Specific Gravity, [Air=1] Real gas:	0.7663	"F" Factor, DSCF/MMBtu @ 68F	8593	9523.1
Real Gas Density, Lb/Cu.Ft.:	0.0585	"F" Factor, DSCF/MMBtu @ 70F	8626	9559.3
Specific Volume, Cu.Ft./Lb:	17.0896	"FC" Factor, DSCF CO2/MMBtu @ 60F	1020.1	1130.5
Relative Liquid Density @ 60F/60F:	0.4762	"FC" Factor, DSCF CO2/MMBtu @ 68F	1035.7	1147.7
Compressibility, 'z':	0.9987			
Fuel kg per kg-mole Molecular wt avg	22.175			

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19h

Log of All Excess Emissions Including Information Regarding Malfunctions/Breakdowns

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Turbine 1 Excess Emissions

Russell City

NOx ppm @15% O2 1-Hr, NOx ppm @15% O2 30-Day Rolling (Subpart KKKK), NOx lb/mmBtu 1-Hr, NOx lbs/Cold Startup Event, NOx lbs/Warm Startup Event, NOx lbs/Hot Startup Event, NOx lbs/Shutdown Event, NOx lbs 1-Hr, SOx lbs 1-Hr, CO ppm @15% O2 1-Hr, CO lb/mmBtu 1-Hr, CO lbs/Cold Startup Event, CO lbs/Warm Startup Event, CO lbs/Hot Startup Event, CO lbs/Shutdown Event, CO lbs 1-Hr, PM lbs 1-Hr, NH3 Slip ppm @15% O2 3-Hr Rolling, POC lbs/Cold Startup Event, POC lbs/Warm Startup Event, POC lbs/Hot Startup Event, POC lbs/Shutdown Event, POC lbs 1-Hr, CT Heat Input mmBtu 1-Hr, CT Heat Input mmBtu/Day, DB Heat Input mmBtu 1-Hr, DB Heat Input mmBtu/Day, Total Heat Input mmBtu 1-Hr and Total Heat Input mmBtu/Day Excess Emissions for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Value	Limit	Reason	Action

There are no excess emissions for this report.

Turbine 2 Excess Emissions

Russell City

NOx ppm @15% O2 1-Hr, NOx ppm @15% O2 30-Day Rolling (Subpart KKKK), NOx lb/mmBtu 1-Hr, NOx lbs/Cold Startup Event, NOx lbs/Warm Startup Event, NOx lbs/Hot Startup Event, NOx lbs/Shutdown Event, NOx lbs 1-Hr, SOx lbs 1-Hr, CO ppm @15% O2 1-Hr, CO lb/mmBtu 1-Hr, CO lbs/Cold Startup Event, CO lbs/Warm Startup Event, CO lbs/Hot Startup Event, CO lbs/Shutdown Event, CO lbs 1-Hr, PM lbs 1-Hr, NH3 Slip ppm @15% O2 3-Hr Rolling, POC lbs/Cold Startup Event, POC lbs/Warm Startup Event, POC lbs/Hot Startup Event, POC lbs/Shutdown Event, POC lbs 1-Hr, CT Heat Input mmBtu 1-Hr, CT Heat Input mmBtu/Day, DB Heat Input mmBtu 1-Hr, DB Heat Input mmBtu/Day, Total Heat Input mmBtu 1-Hr and Total Heat Input mmBtu/Day Excess Emissions for 4/1/2015 thru 6/30/2015

Parameter	Start	End	Duration	Value	Limit	Reason	Action

There are no excess emissions for this report.

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19i
And
Verification AQ-19j

Any permanent changes made in plant process or production; and
Any maintenance to any air pollutant control system

Russell City Energy Center
Annual Compliance Report – Year 2
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AQ-19

Verification i: There were no permanent changes made to the plant process or production during the reporting period which would affect air pollutant emissions.

AQ-19

Verification j: Maintenance performed on air pollutant control system during the reporting period includes:

- Monthly preventative maintenance has been performed on both dilution air blowers of both Turbines to include inspections of unusual noises, leakages, expected suction and discharge pressures, expected flows, and expected temperatures. No issues discovered.
- Quarterly preventative maintenance to grease motor bearings has been performed on both dilution air blowers of both Turbines.

