DOCKETED	
Docket Number:	01-AFC-07C
Project Title:	01-AFC-7C Russell City Energy Company
TN #:	232500
Document Title:	Annual Compliance Report
Description:	annual compliance report from July 1 2018 through June 30 2019
Filer:	Lauren Bresnahan
Organization:	Russell City Energy Center
Submitter Role:	Applicant
Submission Date:	3/23/2020 12:14:45 PM
Docketed Date:	3/23/2020

Russell City Energy Company, LLC

717 Texas Avenue
Suite 1000
Houston, TX 77002

August 14, 2019

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

Re: COMPLIANCE-7: Annual Compliance Report – Year 6 and AQ-19
July 1, 2018 – June 30, 2019
Russell City Energy Center # B8136
Application for Certification - 01-AFC-7C

Mr. Heiser,

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 sixth 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 2019.

If you have any questions or need more information, please call Lauren Bresnahan, EH&S Specialist, at (510) 731-1407.

Sincerely,

Cameron White
Authorized Signatory and Plant Manager
Russell City Energy Company, LLC

Enclosure

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

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.

   During the reporting period, RCEC completed startup and commissioning, and began operation of the demineralized water facility for the production of demineralized water necessary for steam cycle makeup and combustion turbine inlet air cooling. As previously reported to the CEC, the original design of the project to produce demineralized water from distillate from the brine concentrator of the Zero Liquid Discharge Facility has proven inadequate and has resulted in forced outages. RCEC received the necessary approvals from the SFBRWQCB and DPH of the design of the demineralized water facility for the use of Title 22 Recycled Water to produced demineralized water. In reporting year 3, RCEC submitted to the CPM a petition for project modification to allow the installation of a permanent recycle water demineralization system. The full commission approved the petition for project modification on August 10, 2016. Construction activities were finished in May 2018.

   During the reporting year, all balance of plant equipment, including emission controls and monitoring, operated normally.

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.
SOIL & WATER-4	Summaries of water usage at the facility are attached.	VIS-2	A summary of landscaping activities including photographs 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 year 5 of operation.
SOIL & WATER-9	No violations of discharge limits or volumes occurred during year 6 of operation. Copies of semiannual wastewater quality monitoring reports required by the City and completed during year 6 of operation are attached.	VIS-10	A report on the status of the paint on the offsite warehouse exterior walls and the tree planting on the City-owned property including photographs is attached.

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Required Annual Compliance Report documents, continued

BIO-2	A copy of the Annual Compliance Report for Biological Resources prepared by the Designated Biologist is attached.	COMP-5	A copy of the updated compliance matrix is attached.
BIO-13	An inspection of all bird flight diverters was completed on June 13, 2019. All BFDs are properly positioned and intact. No BFDs are broken or missing and none have been repaired or replaced.	HAZ-1	A list of all hazardous materials stored onsite is attached.
AQ-SC7	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 has occurred since completion of the commissioning period.
AQ-SC8	No violations of this condition occurred during the reporting period.	AQ-22	No violations of this condition occurred during the reporting period.
AQ-SC9	No violations of this condition occurred during the reporting period.	AQ-23	No violations of this condition occurred during the reporting period.
AQ-SC15	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 and operating data is attached.
AQ-SC16	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-13	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 and operating data is attached.
AQ-14	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-15	No violations of this condition occurred during the reporting period.	AQ-37	No violations of this condition occurred during the reporting period.
AQ-16	No violations of this condition occurred during the reporting period.	AQ-45	RCEC performed a visual inspection of the cooling tower drift eliminators on May 1, 2019. No repairs or replacements of any drift eliminator components were required.

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Required Annual Compliance Report documents, continued

AQ-17	No violations of this condition occurred during the reporting period. The oxidizing catalyst and SCR 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-18	No violations occurred during the reporting period. The oxidizing catalyst and SCR system have been properly operated and maintained. There were no major problems during the reporting period.	AQ-47	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-48	No violations of this condition occurred during the reporting period.
AQ-20	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-7 was submitted to the CPM on October 23, 2013 and approved by staff on November 26, 2013.
- A request for amendment of Visual Resources Condition VISUAL-10 was submitted to the CPM on June 1, 2015 and approved by the Commission on May 17, 2016.
- A petition for a project modification to the Russell City Energy Center to allow the installation of a recycled water demineralization system was submitted to the CPM on January 29, 2016 and approved by the Commission on August 10, 2016.
- A petition for modification to the license for a larger sodium hydroxide tank was submitted on April 28, 2017 and approved by Commission Staff on November 22, 2017.
- A petition for modification to the license for modifications for black start capabilities was submitted on March 2, 2018 and approved by the Commission on February 25, 2019.

5. Submittal deadlines not met

There are no past due compliance submittals.

6. Filings or permits from other agencies

Permits:

- The City of Hayward renewed 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 1, 2018
- The City of Hayward renewed the Industrial Wastewater Discharge Permit on January 1, 2019
- The BAAQMD renewed the Permit to Operate on April 23, 2019
- The BAAQMD issued an Authority to Construct Permit for the Black Start Project on June 17, 2019
- Alameda County issued the Annual Business License on January 1, 2019

Filings:

- Monthly Continuous Emissions Monitoring System Report 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 Report 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 Verification 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
- Annual Title V Compliance Certification submitted to BAAQMD and the EPA
- Semi-Annual Title V Monitoring Reports submitted to BAAQMD
- Annual Greenhouse Gas Report submitted electronically to the EPA using the Electronic Greenhouse Gas Reporting Tool (e-GGRT)

Russell City Energy Center
01-AFC-7C (The License)
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

7. Projection of scheduled compliance activities for Reporting Year Period July 1, 2019 to June 30, 2020

COMPLIANCE-12/13	Evaluate the on-site contingency plan for unplanned facility closure.
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

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 contact information for the RCEC Plant Manager.

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

- No complaints were received on the phone number posted at the RCEC front gate during the reporting period

CONDITION OF CERTIFICATION
WASTE-2

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

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
WATER-4

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Annual Water Use Summary

Unavoidable interruptions of on-site Title 22 supply and subsequent use of potable water for cooling purposes occurred according to the following table:

Start Date	End Date	Duration
7/6/2018	7/6/2018	1 hr. 41 min.
8/2/2018	8/3/2018	1 hr. 51 min.
8/4/2018	8/4/2018	11 hr. 22 min.
8/9/2018	8/9/2018	2 hr. 22 min.
10/1/2018	10/1/2018	1 hr. 5 min.

Total Duration of Potable Water Use in Cooling Tower During Operating Year 6:	20 hr. 8 min.

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.
July 2018	0	2,528,000	956,032	94,863	468
August 2018	0	2,352,000	952,258	137,962	253
September 2018	0	453,000	49,267	102,201	250
October 2018	0	1,531,000	574,065	55,436	245
November 2018	0	2,032,000	511,467	54,368	193
December 2018	0	2,164,000	457,065	53,433	147
January 2019	0	987,678	64,779	36,083	162
February 2019	0	1,839,475	780,639	21,794	175
March 2019	0	1,595,228	155,357	11,567	184
April 2019	0	326,000	26,967	1,979	193
May 2019	0	287,000	10,258	4,398	183
June 2019	0	1,424,000	137,033	6,978	172

[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.

MONTHLY WATER USAGE TOTALS (Acre-Feet)

	RECYCLED WATER	POTABLE WATER	
	Cooling Tower	Fire Protection/ Service Water[1]	Domestic Use[1]
Jul. 2018	90.95	9.02	0.04
Aug. 2018	90.59	13.13	0.02
Sep. 2018	4.54	9.41	0.02
Oct. 2018	54.61	5.27	0.02
Nov. 2018	47.09	5.01	0.02
Dec. 2018	43.48	5.08	0.01
Jan. 2019	6.16	3.43	0.02
Feb. 2019	67.08	1.87	0.01
Mar. 2019	14.78	1.10	0.02
Apr. 2019	2.48	0.18	0.02
May 2019	0.98	0.42	0.02
Jun. 2019	12.62	0.64	0.02

ANNUAL WATER USAGE TOTALS (Acre-Feet)

	RECYCLED WATER	POTABLE WATER	
	Cooling Tower	Fire Protection/ Service Water[1]	Domestic Use[1]
July 1, 2018 - June 30, 2019	435.36	54.57	0.25

[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.

CONDITION OF CERTIFICATION
WATER-9

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Russell City Energy Company, LLC

3862 Depot Road
Hayward, CA 94545

September 6, 2018

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 July 26, 2018, and is in compliance with all the aforementioned pollutant constituents.