CONDITION OF CERTIFICATION
AQ-24

Sulfuric Acid Mist (SAM) Emissions

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

	Turbine 1	Turbine 2	
Month	SAM Emissions lbs 12-Month Rolling	SAM Emissions lbs 12-Month Rolling	Facility SAM Emissions lbs 12-Month Rolling
Jul 2014	6204.80	3387.49	9592.29
Aug 2014	6216.78	3413.07	9629.85
Sep 2014	6228.11	3409.08	9637.19
Oct 2014	6219.40	3397.15	9616.55
Nov 2014	5919.45	3281.14	9200.59
Dec 2014	5392.21	3007.11	8399.32
Jan 2015	4928.92	2731.65	7660.57
Feb 2015	4386.05	2433.07	6819.12
Mar 2015	4376.87	2480.16	6857.03
Apr 2015	4961.69	2887.88	7849.57
May 2015	5521.74	3231.21	8752.95
Jun 2015	6111.49	3601.07	9712.56

CONDITION OF CERTIFICATION
AQ-25 and AQ-28

Annual Toxic Air Contaminant Emissions

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

AQ-25 and AQ-28
Facility Maximum Projected Annual Toxics Emissions

	Emission Factor (lb/MMBtu)	Maximum Projected Annual Emissions* (lb/year)
Formaledehyde	1.75E-04	6,244.32
Specified PAHs	4.28E-08	1.53
Benzene	2.72E-06	97.28

* Calculated using Facility maximum annual heat input rate of 35,708,858 MMBtu/year

CONDITION OF CERTIFICATION
AQ-27

POC, PM_{10}, and SOx Mass Emissions

Russell City Energy Center
Annual Compliance Report – Year 2
July 1, 2014 – June 30, 2015

Russell City

01-AFC-7C - Condition Verification AQ-27

Quarterly Compliance Report

2015 Q2

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	Turbine 1 + HRSG 1			*Turbine 2 + HRSG 2*			*All Four Sources Combined*					
Day	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Year-to-Day (lbs)	PM Year-to-Day (lbs)	SOx Year-to-Day (lbs)
04/01/2015	7.4400	33.7	18.7	11.3400	30.2	18.8	18.8	63.9	37.5	857	2905	1710
04/02/2015	7.2800	32.7	18.2	11.0300	29.4	18.4	18.3	62.2	36.6	876	2968	1747
04/03/2015	7.3000	32.9	18.3	11.0800	29.5	18.4	18.4	62.5	36.8	894	3030	1784
04/04/2015	6.7100	30.1	16.7	10.3400	27.5	17.2	17.0	57.6	33.9	911	3088	1818
04/05/2015	**Down**	**Down**	**Down**	0.2200	0.6	0.4	0.2	0.6	0.4	911	3088	1818
04/06/2015	6.5900	29.7	16.5	11.5200	30.8	19.3	18.1	60.5	35.8	929	3149	1854
04/07/2015	7.7700	35.0	19.4	11.7300	31.3	19.5	19.5	66.3	39.0	949	3215	1893
04/08/2015	7.2100	32.4	18.1	10.9100	29.1	18.2	18.1	61.5	36.2	967	3277	1929
04/09/2015	7.8100	35.2	19.6	11.8200	31.5	19.7	19.6	66.7	39.2	987	3343	1968
04/10/2015	7.4300	33.4	18.5	11.2500	30.0	18.7	18.7	63.3	37.2	1005	3407	2005
04/11/2015	7.3000	32.8	18.2	11.0700	29.5	18.4	18.4	62.3	36.6	1024	3469	2042
04/12/2015	7.8500	35.3	19.6	11.8900	31.7	19.8	19.7	67.1	39.4	1043	3536	2081
04/13/2015	8.6500	38.9	21.7	13.0700	34.8	21.8	21.7	73.8	43.4	1065	3610	2125
04/14/2015	7.6600	34.4	19.1	11.5800	30.9	19.3	19.2	65.3	38.4	1084	3675	2163
04/15/2015	8.3600	37.6	20.9	12.5800	33.6	21.0	20.9	71.2	41.8	1105	3746	2205
04/16/2015	9.1000	40.9	22.7	13.6800	36.5	22.8	22.8	77.4	45.5	1128	3824	2251
04/17/2015	9.2500	41.6	23.1	13.9000	37.1	23.2	23.1	78.6	46.2	1151	3902	2297
04/18/2015	7.7900	35.0	19.4	11.7500	31.3	19.6	19.5	66.3	39.0	1171	3969	2336
04/19/2015	7.4900	33.6	18.7	11.3200	30.2	18.9	18.8	63.8	37.5	1189	4032	2373
04/20/2015	7.6700	34.5	19.2	11.6600	31.1	19.4	19.3	65.6	38.6	1209	4098	2412
04/21/2015	7.2500	32.6	18.1	11.0100	29.3	18.3	18.3	61.9	36.4	1227	4160	2448
04/22/2015	7.8900	35.7	19.8	11.9400	31.9	19.9	19.8	67.5	39.8	1247	4227	2488
04/23/2015	7.1700	32.2	17.9	10.9000	29.0	18.1	18.1	61.2	36.0	1265	4289	2524
04/24/2015	7.2300	32.7	18.1	11.0200	29.4	18.4	18.2	62.0	36.5	1283	4351	2561
04/25/2015	7.5600	34.1	18.9	11.4200	30.5	19.1	19.0	64.5	38.0	1302	4415	2599
04/26/2015	7.6900	34.6	19.2	11.6000	30.9	19.3	19.3	65.5	38.5	1321	4481	2637
04/27/2015	8.7200	39.2	21.8	13.1100	35.0	21.9	21.8	74.2	43.7	1343	4555	2681
04/28/2015	9.4800	42.5	23.7	14.2700	38.1	23.8	23.8	80.6	47.4	1367	4635	2728
04/29/2015	8.0900	36.6	20.3	12.3000	32.7	20.4	20.4	69.3	40.7	1387	4705	2769
04/30/2015	9.4000	42.2	23.4	14.1200	37.6	23.5	23.5	79.9	47.0	1411	4785	2816
05/01/2015	9.5000	42.6	23.6	14.2500	38.0	23.7	23.7	80.6	47.4	1435	4865	2863