If you have any questions or require further information, please contact Lauren Bresnahan 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: 262 Rickenbacker Circle, Livermore, CA 94551 •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

14 August 2018

Russell City Energy Co, LLC
Attn: Lauren Bresnahan
3590 Enterprise Avenue
Hayward, CA 94545
RE: RWF Sludge Return
Work Order: 18G2643

Enclosed are the results of analyses for samples received by the laboratory on 07/26/18 21:45. 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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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RWF Sludge Return Comp.	18G2643-01	Water	07/26/18 12:55	07/26/18 21:45
RWF Sludge Return Grab	18G2643-02	Water	07/26/18 12:55	07/26/18 21:45

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
RWF Sludge Return Comp. (18G2643-01)		**Sample Type: Water**				**Sampled: 07/26/18 12:55**		
Metals by EPA 200 Series Methods								
Arsenic	ND mg/L	0.010	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Cadmium	ND mg/L	0.010	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Chromium	ND mg/L	0.010	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Copper	**0.22 mg/L**	**0.020**	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Lead	**0.052 mg/L**	**0.050**	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Mercury	**0.33 ug/L**	**0.20**	1	AH83266	08/06/18 08:24	08/07/18 13:59	EPA 245.1	
Nickel	**0.053 mg/L**	**0.010**	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Silver	ND mg/L	0.010	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Zinc	**0.26 mg/L**	**0.020**	1	AH83332	08/07/18 12:45	08/10/18 17:10	EPA 200.7	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Suspended Solids	**2800 mg/L**	**1.0**	1	AH83145	08/01/18 15:00	08/06/18 09:30	SM2540D	
Carbonaceous BOD	**70 mg/L**	**5.0**	1	AH83154	07/27/18 14:25	08/01/18 14:00	SM5210B	
RWF Sludge Return Grab (18G2643-02)		**Sample Type: Water**				**Sampled: 07/26/18 12:55**		
Field Analyses								
pH	**7.02 pH Units**	**1.68**	1	AG84334	07/26/18 12:55	07/26/18 13:15	SM4500-H+ B	T-14
Miscellaneous Physical/Conventional Chemistry Parameters								
Cyanide (total)	ND mg/L	0.020	1	AH83227	08/03/18 10:00	08/03/18 16:43	10-204-00-1X	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH83266 - EPA 245.1 Hg Water										
Blank (AH83266-BLK1)				Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	ND	0.20	ug/L							
LCS (AH83266-BS1)				Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	2.62	0.20	ug/L	2.50		105	85-115			
Duplicate (AH83266-DUP1)		Source: 18G2356-01		Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	ND	0.20	ug/L		ND				20	
MRL Check (AH83266-MRL1)				Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	0.514	0.20	ug/L	0.500		103	0-200			
Matrix Spike (AH83266-MS1)		Source: 18G2356-01		Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	2.62	0.20	ug/L	2.50	ND	105	70-130			
Matrix Spike (AH83266-MS2)		Source: 18G2369-01		Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	2.58	0.20	ug/L	2.50	ND	103	70-130			
Matrix Spike Dup (AH83266-MSD1)		Source: 18G2356-01		Prepared: 08/06/18 Analyzed: 08/07/18						
Mercury	2.58	0.20	ug/L	2.50	ND	103	70-130	1.50	20	
Batch AH83332 - Metals Digest										
Blank (AH83332-BLK1)				Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	ND	0.010	mg/L							
Cadmium	ND	0.010	mg/L							
Chromium	ND	0.010	mg/L							
Copper	ND	0.020	mg/L							
Lead	ND	0.050	mg/L							
Nickel	ND	0.010	mg/L							
Silver	ND	0.010	mg/L							
Zinc	ND	0.020	mg/L							

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Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH83332 - Metals Digest										
LCS (AH83332-BS1)				Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	0.193	0.010	mg/L	0.200		96.4	85-115			
Cadmium	0.195	0.010	mg/L	0.200		97.6	85-115			
Chromium	0.201	0.010	mg/L	0.200		101	85-115			
Copper	0.235	0.020	mg/L	0.240		97.8	85-115			
Lead	0.202	0.050	mg/L	0.200		101	85-115			
Nickel	0.207	0.010	mg/L	0.200		104	85-115			
Silver	0.197	0.010	mg/L	0.200		98.6	85-115			
Zinc	0.195	0.020	mg/L	0.200		97.7	85-115			
Duplicate (AH83332-DUP1)		**Source: 18H0320-01**		Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	ND	0.010	mg/L		ND				20	
Cadmium	ND	0.010	mg/L		ND				20	
Chromium	ND	0.010	mg/L		ND				20	
Copper	ND	0.020	mg/L		ND				20	
Lead	ND	0.050	mg/L		ND				20	
Nickel	ND	0.010	mg/L		ND			28.2	20	
Silver	ND	0.010	mg/L		ND				20	
Zinc	0.0964	0.020	mg/L		0.0883			8.82	20	
Matrix Spike (AH83332-MS1)		**Source: 18H0320-01**		Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	0.181	0.010	mg/L	0.200	ND	90.4	70-130			
Cadmium	0.198	0.010	mg/L	0.200	ND	98.9	70-130			
Chromium	0.205	0.010	mg/L	0.200	ND	102	70-130			
Copper	0.250	0.020	mg/L	0.240	ND	104	70-130			
Lead	0.202	0.050	mg/L	0.200	ND	101	70-130			
Nickel	0.204	0.010	mg/L	0.200	ND	100	70-130			
Silver	0.201	0.010	mg/L	0.200	ND	101	70-130			
Zinc	0.290	0.020	mg/L	0.200	0.0883	101	70-130			

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH83332 - Metals Digest										
Matrix Spike (AH83332-MS2)	**Source: 18G2658-01**			Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	0.188	0.010	mg/L	0.200	ND	94.1	70-130			
Cadmium	0.195	0.010	mg/L	0.200	ND	97.4	70-130			
Chromium	0.202	0.010	mg/L	0.200	ND	101	70-130			
Copper	0.235	0.020	mg/L	0.240	ND	97.8	70-130			
Lead	0.204	0.050	mg/L	0.200	ND	102	70-130			
Nickel	0.202	0.010	mg/L	0.200	ND	101	70-130			
Silver	0.198	0.010	mg/L	0.200	ND	98.8	70-130			
Zinc	0.189	0.020	mg/L	0.200	ND	94.7	70-130			
Matrix Spike Dup (AH83332-MSD1)	**Source: 18H0320-01**			Prepared: 08/07/18 Analyzed: 08/08/18						
Arsenic	0.181	0.010	mg/L	0.200	ND	90.5	70-130	0.0638	20	
Cadmium	0.192	0.010	mg/L	0.200	ND	96.1	70-130	2.83	20	
Chromium	0.199	0.010	mg/L	0.200	ND	99.6	70-130	2.83	20	
Copper	0.240	0.020	mg/L	0.240	ND	100	70-130	4.14	20	
Lead	0.199	0.050	mg/L	0.200	ND	99.3	70-130	1.67	20	
Nickel	0.199	0.010	mg/L	0.200	ND	97.8	70-130	2.60	20	
Silver	0.195	0.010	mg/L	0.200	ND	97.7	70-130	2.81	20	
Zinc	0.282	0.020	mg/L	0.200	0.0883	96.7	70-130	2.97	20	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH83145 - General Preparation										
Blank (AH83145-BLK1)				Prepared: 08/01/18 Analyzed: 08/06/18						
Total Suspended Solids	ND	1.0	mg/L							
Duplicate (AH83145-DUP1)		**Source: 18G2400-01**		Prepared: 08/01/18 Analyzed: 08/06/18						
Total Suspended Solids	128	1.0	mg/L		138			7.97	30	
Duplicate (AH83145-DUP2)		**Source: 18G2551-01**		Prepared: 08/01/18 Analyzed: 08/06/18						
Total Suspended Solids	189	1.0	mg/L		190			0.174	30	
Batch AH83154 - General Prep (BAL)										
Blank (AH83154-BLK1)				Prepared: 07/27/18 Analyzed: 08/01/18						
Carbonaceous BOD	ND	5.0	mg/L							
Blank (AH83154-BLK2)				Prepared: 07/27/18 Analyzed: 08/01/18						
Carbonaceous BOD	ND	5.0	mg/L							
LCS (AH83154-BS1)				Prepared: 07/27/18 Analyzed: 08/01/18						
Carbonaceous BOD	172	5.0	mg/L	200		86.0	84-115			
Duplicate (AH83154-DUP1)		**Source: 18G2643-01**		Prepared: 07/27/18 Analyzed: 08/01/18						
Carbonaceous BOD	57.0	5.0	mg/L		69.8			20.2	30	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

Miscellaneous Physical/Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AH83227 - General Preparation										
Blank (AH83227-BLK1)				Prepared & Analyzed: 08/03/18						
Cyanide (total)	ND	0.020	mg/L							
LCS (AH83227-BS1)				Prepared & Analyzed: 08/03/18						
Cyanide (total)	0.219	0.020	mg/L	0.200		110	85-115			
Duplicate (AH83227-DUP1)		**Source: 18G2369-01**		Prepared & Analyzed: 08/03/18						
Cyanide (total)	ND	0.020	mg/L		ND				25	
Matrix Spike (AH83227-MS1)		**Source: 18G2369-01**		Prepared & Analyzed: 08/03/18						
Cyanide (total)	0.194	0.020	mg/L	0.200	ND	96.9	85-115			
Matrix Spike (AH83227-MS2)		**Source: 18G2769-01**		Prepared & Analyzed: 08/03/18						
Cyanide (total)	0.0656	0.020	mg/L	0.200	ND	32.8	85-115			QM-05
Matrix Spike Dup (AH83227-MSD1)		**Source: 18G2369-01**		Prepared & Analyzed: 08/03/18						
Cyanide (total)	0.235	0.020	mg/L	0.200	ND	117	85-115	19.0	25	QM-07

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	08/14/18 15:17

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
T-14	Residual chlorine, dissolved oxygen, sulfite, and pH must be analyzed in the field to meet the EPA specified 15 minute hold time.
ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
REC	Recovery
RPD	Relative Percent Difference

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WATERS, SEDIMENTS, SOLIDS

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Work Order

Chain of Custody Record

Lab No. 1862643 Page ____ of ____

Name: Russell City Energy Co., LLC

Mailing Address: 3862 Depot Road, Hayward, CA 94545

Project Contact (PDF only to): Lauren Bresnahan lauren.bresnahan@calpine.com

Phone/Fax: Mobile 925-639-1665 or Desk (510) 731-1367

Project ID: RWF Sludge Return

Project No: **Mail Stop RCE:** 3862 Depot Road, Hayward

PO#RC020-2000002018

Invoice to: APProcessing@calpine.com

Signature below authorizes work under terms stated on reverse side.

Field Sampler - Print Name & Signature: Johnny Hiller

Sample Identification	Sample Collection Date	Sample Collection Time	Container: 40ml VOA	Container: Poly	Container: Amber	Container: Sleeve	Container:	Preservative: HCL	Preservative: HNO3	Preservative: H2SO4	Preservative: NaOH	Preservative: None	Matrix: Water	Matrix: Soil	Matrix:	BAL - CBOD	TSS	As, Cd, Cr, Cu, Pb, Ni, Ag, Zn	Hg	Cyanide	Field pH	Field Tech						
RWF Sludge Return Comp.	7/26/18	1255		3					1			2	x			x	x	x	x			x						
RWF Sludge Return Grab	7/26/18	1255		x							x		x							x								
RWF Sludge Return Grab	7/26/18	1255											x								x								

Analysis Request

Sample Notes

4.2°C @ 4.3° Ukiah Temp

24hr Composite
Start: 7/25 8:10a
Stop: 7/26 8:10a

25°C pH
Result: 7.02
Dup: 6.97
Date: 7/26/18
Time: 1315
Result:
Meter:
Cal. Date:
Cal. Time:

TAT

24 hr ○
48 hr ○
Lab Approval Required
1 wk ○
2 wk (standard) ○

Lab Approval Required For Rush

Relinquished by:	Received by:	Date	Time
		7/26/18	1315
	AC	07/26/18	1900
AC	P.H.	7.26.18	1842
P.H.	P.H	7.26.18	2145
		Date	Time

Na2S2O3 sample prior to Cyanide preservation

grab 7/26 12:55pm

Russell City Energy Company, LLC

3862 Depot Road
Hayward, CA 94545

March 6, 2019

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 February 6, 2019, and is in compliance with all the aforementioned pollutant constituents.

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

Sincerely,

Cameron White
Plant Manager
Russell City Energy Center

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26 February 2019

Russell City Energy Co, LLC
Attn: Lauren Bresnahan
3590 Enterprise Avenue
Hayward, CA 94545
RE: RWF Sludge Return
Work Order: 19B0873

Enclosed are the results of analyses for samples received by the laboratory on 02/06/19 23:01. 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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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

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San Diego Service Center: 2722 Loker Avenue West Suite A | Carlsbad, CA 92010 | T: 760-930-2555 | F: 760-930-2510

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RWF Sludge Return Comp.	19B0873-01	Water	02/06/19 12:05	02/06/19 23:01
RWF Sludge Return Grab	19B0873-02	Water	02/06/19 12:05	02/06/19 23:01

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

	Result	Reporting Limit	Dilution	Batch	Prepared	Analyzed	Method	Note
RWF Sludge Return Comp. (19B0873-01)		**Sample Type: Water**				**Sampled: 02/06/19 12:05**		
Metals by EPA 200 Series Methods								
Arsenic	ND mg/L	0.010	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Cadmium	ND mg/L	0.010	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Chromium	ND mg/L	0.010	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Copper	**0.035 mg/L**	**0.020**	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Lead	ND mg/L	0.050	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Mercury	ND ug/L	0.20	1	AB93922	02/22/19 07:05	02/22/19 13:58	EPA 245.1	
Nickel	**0.019 mg/L**	**0.010**	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Silver	ND mg/L	0.010	1	AB93507	02/14/19 13:53	02/21/19 21:43	EPA 200.7	
Zinc	ND mg/L	0.020	1	AB93358	02/13/19 11:10	02/20/19 16:20	EPA 200.7	
Conventional Chemistry Parameters by APHA/EPA Methods								
Total Suspended Solids	**280 mg/L**	**1.0**	1	AB93209	02/11/19 09:00	02/13/19 08:25	SM2540D	
Carbonaceous BOD	**6.4 mg/L**	**5.0**	1	AB93585	02/07/19 19:00	02/12/19 18:30	SM5210B	
RWF Sludge Return Grab (19B0873-02)		**Sample Type: Water**				**Sampled: 02/06/19 12:05**		
Field Analyses								
pH	**7.46 pH Units**	**1.68**	1	AB93120	02/06/19 12:05	02/06/19 12:10	SM4500-H+ B	
Miscellaneous Physical/Conventional Chemistry Parameters								
Cyanide (total)	ND mg/L	0.020	1	AB93365	02/13/19 09:00	02/13/19 14:07	10-204-00-1X	

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3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB93358 - Metals Digest										
Blank (AB93358-BLK1)				Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	ND	0.010	mg/L							
Cadmium	ND	0.010	mg/L							
Chromium	ND	0.010	mg/L							
Copper	ND	0.020	mg/L							
Lead	ND	0.050	mg/L							
Nickel	ND	0.010	mg/L							
Zinc	ND	0.020	mg/L							
LCS (AB93358-BS1)				Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	0.216	0.010	mg/L	0.200		108	85-115			
Cadmium	0.202	0.010	mg/L	0.200		101	85-115			
Chromium	0.212	0.010	mg/L	0.200		106	85-115			
Copper	0.228	0.020	mg/L	0.220		104	85-115			
Lead	0.205	0.050	mg/L	0.200		102	85-115			
Nickel	0.211	0.010	mg/L	0.200		105	85-115			
Zinc	0.179	0.020	mg/L	0.200		89.7	85-115			
Duplicate (AB93358-DUP1)		**Source: 19B0873-01**		Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	ND	0.010	mg/L		ND				20	
Cadmium	ND	0.010	mg/L		ND				20	
Chromium	ND	0.010	mg/L		ND				20	
Copper	0.0349	0.020	mg/L		0.0350			0.446	20	
Lead	ND	0.050	mg/L		ND				20	
Nickel	0.0201	0.010	mg/L		0.0194			3.31	20	
Zinc	ND	0.020	mg/L		ND			9.28	20	
Matrix Spike (AB93358-MS1)		**Source: 19B0873-01**		Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	0.220	0.010	mg/L	0.200	ND	110	70-130			
Cadmium	0.200	0.010	mg/L	0.200	ND	99.8	70-130			
Chromium	0.208	0.010	mg/L	0.200	ND	104	70-130			
Copper	0.272	0.020	mg/L	0.220	0.0350	108	70-130			
Lead	0.201	0.050	mg/L	0.200	ND	101	70-130			
Nickel	0.229	0.010	mg/L	0.200	0.0194	105	70-130			
Zinc	0.217	0.020	mg/L	0.200	ND	103	70-130			