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	Turbine 1 + HRSG 1			*Turbine 2 + HRSG 2*			*All Four Sources Combined*					
Day	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Year-to-Day (lbs)	PM Year-to-Day (lbs)	SOx Year-to-Day (lbs)
05/02/2015	7.4600	33.5	18.6	11.2600	30.0	18.8	18.7	63.5	37.4	1453	4929	2901
05/03/2015	7.3200	33.0	18.3	11.1100	29.6	18.5	18.4	62.6	36.8	1472	4991	2937
05/04/2015	7.3600	33.2	18.5	11.2200	29.9	18.7	18.6	63.1	37.2	1490	5054	2975
05/05/2015	8.5000	38.1	21.2	12.7900	34.0	21.2	21.3	72.2	42.4	1512	5127	3017
05/06/2015	8.0200	36.1	20.1	12.1100	32.3	20.2	20.1	68.4	40.3	1532	5195	3057
05/07/2015	8.4600	38.1	21.1	12.6900	33.9	21.2	21.1	72.0	42.3	1553	5267	3100
05/08/2015	8.9000	40.2	22.3	13.4400	35.8	22.4	22.3	76.0	44.7	1575	5343	3144
05/09/2015	8.6800	39.2	21.8	13.1100	34.9	21.8	21.8	74.1	43.6	1597	5417	3188
05/10/2015	8.6200	38.9	21.6	13.0000	34.7	21.6	21.6	73.6	43.2	1618	5491	3231
05/11/2015	7.8300	35.3	19.6	11.8000	31.5	19.6	19.6	66.7	39.3	1638	5557	3270
05/12/2015	7.3500	33.0	18.3	11.0100	29.4	18.4	18.4	62.4	36.7	1656	5620	3307
05/13/2015	7.5900	34.2	19.0	11.4300	30.5	19.1	19.0	64.8	38.1	1675	5685	3345
05/14/2015	7.6600	34.5	19.2	11.5400	30.8	19.3	19.2	65.3	38.4	1695	5750	3384
05/15/2015	6.5900	29.7	16.5	10.1800	27.2	17.0	16.8	56.9	33.5	1711	5807	3417
05/16/2015	0.1100	0.5	0.3	12.8000	34.1	21.3	12.9	34.6	21.6	1724	5841	3439
05/17/2015	4.1800	18.8	10.4	11.6600	31.1	19.4	15.8	49.8	29.8	1740	5891	3469
05/18/2015	7.1300	32.0	17.8	10.6500	28.4	17.7	17.8	60.4	35.5	1758	5952	3504
05/19/2015	7.5900	34.1	18.9	11.4000	30.3	19.0	19.0	64.4	37.9	1777	6016	3542
05/20/2015	7.2000	32.3	17.9	10.8000	28.7	18.0	18.0	61.1	35.9	1795	6077	3578
05/21/2015	7.7600	34.8	19.3	11.5400	30.8	19.2	19.3	65.6	38.6	1814	6143	3616
05/22/2015	8.7300	39.2	21.8	13.1000	34.9	21.8	21.8	74.2	43.6	1836	6217	3660
05/23/2015	7.6600	34.4	19.1	11.3800	30.3	18.9	19.0	64.7	38.0	1855	6282	3698
05/24/2015	7.0800	31.9	17.7	10.3600	27.6	17.3	17.4	59.5	35.0	1872	6341	3733
05/25/2015	8.1000	36.5	20.2	12.0500	32.1	20.1	20.2	68.6	40.3	1893	6410	3773
05/26/2015	7.9400	35.8	19.9	11.9000	31.7	19.8	19.8	67.4	39.7	1912	6477	3813
05/27/2015	7.5800	34.1	18.9	11.3000	30.2	18.9	18.9	64.3	37.8	1931	6541	3851
05/28/2015	7.8800	35.5	19.7	11.7900	31.4	19.6	19.7	67.0	39.4	1951	6608	3890
05/29/2015	7.4100	33.5	18.6	11.0900	29.6	18.5	18.5	63.0	37.1	1970	6671	3927
05/30/2015	7.1000	32.1	17.8	10.4800	28.0	17.5	17.6	60.1	35.4	1987	6732	3963
05/31/2015	7.0100	31.6	17.5	10.2100	27.2	17.0	17.2	58.8	34.6	2004	6790	3997
06/01/2015	7.8400	35.3	19.6	11.6800	31.2	19.5	19.5	66.5	39.1	2024	6857	4036