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB93358 - Metals Digest										
Matrix Spike (AB93358-MS2)		**Source: 19B1265-04**		Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	0.214	0.010	mg/L	0.200	ND	107	70-130			
Cadmium	0.200	0.010	mg/L	0.200	ND	100	70-130			
Chromium	0.210	0.010	mg/L	0.200	ND	105	70-130			
Copper	0.303	0.020	mg/L	0.220	0.0770	103	70-130			
Lead	0.206	0.050	mg/L	0.200	ND	103	70-130			
Nickel	0.209	0.010	mg/L	0.200	ND	104	70-130			
Zinc	0.340	0.020	mg/L	0.200	0.142	99.0	70-130			
Matrix Spike Dup (AB93358-MSD1)		**Source: 19B0873-01**		Prepared: 02/13/19 Analyzed: 02/20/19						
Arsenic	0.226	0.010	mg/L	0.200	ND	113	70-130	2.73	20	
Cadmium	0.202	0.010	mg/L	0.200	ND	101	70-130	1.15	20	
Chromium	0.208	0.010	mg/L	0.200	ND	104	70-130	0.00163	20	
Copper	0.277	0.020	mg/L	0.220	0.0350	110	70-130	1.96	20	
Lead	0.203	0.050	mg/L	0.200	ND	101	70-130	0.912	20	
Nickel	0.229	0.010	mg/L	0.200	0.0194	105	70-130	0.0664	20	
Zinc	0.216	0.020	mg/L	0.200	ND	103	70-130	0.294	20	
Batch AB93507 - Metals Digest										
Blank (AB93507-BLK1)				Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	ND	0.010	mg/L							
LCS (AB93507-BS1)				Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	0.202	0.010	mg/L	0.200		101	85-115			
Duplicate (AB93507-DUP1)		**Source: 19B1486-01**		Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	ND	0.010	mg/L		ND				20	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Metals by EPA 200 Series Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB93507 - Metals Digest										
Matrix Spike (AB93507-MS1)		**Source: 19B1486-01**		Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	0.206	0.010	mg/L	0.200	ND	103	70-130			
Matrix Spike (AB93507-MS2)		**Source: 19B1484-01**		Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	0.208	0.010	mg/L	0.200	ND	104	70-130			
Matrix Spike Dup (AB93507-MSD1)		**Source: 19B1486-01**		Prepared: 02/14/19 Analyzed: 02/15/19						
Silver	0.202	0.010	mg/L	0.200	ND	101	70-130	1.74	20	
Batch AB93922 - EPA 245.1 Hg Water										
Blank (AB93922-BLK1)				Prepared & Analyzed: 02/22/19						
Mercury	ND	0.20	ug/L							
LCS (AB93922-BS1)				Prepared & Analyzed: 02/22/19						
Mercury	2.34	0.20	ug/L	2.50		93.6	85-115			
Duplicate (AB93922-DUP1)		**Source: 19B1470-02**		Prepared & Analyzed: 02/22/19						
Mercury	ND	0.20	ug/L		ND				20	
Matrix Spike (AB93922-MS1)		**Source: 19B1470-02**		Prepared & Analyzed: 02/22/19						
Mercury	2.32	0.20	ug/L	2.50	ND	92.7	70-130			
Matrix Spike (AB93922-MS2)		**Source: 19B1471-01**		Prepared & Analyzed: 02/22/19						
Mercury	2.36	0.20	ug/L	2.50	ND	94.5	70-130			
Matrix Spike Dup (AB93922-MSD1)		**Source: 19B1470-02**		Prepared & Analyzed: 02/22/19						
Mercury	2.39	0.20	ug/L	2.50	ND	95.8	70-130	3.27	20	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB93209 - General Preparation										
Blank (AB93209-BLK1)				Prepared: 02/11/19 Analyzed: 02/13/19						
Total Suspended Solids	ND	1.0	mg/L							
Duplicate (AB93209-DUP1)		**Source: 19B0833-01**		Prepared: 02/11/19 Analyzed: 02/13/19						
Total Suspended Solids	202	1.0	mg/L		225			10.6	30	
Duplicate (AB93209-DUP2)		**Source: 19B0873-01**		Prepared: 02/11/19 Analyzed: 02/13/19						
Total Suspended Solids	255	1.0	mg/L		275			7.72	30	
Batch AB93585 - General Prep (BAL)										
Blank (AB93585-BLK1)				Prepared: 02/07/19 Analyzed: 02/12/19						
Carbonaceous BOD	ND	2.0	mg/L							
Blank (AB93585-BLK2)				Prepared: 02/07/19 Analyzed: 02/12/19						
Carbonaceous BOD	ND	2.0	mg/L							
LCS (AB93585-BS1)				Prepared: 02/07/19 Analyzed: 02/12/19						
Carbonaceous BOD	192	2.0	mg/L	200		96.2	84-115			
Duplicate (AB93585-DUP1)		**Source: 19B0975-01**		Prepared: 02/07/19 Analyzed: 02/12/19						
Carbonaceous BOD	126	2.0	mg/L		123			2.98	30	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Miscellaneous Physical/Conventional Chemistry Parameters - Quality Control

Analyte(s)	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch AB93365 - General Preparation										
Blank (AB93365-BLK1)				Prepared & Analyzed: 02/13/19						
Cyanide (total)	ND	0.020	mg/L							
LCS (AB93365-BS1)				Prepared & Analyzed: 02/13/19						
Cyanide (total)	0.209	0.020	mg/L	0.200		105	85-115			
Duplicate (AB93365-DUP1)		**Source: 19B0610-03**		Prepared & Analyzed: 02/13/19						
Cyanide (total)	ND	0.020	mg/L		ND				25	
Matrix Spike (AB93365-MS1)		**Source: 19B0610-03**		Prepared & Analyzed: 02/13/19						
Cyanide (total)	0.206	0.020	mg/L	0.200	ND	103	85-115			
Matrix Spike (AB93365-MS2)		**Source: 19B0988-03**		Prepared & Analyzed: 02/13/19						
Cyanide (total)	0.213	0.020	mg/L	0.200	ND	106	85-115			
Matrix Spike Dup (AB93365-MSD1)		**Source: 19B0610-03**		Prepared & Analyzed: 02/13/19						
Cyanide (total)	0.200	0.020	mg/L	0.200	ND	99.8	85-115	2.91	25	

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Russell City Energy Co, LLC	Project Manager: Lauren Bresnahan	
3590 Enterprise Avenue	Project: RWF Sludge Return	Reported:
Hayward, CA 94545	Project Number: Mail Stop RCE: 3862 Depot Road, Hayward	02/26/19 13:28

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
dry	Sample results reported on a dry weight basis
REC	Recovery
RPD	Relative Percent Difference

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916-686-5190 F) 916-686-5192

3.8°C Ukiah

Work Order

Chain of Custody Record

Lab No. 19B0873 Page ____ of ____

Name: Russell City Energy Co., LLC	**Project ID:** 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#RC020-2000002018
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

Sample Identification	Sample Collection Date	Time	Container: 40ml VOA	Poly	Amber	Sleeve	Preservative: HCL	HNO3	H2SO4	NaOH	None	Matrix: Water	Soil	BAL - CBOD	TSS	As, Cd, Cr, Cu, Pb, Ni, Ag, Zn	Hg	Cyanide	Field pH	Field Tech
RWF Sludge Return Comp.	2/6/19	1105		3				1			2	x		x	x	x	x			x
RWF Sludge Return Grab	↓	1205		x						x		x						x		
RWF Sludge Return Grab		1205										x							x	

Analysis Request

Sample Notes

1.9C

24hr Composite
Start:
Stop:

pH
Result: 7.46
Dup: 7.53
Date: 2/6/19
Time: 1210
Result:
Meter: #4
Cal. Date: 2/6/19
Cal. Time: 1045

TAT

24 hr ○
48 hr ○ *Lab Approval Required*
1 wk ○
2 wk (standard) ○

Lab Approval Required For Rush

Relinquished by:	Received by:	Date	Time
	AM	2/6	1700
AM	PZ	2-6-19	20:04
PZ	PZ	2-6-19	23:01

Na2S2O3 sample prior to Cyanide preservation

CONDITION OF CERTIFICATION
VIS-2

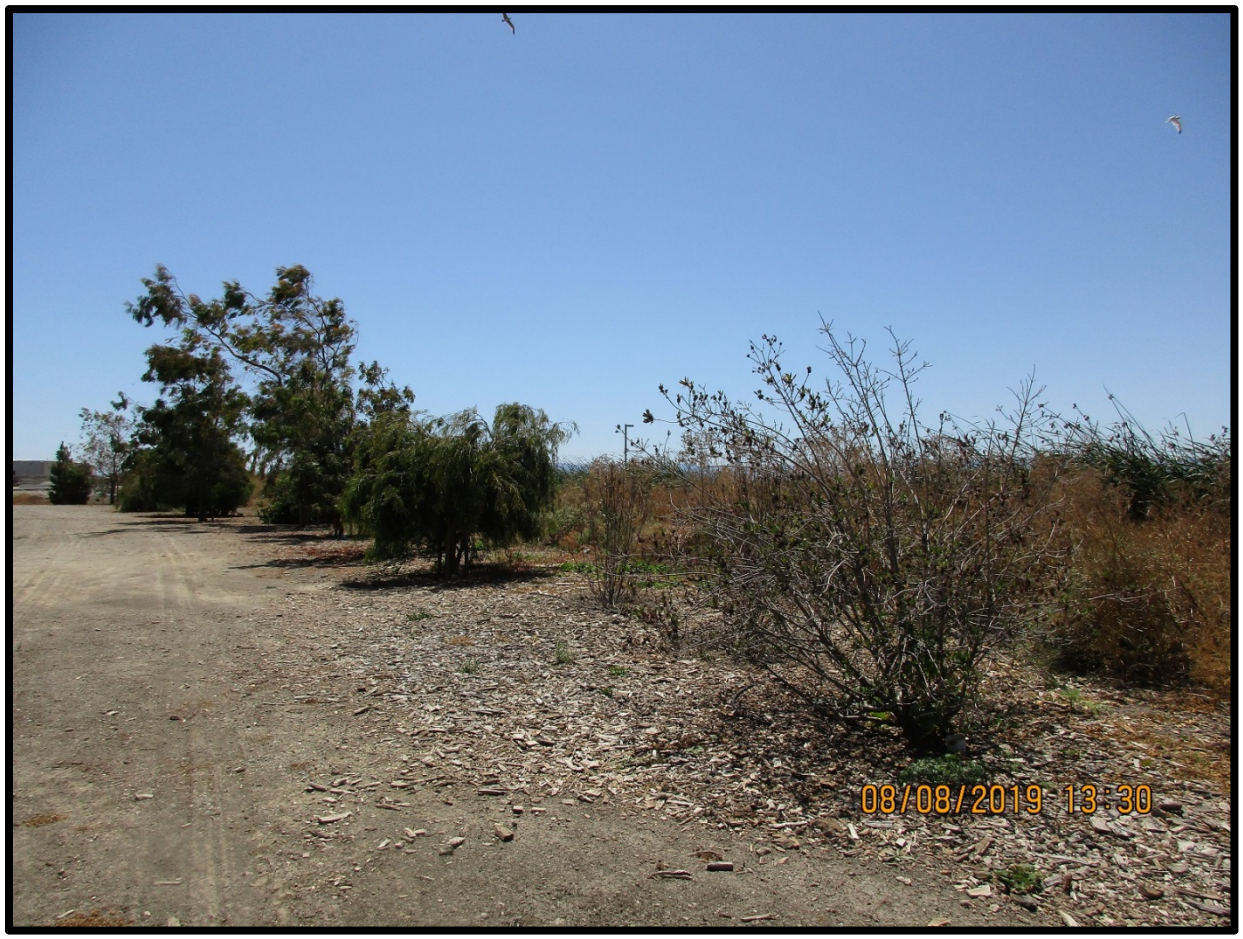
Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

VIS-2: During the reporting period of July 1, 2018 until June 30, 2019, one London Plane tree from the onsite landscaping needed to be replaced. This tree was replaced in October 2018.

A landscape maintenance company performed regular maintenance during year 6 of operation. At least once a week the landscape contractor performed weed abatement throughout the RCEC facility including the VIS-2 planting areas. The landscape contractor watered the VIS-2 trees at least weekly as well.

Pictures of the VIS-2 on-site landscaping are on the next page. Both pictures were taken on August 8, 2019.


08/08/2019 13:28


08/08/2019 13:30

CONDITION OF CERTIFICATION
VIS-10

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

VIS-10: On June 1, 2015, the Project Owner submitted to the CPM a request for amendment of Visual Resources Condition VISUAL-10 as Amendment #5. The petition was approved by the Commission on May 17, 2016.

Visual treatment of the five offsite warehouses along the eastern edge of the Hayward Regional Shoreline was completed in July 2014. The paint remains in good condition. Current photographs, taken on August 8, 2019, of the exterior painted walls of the five warehouses from KOP 2 are on the pages that follow.

Landscaping of the city-owned property was completed in January 2015. A landscape maintenance company performed weekly upkeep and watering of the trees during year 6 of operation. Pictures of the off-site landscaping, taken on August 8, 2019, can be found on the pages to follow.

During the reporting period from July 1, 2018 to June 30, 2019, five trees from the off-site landscaping were replaced. In October 2018 five Catalina Island Ironwood trees were replaced. Currently, there are two Catalina Island Ironwood trees scheduled to be replaced in the Fall of 2019 when weather conditions are wetter and more hospitable for successful tree planting.


08/08/2019 13:35


08/08/2019 13:37


Building 1a
Building 1b
08/08/2019 13:03


Building 2
Building 3
Building 4
08/08/2019 13:07

CONDITION OF CERTIFICATION
BIO-2

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

JACOBS®

Memorandum

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Subject	**California Energy Commission Annual Compliance Report for Biological Resources (BIO-2), 2019**
Project Name	Russell City Energy Center
Attention	Lauren Bresnahan/RCEC, Environmental Specialist
From	Todd Ellwood/JACOBS, RCEC Designated Biologist
Date	June 28, 2019
Copies to	Karen Parker/JACOBS, Project Manager

Introduction

This Russell City Energy Center (RCEC) Year 2019 Annual Compliance Report for Biological Resources fulfills the California Energy Commission (CEC) requirement for Condition of Certification (COC) BIO-2, "Designated Biologist Duties." BIO-2 states that the Designated Biologist shall perform the stated duties of BIO-2 relating to "any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities." In the support of BIO-2, the Designated Biologist (DB) is to maintain written records of the tasks specified above and those included in the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Summaries of these records shall be submitted in the annual compliance report.

The BRMIMP for the RCEC was prepared in April 2010 as required under the COC BIO-4 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 lead 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 mechanical 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 RCEC became fully operational in February 2015.

A Biological Resources Post-construction Compliance Monitoring Report (BIO-4) was submitted to the CEC in September 2015. The report documented final site completion and adequate restoration of temporary construction areas.

Project Location

The RCEC is a 600-megawatt natural gas fired combined cycle power plant built by Russell City Energy Company, LLC and operated by Calpine. 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 ponds located to the west. Commercial and Industrial areas are located to the north and south.

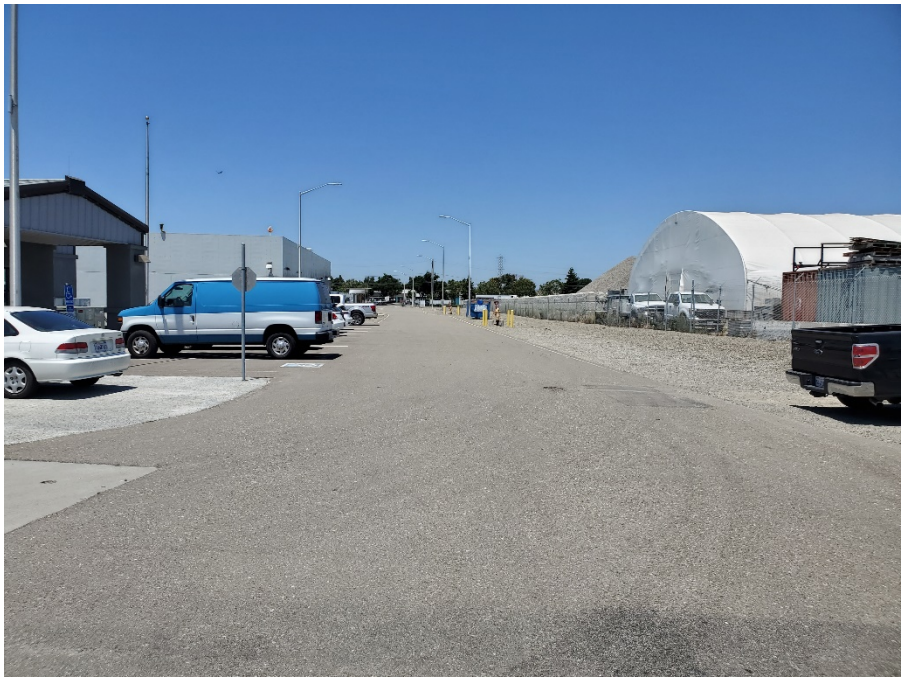
Monitored Activities

Since completion of the RCEC, Calpine has followed applicable CEC COCs and consulted with the DB periodically since that time. For the June 2018 to June 2019 reporting period, there were no issues raised to the DB related to biological resources at the facility site. According to Calpine, there have been no disturbance activities associated with RCEC operations outside the site perimeter. The DB conducted an inspection of RCEC operations on June 17, 2019 to verify site conditions and to also confirm that Calpine is continuing administration of the Worker Environmental Awareness Program Training (WEAP) via video. Copies of WEAP training sign-in sheets are being maintained onsite in the plant operations building. During the site inspection, the DB also collected representative photographs of the RCEC site, presented below.

Conclusion

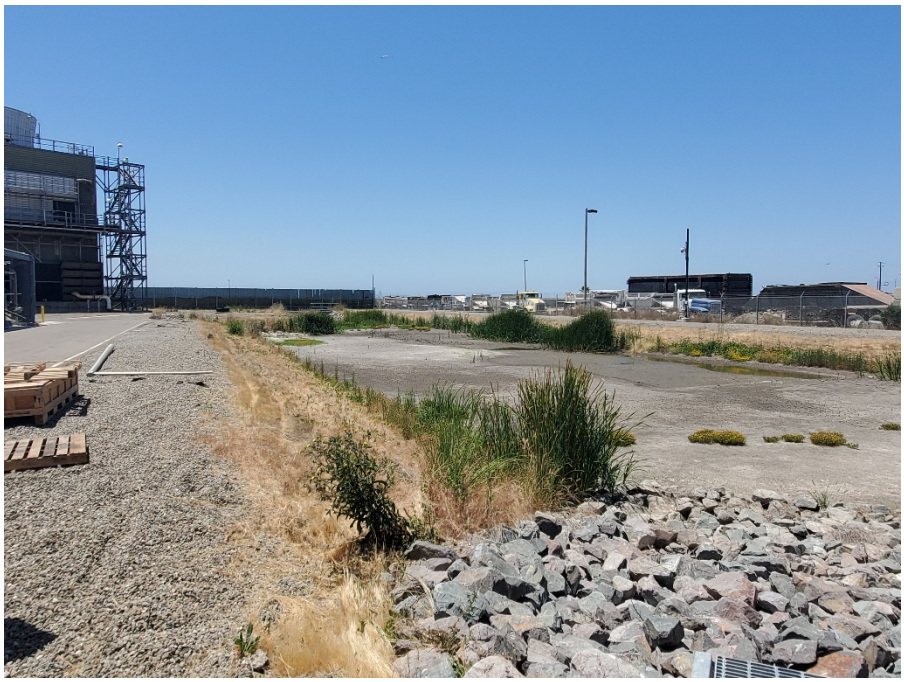
On June 17, 2019, the RCEC was observed to be in compliance with all biological mitigation and protection measures included in the BRMIMP that are applicable to operation of the facility for the operating period of June 2018 to June 2019.