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	Turbine 1 + HRSG 1			*Turbine 2 + HRSG 2*			*All Four Sources Combined*					
Day	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Total (lbs)	PM Total (lbs)	SOx Total (lbs)	POC Year-to-Day (lbs)	PM Year-to-Day (lbs)	SOx Year-to-Day (lbs)
06/02/2015	8.0900	36.5	20.3	12.1200	32.3	20.1	20.2	68.8	40.4	2044	6926	4077
06/03/2015	8.1700	36.7	20.4	12.1900	32.5	20.3	20.4	69.2	40.7	2064	6995	4118
06/04/2015	8.9600	40.4	22.4	13.5100	36.0	22.5	22.5	76.4	44.9	2087	7071	4162
06/05/2015	8.1600	36.7	20.4	12.1000	32.3	20.2	20.3	69.0	40.6	2107	7140	4203
06/06/2015	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	2107	7140	4203
06/07/2015	3.6300	16.4	9.1	7.5600	20.1	12.6	11.2	36.4	21.7	2118	7177	4225
06/08/2015	9.2700	41.8	23.2	13.9300	37.2	23.2	23.2	79.0	46.4	2142	7256	4271
06/09/2015	8.7400	39.4	21.9	13.1400	35.0	21.9	21.9	74.4	43.8	2164	7330	4315
06/10/2015	7.6200	34.3	19.0	11.2700	30.1	18.8	18.9	64.3	37.8	2182	7394	4353
06/11/2015	5.3600	24.1	13.4	12.1500	32.3	20.2	17.5	56.4	33.6	2200	7451	4386
06/12/2015	6.1100	27.6	15.3	8.8300	23.6	14.7	14.9	51.2	30.1	2215	7502	4416
06/13/2015	8.6400	38.8	21.6	5.5400	14.7	9.2	14.2	53.6	30.8	2229	7556	4447
06/14/2015	5.7400	25.8	14.4	12.2700	32.7	20.5	18.0	58.5	34.8	2247	7614	4482
06/15/2015	8.7500	39.5	21.9	13.1600	35.2	22.0	21.9	74.6	43.9	2269	7689	4526
06/16/2015	6.7700	30.5	17.0	13.1900	35.2	22.0	20.0	65.7	39.0	2289	7754	4565
06/17/2015	6.8800	30.9	17.2	13.4000	35.7	22.4	20.3	66.6	39.5	2309	7821	4604
06/18/2015	8.8900	39.9	22.2	13.3800	35.6	22.3	22.3	75.5	44.4	2332	7896	4649
06/19/2015	8.9100	40.1	22.2	13.4100	35.7	22.3	22.3	75.8	44.6	2354	7972	4693
06/20/2015	9.0800	40.9	22.7	13.7000	36.4	22.8	22.8	77.3	45.5	2377	8050	4739
06/21/2015	8.8300	39.6	22.0	13.2500	35.3	22.1	22.1	74.9	44.1	2399	8124	4783
06/22/2015	9.1900	41.4	23.0	13.8600	36.9	23.1	23.0	78.4	46.1	2422	8203	4829
06/23/2015	9.3200	41.9	23.3	14.0200	37.4	23.3	23.3	79.3	46.6	2445	8282	4876
06/24/2015	7.1900	32.3	18.0	13.1400	35.0	21.9	20.3	67.3	39.8	2465	8349	4916
06/25/2015	9.3300	42.1	23.4	14.0600	37.5	23.4	23.4	79.6	46.8	2489	8429	4962
06/26/2015	9.0900	41.0	22.8	13.7200	36.6	22.9	22.8	77.6	45.6	2512	8507	5008
06/27/2015	8.4200	37.9	21.0	12.5800	33.6	21.0	21.0	71.5	42.0	2533	8578	5050
06/28/2015	6.8500	30.8	17.1	13.0500	34.8	21.7	19.9	65.6	38.8	2552	8644	5089
06/29/2015	9.0300	40.6	22.5	13.5300	36.1	22.6	22.6	76.7	45.1	2575	8720	5134
06/30/2015	8.8400	39.8	22.1	13.2800	35.4	22.2	22.1	75.2	44.2	2597	8796	5178