Representative Photographs



View North of Entry Road

View West of South Road



View Northwest of Stormwater Pond

CONDITION OF CERTIFICATION
HAZ-1

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

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; Used for Chlorine Dioxide Generation	Cooling Tower Chemical Feed Area; RWF Chemical Feed Area	Liquid	Continuously onsite
4	Chlorine Dioxide (1%)	Biocide in cooling tower and RWF	Cooling Tower Chemical Feed Area; RWF Chemical Feed Area	Liquid	No bulk storage onsite -- consumed as soon as it's produced
5	Hydrochloric Acid (32%)	Biocide in cooling tower and RWF	Cooling Tower Chemical Feed Area; RWF Chemical Feed Area	Liquid	Continuously onsite
6	Sodium Chlorite (25%)	Biocide in cooling tower and RWF	Cooling Tower Chemical Feed Area; RWF Chemical Feed Area	Liquid	Continuously onsite
7	Hydrogen gas	Steam turbine generator cooling	Adjacent to steam turbine	Gas	Continuously onsite
8	Lubricating Oil	Rotating equipment	Contained within equipment	Liquid	Continuously onsite
9	Mineral Insulating Oil	Transformers	Contained within transformers	Liquid	Continuously onsite
10	Hydraulic oil	Combustion turbine starting system, turbine control valve actuators	Combustion turbine and steam turbine areas	Liquid	Continuously onsite
11	No. 2 Diesel Fuel	Emergency fire pump engine	Near emergency fire pump	Liquid	Continuously onsite
12	Various Cleaning Chemicals	Chemical cleaning of HRSG	Water treatment building/laboratory	Liquid	Continuously onsite
13	Various Laboratory Reagents (Liquid)	Laboratory analysis	Water treatment building/laboratory	Liquid	Continuously onsite
14	Various Laboratory Reagents (Solid)	Laboratory analysis	Water treatment building/laboratory	Solid	Continuously onsite
15	Ferric Sulfate	Coagulant for RWF clarification and multimedia filters in the demin. water facility	RWF Chemical Feed Area Demin Water Facility	Liquid	Continuously onsite
16	Polymer	RWF Filter Aid	RWF Chemical Feed Area	Liquid	Continuously onsite
17	Calcium Sulfate (Snow White)	Initial startup seeding of brine concentrator	ZLD Chemical Feed Area	Liquid	Periodically - once/twice per year
18	Chelating agents (EDTA)	Brine concentrator cleaning	Warehouse	Solid	Periodically - once/twice per year
19	Sodium Hydroxide (50%)	ZLD pH Adjustment; RWF sludge pH adjustment	ZLD Chemical Feed Area, RWF Chemical Feed Area	Liquid	Continuously onsite
20	Sulfur Hexafluoride	Transformers/switchyards	Switchyard circuit breakers	Gas	Continuously onsite
21	Corrosion Inhibitor Amercor KB	Boiler water corrosion inhibitor	STG Chemical Feed Skid	Liquid	Continuously onsite
22	Antifoam	ZLD antifoam	RWF Chemical Feed Area	Liquid	Continuously onsite

Table 3.5.1
Use and Location of Hazardous Materials

	Chemical	Use	Storage Location	State	Type of Storage
23	Drewgard 315	Closed cooling tower water system corrosive inhibitor	Closed Cooling Water Pumps	Liquid	Continuously onsite
24	Antifoulant/ Dispersant	Cooling tower dispersant	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
25	Drewphos PT	Boiler pH control	HRSG Chemical Feed Skids	Liquid	Continuously onsite
26	Antifoam	Cooling Tower Antifoam	Cooling Tower Chemical Feed Area	Liquid	Continuously onsite
27	Corrosion Inhibitor DPL-674	Boiler water corrosion inhibitor	STG Chemical Feed Skid	Liquid	Continuously onsite
28	Diatomaceous Earth	Absorption of dissolved solids in the ZLD	ZLD Chemical Feed Area	Solid	Continuously onsite
29	Citric Acid (55%)	Periodic cleaning of ultrafiltration membranes	Demin Water Facility	Liquid	Continuously onsite
30	Antiscalant	Prevents scale formation of RO membranes	Demin Water Facility	Liquid	Continuously onsite
31	Biocide	Prevents and protects against biogrowth on RO membranes	Demin Water Facility	Liquid	Continuously onsite
32	High pH RO Cleaner	Reverse osmosis membrane cleaner	Demin Water Facility	Liquid	Continuously onsite
33	Sodium Bisulfite (40%)	Protects RO membranes from chlorine damage	Demin Water Facility	Liquid	Continuously onsite
34	Flocculant Nalclear 7768	RWF Clarifier Flocculant	Recycled Water Facility	Liquid	Continuously onsite
35	Flocculant Ferralyte 8130	RWF Clarifier Flocculant	Recycled Water Facility	Liquid	Continuously onsite

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	10,000 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	2,300 gal	5,000 lb [d]	16,000 lb [d]	[d] [d]	[d] [d]	No
6	Sodium chlorite (25%)	Sodium chlorite	7758-19-2	5,800 gal	[d]	[d]	[d]	[d]	No
7	Hydrogen gas	Hydrogen	1333-74-0	9,500 scf	[d]	[d]	[d]	[d]	No
8	Lubricating Oil	Oil	None	19,500 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
9	Mineral Insulating Oil	Oil	None	60,900 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
10	Hydraulic oil	Oil	None	600 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
11	No. 2 Diesel Fuel	Oil	None	350 gal	42 gal [e]	42 gal [e]	[d]	[d]	Yes
12	Various Cleaning Chemicals	Various	None	100 gal	[d]	[d]	[d]	[d]	No
13	Various Laboratory Reagents (liquid)	Various	None	10 gal	[d]	[d]	[d]	[d]	No
14	Various Laboratory Reagents (Solid)	Various	None	100 lbs	[d]	[d]	[d]	[d]	No
15	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
16	Amerfloc 490 Polymer	Polymer (100%)	42751-79-1	300 gal	[d]	[d]	[d]	[d]	No
17	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
18	Chelating agents	Tetrasodium Ethylenediaminetetraacetate Tetrahydrate	13235-36-6 or 64-02-8	15,000 lb	[d] [d]	[d] [d]	[d] [d]	[d] [d]	No
19	Caustic Soda (50%)	Sodium Hydroxide (50%)	1310-73-2	6,700 gal	1,000 lb	2,000 lb	[d]	[d]	No
20	Sulfur Hexafluoride	Sulfur Hexafluoride	2551-62-4	650 lb	[d]	[d]	[d]	[d]	No
21	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
22	Drewplus ED 795 Foam Control Agent	Polyaklylene Glycol (20%)	254504001-5000	300 gal	[d]	[d]	[d]	[d]	Yes
23	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
24	Performax DC5202	Acrylic Polymer (40%)	254504001-5727	1,100 gal	[d]	[d]	[d]	[d]	No
25	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
26	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

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
27	DPL-674 Corrosion Inhibitor	Amine (10%) Amine derivative (1.5%)	254504001-8013 254504001-9214	300 gal	[d]	[d]	[d]	[d]	No
28	Diatomaceous Earth	Diatomaceous Earth (50%) Crystalline Silica (50%)	68855-54-9 14464-46-1	5,000 lb	[d]	[d]	[d]	[d]	Yes
29	Citric Acid (55%)	Citric Acid (55%) Water	77-92-9 7732-18-5	220 gal	[d] [d]	[d] [d]	[d]	[d]	No
30	Ameroyal 710 Antiscalant	no hazardous ingredients	None	110 gal	[d]	[d]	[d]	[d]	No
31	Biobrom C-103L Biocide	2,2 Dibromo-3-nitrilopropionamide	10222-01-2	330 gal	[d]	[d]	[d]	[d]	No
32	Permaclean PC-98 High pH RO Cleaner	Alkyl sulfonate (30%) Tetrasodium EDTA (5%)	Proprietary 64-02-8	165 gal	[d] [d]	[d] [d]	[d]	[d]	No
33	Sodium Bisulfite (40%)	Water Sodium Bisulfite Sodium Sulfite Sodium Sulfate	7732-18-5 7631-90-5 7757-83-7 7757-82-6	220 gal	[d] 5000 [d] [d]	[d] 12,500 [d] [d]	[d] [d] [d] [d]	[d] [d] [d] [d]	No
34	Flocculant Nalclear 7768	Hydrotreated Light Distillate Oxyalkylated alcohol	64742-47-8 Proprietary	550 gal	[d] [d]	[d] [d]	[d] [d]	[d] [d]	No
35	Flocculant Ferralyte 8130	Ferric Sulfate (60%)	010028-22-5	2,000 gal	1,000 lb	1,667 lb	[d]	[d]	No

[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	Hydrogen gas	Colorless, odorless gas	Simple asphyxiant, flammable	None known.	Flammable gas.
8	Lubricating Oil	Oily, dark liquid.	Ingestion hazardous.	Sodium hypochlorite.	Flammable.
9	Mineral Insulating Oil	Oily, clear liquid.	Minor.	Sodium hypochlorite.	May be combustible.
10	Hydraulic oil	Oily, clear liquid.	Minor.	Sodium hypochlorite.	May be combustible.
11	No. 2 Diesel Fuel	Oily, light liquid.	May be carcinogenic.	Sodium hypochlorite.	Flammable.
12	Various Cleaning Chemicals	Varies	Varies	Varies	Varies
13	Various Laboratory Reagents (liquid)	Varies	Varies	Varies	Varies
14	Various Laboratory Reagents (Solid)	Varies	Varies	Varies	Varies
15	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
16	Polymer	Light yellow liquid	May cause eye irritation	Aluminum, iron, copper, strong mineral acids, strong oxidizing agents	Non-flammable
17	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
18	Versene 220 Crystals	Solid white odorless	Causes severe eye damage. Harmful if swallowed or inhaled. May cause damage to organs (respiratory tract) through prolonged or repeated exposure if inhaled.	Aluminum, Aluminum Alloys, Carbon Steel, Copper, Copper Alloys, Nickel, and Zinc.	Non-flammable
19	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
20	Sulfur Hexafluoride	Colorless, odorless liquefied gas	High concentrations can cause an oxygen deficient environment	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	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.
22	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.
23	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
24	Antifoulant/ Dispersant	Amber-colored liquid	May be harmful if swallowed.	Avoid contact with: strong bases and strong oxidizing agents	Non-flammable
25	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
26	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
27	Corrosion Inhibitor	Off-white liquid	Harmful if swallowed. Causes severe skin burns and eye damage.	Stable under recommended storage conditions. Incompatible materials: aluminum, bronze, copper, strong acids, and strong oxidizing agents	Non-flammable
28	Diatomaceous Earth	Light pink to white powder	May cause irritation if dust gets in eyes. Acute inhalation can cause dryness of the nasal passage and lung congestion, coughing, and general throat irritation. Acute inhalation of high concentrations may cause acute silicosis.	Stable and not reactive. Incompatible with hydrofluoric acid and concentrated caustic solutions	Non-flammable
29	Citric Acid (55%)	Odorless, colorless liquid	Causes serious eye irritation	Strong oxidizing agents	Non-flammable
30	Ameroyal 710 Antiscalant	Light yellow, amber, liquid	Not considered hazardous	Oxidizing agents, strong acids	No data available
31	Biobrom C-103L Biocide	Amber-colored liquid	Harmful if swallowed.	Strong acids, strong bases, strong oxidizing agents	No data available
32	Permaclean PC-98 High pH RO Cleaner	Opaque liquid with slight odor	Causes serious eye damage	Acids	No data available
33	Sodium Bisulfite (40%)	Yellow liquid with pungent smell	Harmful if swallowed. May be harmful to skin. Causes serious eye irritation.	Contact with powdered potassium, sodium metals, alkali, and oxidizing agents produce violent reactions. Reacts with water and steam to form corrosive sulforous acid. Reacts with chlorates to form unstable chlorine dioxide.	Non-flammable
34	Nalclear 7768 Flocculant	Off-white emulsion with mild odor	Causes eye irritation	Strong oxidizers. Brass, neoprene, Buna-N, Natural rubber, polyurethane, EPDM, mild steel, galvanized metals, polyethylene tubing, chlorosulfonated polyethylene rubber	No data available
35	Flocculant Ferralyte 8130	Dark amber odorless liquid	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage	Strong bases. Aluminum	Non-flammable

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
COMPLIANCE-5

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

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	6/7/2019		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	expected Sep. 2019		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	expected Sep. 2019		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	6/7/2019		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	6/7/2019	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	expected Sep. 2019		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	6/7/2019		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	expected Sep. 2019		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	6/7/2019		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	expected Sep. 2019		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	expected Sep. 2019		Ongoing

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
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	6/7/2019		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 Title V Permit submitted to CPM 11/15/16		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 5/21/14 Title V Permit submitted to CPM 11/15/16		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	Inspection completed 5/1/19		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

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
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
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	9/15/2015		Submitted
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 Revision 1 9/15/15 Revision 2 6/30/16		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	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
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

Technical Area	No.	Facility Status	Report	Condition of Certification	Compliance Verification	Timeframe	Submittal Required	Date Submitted	Date Approved	Status
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	1/3/2019	1/10/2019	Complete
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	N/A	N/A	Complete
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
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

CONDITION OF CERTIFICATION
Air Quality Report

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19a

Operating Parameters of Emission Control Equipment

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
April - 2019

	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)
04/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/08/2019	153.6	23.1	1.46	0.37	143.0	22.9	1.54	1.53
04/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/11/2019	135.5	23.0	1.44	0.4	151.6	23.7	1.56	2.2
04/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/19/2019	125.5	23.0	1.48	0.4	142.3	24.7	1.49	2.27
04/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
May - 2019

	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)
05/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/11/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/13/2019	156.9	22.4	1.40	0.63	70.7	13.9	0.00	0
05/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/20/2019	137.3	23.0	1.26	0.37	**Down**	**Down**	**Down**	**Down**
05/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/23/2019	142.8	22.8	1.49	0.37	156.5	21.9	1.54	2.87
05/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/31/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**

Russell City Energy Center
01-AFC-7C - Condition Verification 19a
Quarterly Compliance Report - Q2
June - 2019

	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)
06/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/10/2019	147.0	26.5	1.52	0.3	164.3	25.2	1.65	1.75
06/11/2019	152.9	25.8	1.50	0.2	174.5	25.2	1.62	1.67
06/12/2019	131.5	26.0	1.50	0.13	171.2	26.5	1.56	1.73
06/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/18/2019	147.0	23.5	1.62	0.4	147.3	23.7	1.58	1.87
06/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**

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 6
July 1, 2018 – June 30, 2019

Russell City Energy Center
01-AFC-7C Condition Verification 19b
Quarterly Compliance Report – 2019 Q2

Number of Startups

	Cold Startups	Warm Startups	Hot Startups
Turbine 1	8	2	2
Turbine 2	7	2	1

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
April - 2019

	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)
04/01/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/02/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/03/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/04/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/05/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/06/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/07/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/08/2019	4.3	1.29	0.00	0.00	0.13	10.0	3.42	0.00	0.00	0.15
04/09/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/10/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/11/2019	7.4	1.23	0.00	0.00	0.12	11.1	2.98	0.00	0.38	0.26
04/12/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/13/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/14/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/15/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/16/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/17/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/18/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/19/2019	11.1	3.34	0.00	0.45	0.13	4.1	1.23	0.00	0.00	0.12
04/20/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/21/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/22/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/23/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/24/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/25/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/26/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/27/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/28/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/29/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
04/30/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Monthly Total	23	5.9	0.0	0.5	0.38	25	7.6	0.0	0.4	0.53

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
May - 2019

	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)
05/01/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/02/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/03/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/04/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/05/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/06/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/07/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/08/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/09/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/10/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/11/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/12/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/13/2019	10.1	3.74	0.00	0.00	0.05	2.3	2.28	0.00	0.00	0.00
05/14/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/15/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/16/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/17/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/18/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/19/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/20/2019	5.5	3.64	0.00	0.00	0.12	0.0	0.00	0.00	0.00	0.00
05/21/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/22/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/23/2019	10.4	3.40	0.00	0.99	0.25	5.6	1.35	0.00	0.00	0.13
05/24/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/25/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/26/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/27/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/28/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/29/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/30/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
05/31/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Monthly Total	26	10.8	0.0	1.0	0.42	8	3.6	0.0	0.0	0.13

Russell City Energy Center
01-AFC-7C - Condition Verification 19b
Quarterly Compliance Report - Q2
June - 2019

	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)
06/01/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/02/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/03/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/04/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/05/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/06/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/07/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/08/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/09/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/10/2019	8.8	1.27	0.00	0.00	0.13	13.8	3.44	0.00	0.00	0.13
06/11/2019	9.7	0.00	0.83	0.00	0.12	14.0	0.00	0.92	0.00	0.13
06/12/2019	9.8	0.00	0.84	0.00	0.20	13.3	0.00	0.90	0.00	0.48
06/13/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/14/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/15/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/16/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/17/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/18/2019	10.7	3.62	0.00	0.00	0.12	3.1	1.22	0.00	0.00	0.13
06/19/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/20/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/21/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/22/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/23/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/24/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/25/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/26/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/27/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/28/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/29/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
06/30/2019	0.0	0.00	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00
Monthly Total	39	4.9	1.7	0.0	0.57	44	4.7	1.8	0.0	0.87

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 6
July 1, 2018 – June 30, 2019

Turbine 1 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Cold Startup	4/8/2019 5:14 PM	6:30 PM	1:17	
Cold Startup	4/11/2019 8:01 AM	9:14 AM	1:14	
Cold Startup	4/19/2019 9:08 AM	12:27 PM	3:20	
Cold Startup	5/13/2019 4:56 AM	8:39 AM	3:44	
Cold Startup	5/20/2019 1:38 AM	5:15 AM	3:38	
Cold Startup	5/23/2019 9:33 AM	12:56 PM	3:24	
Cold Startup	6/10/2019 1:39 PM	2:54 PM	1:16	
Cold Startup	6/18/2019 10:30 AM	2:06 PM	3:37	
Total (8 Events)			21:30	

Turbine 1 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Warm Startup	6/11/2019 1:45 PM	2:34 PM	0:50	
Warm Startup	6/12/2019 12:26 PM	1:15 PM	0:50	
Total (2 Events)			1:40	

Turbine 1 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Hot Startup	4/19/2019 2:18 PM	2:44 PM	0:27	
Hot Startup	5/23/2019 6:14 PM	7:12 PM	0:59	
Total (2 Events)			1:26	

Turbine 1 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Shutdown	4/8/2019 9:22 PM	9:29 PM	0:08	
Shutdown	4/11/2019 3:18 PM	3:24 PM	0:07	
Shutdown	4/19/2019 9:02 PM	9:09 PM	0:08	
Shutdown	5/13/2019 2:56 PM	3:02 PM	0:07	
Shutdown	5/20/2019 7:00 AM	7:06 AM	0:07	
Shutdown	5/23/2019 5:15 PM	5:22 PM	0:08	
Shutdown	5/23/2019 8:41 PM	8:47 PM	0:07	
Shutdown	6/10/2019 10:18 PM	10:25 PM	0:08	
Shutdown	6/11/2019 11:20 PM	11:26 PM	0:07	
Shutdown	6/12/2019 9:56 PM	10:11 PM	0:16	
Shutdown	6/18/2019 9:01 PM	9:07 PM	0:07	
Total (11 Events)			1:30	

Turbine 2 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Cold Startup	4/8/2019 11:08 AM	2:32 PM	3:25	
Cold Startup	4/11/2019 3:03 AM	6:01 AM	2:59	
Cold Startup	4/19/2019 5:27 PM	6:40 PM	1:14	
Cold Startup	5/13/2019 10:54 AM	1:10 PM	2:17	
Cold Startup	5/23/2019 2:48 PM	4:08 PM	1:21	
Cold Startup	6/10/2019 9:02 AM	12:27 PM	3:26	
Cold Startup	6/18/2019 6:23 PM	7:35 PM	1:13	
Total (7 Events)			15:55	

Turbine 2 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Warm Startup	6/11/2019 9:51 AM	10:45 AM	0:55	
Warm Startup	6/12/2019 9:14 AM	10:07 AM	0:54	
Total (2 Events)			1:49	

Turbine 2 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Hot Startup	4/11/2019 12:00 PM	12:22 PM	0:23	
Total (1 Event)			0:23	

Turbine 2 Events

Russell City

for 4/1/2019 thru 6/30/2019, in Order by Parameter

Parameter	Start	End	Duration	Value
Shutdown	4/8/2019 8:40 PM	9:08 PM	0:29	
Shutdown	4/11/2019 10:17 AM	10:24 AM	0:08	
Shutdown	4/11/2019 3:37 PM	3:44 PM	0:08	
Shutdown	4/19/2019 9:23 PM	9:29 PM	0:07	
Shutdown	5/23/2019 8:18 PM	8:25 PM	0:08	
Shutdown	6/10/2019 10:39 PM	10:46 PM	0:08	
Shutdown	6/11/2019 11:45 PM	11:52 PM	0:08	
Shutdown	6/12/2019 10:05 PM	10:33 PM	0:29	
Shutdown	6/18/2019 9:24 PM	9:31 PM	0:08	
Total (9 Events)			1:53	

CONDITION OF CERTIFICATION
AQ-19

Verification AQ-19d

Average Plant Operation Schedule

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

Russell City Energy Center
01-AFC-7C Condition Verification 19d
Quarterly Compliance Report – 2019 Q2

Average Plant Operation Schedule

	Hours per day	Days per week	Weeks per year
Turbine 1	5.8	2.6	36
Turbine 2	5.8	2.7	39

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 6
July 1, 2018 – June 30, 2019

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

April - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	1.46	0.00537	8.98	125.0	1.22	0.00274	2.25	1225.1
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
11	1.44	0.00528	8.56	139.0	1.10	0.00246	3.03	1278.3
12	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
13	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
19	1.48	0.00545	9.27	215.2	1.76	0.00394	5.5	1409.9
20	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				479				3913

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

May - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
11	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
12	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
13	1.40	0.00515	8.47	191.2	1.26	0.00283	4.01	1585.7
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
19	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
20	1.26	0.00462	6.81	153.8	0.92	0.00206	2.97	1593.0
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	1.49	0.00549	9.85	202.5	1.07	0.00239	2.98	1457.4
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
31	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				548				4636

	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

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -1 Monthly Continuous Emission Monitoring Report

June - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	1.52	0.00558	10.71	155.5	0.30	0.00068	0.28	1086.2
11	1.50	0.0055	10.56	127.9	0.15	0.00035	0.51	243.7
12	1.50	0.00553	11.43	137.0	0.09	0.00019	0.32	37.9
13	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	1.62	0.00596	10.82	205.6	1.51	0.00338	4.66	1337.1
19	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
20	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				626				2705

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

April - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	1.54	0.00566	10.8	186.0	1.57	0.00352	5.22	1594.5
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
11	1.56	0.00572	10.42	194.8	1.71	0.00382	5.48	1561.4
12	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
13	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
19	1.49	0.00549	7.87	118.8	1.41	0.00315	4.51	1236.2
20	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				500				4392

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

May - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
11	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
12	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
13	0.00	0	0	140.8	0.00	0	0	1374.2
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
19	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
20	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	1.54	0.00566	10.09	143.3	1.30	0.00292	4.09	1166.1
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
31	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				284				2540

	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

* Max. 1-hr values exclude startup and shutdown

Russell City

Hayward, CA

Turbine -2 Monthly Continuous Emission Monitoring Report

June - 2019

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	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
02	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
03	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
07	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
08	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
09	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
10	1.65	0.00608	11.71	220.8	1.00	0.00224	2.03	1390.8
11	1.62	0.00595	11.57	175.1	0.93	0.00208	3.16	115.7
12	1.56	0.00573	11.64	163.0	0.56	0.00126	2.06	92.6
13	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
14	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
15	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
16	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
17	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
18	1.58	0.0058	8.23	122.9	1.24	0.00277	3.91	1159.0
19	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
20	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
21	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
22	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
23	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
24	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
25	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
26	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
27	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
28	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
29	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
30	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Mon Total				682				2758

* 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 6
July 1, 2018 – June 30, 2019

Russell City Energy Center
01-AFC-7C
2019 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 2019	33391	0.2	2.0	0.0	0.0	0.0	35853	0.3	2.2	0.0	0.0	0.0
May 2019	34875	0.3	2.3	0.0	0.0	0.0	10090	0.1	1.3	0.0	0.0	0.0
June 2019	67617	0.3	1.4	0.0	0.0	0.0	77326	0.3	1.4	0.0	0.0	0.0
Quarterly Total	135881	0.8	5.6	0.1	0.0	0.0	123269	0.7	4.8	0.1	0.0	0.0

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
April - 2019

	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)
04/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/08/2019	8.98	125.0	2.25	1225.1	2.35	8.0	0.33	1.1500	1.12	3.8	10.8	186.0	5.22	1594.5	1.95	15.0	0.12	0.9000	0.86	6.6
04/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/11/2019	8.56	139.0	3.03	1278.3	2.15	13.4	0.3	1.9000	1.02	6.4	10.42	194.8	5.48	1561.4	1.93	15.5	0.12	0.9300	0.85	6.8
04/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/19/2019	9.27	215.2	5.5	1409.9	2.21	18.6	0.31	2.6300	1.05	8.8	7.87	118.8	4.51	1236.2	1.45	5.4	0.09	0.3400	0.64	2.4
04/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
04/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Monthly Total		479		3913		40		5.6800		19		500		4392		36		2.1700		16
Year-to-Month Tot.		6766		19133		1127		159.7000		535		7329		24991		973		58.4200		429

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
May - 2019

	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)
05/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/11/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/13/2019	8.47	191.2	4.01	1585.7	1.98	16.4	0.28	2.3400	0.94	7.8	0	140.8	0	1374.2	1.02	2.1	0.06	0.1300	0.45	0.9
05/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/20/2019	6.81	153.8	2.97	1593.0	1.98	7.9	0.28	1.1200	0.94	3.8	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/23/2019	9.85	202.5	2.98	1457.4	2.3	17.5	0.33	2.4700	1.09	8.3	10.09	143.3	4.09	1166.1	1.85	8.0	0.11	0.4700	0.81	3.5
05/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
05/31/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Monthly Total		548		4636		42		5.9300		20		284		2540		10		0.6000		4
Year-to-Month Tot.		7314		23769		1169		165.6300		555		7613		27531		983		59.0200		433

Russell City Energy Center
01-AFC-7C - Condition Verification19f
Quarterly Compliance Report - Q2
June - 2019

	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)
06/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/10/2019	10.71	155.5	0.28	1086.2	2.49	19.4	0.35	2.7600	1.19	9.2	11.71	220.8	2.03	1390.8	2.05	23.1	0.12	1.3700	0.9	10.2
06/11/2019	10.56	127.9	0.51	243.7	2.45	21.5	0.35	3.0500	1.16	10.2	11.57	175.1	3.16	115.7	2.03	25.2	0.12	1.5100	0.89	11.1
06/12/2019	11.43	137.0	0.32	37.9	2.54	22.0	0.36	3.1300	1.21	10.4	11.64	163.0	2.06	92.6	2.12	24.6	0.13	1.4900	0.93	10.8
06/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/18/2019	10.82	205.6	4.66	1337.1	2.41	18.3	0.34	2.5800	1.14	8.7	8.23	122.9	3.91	1159.0	1.67	4.4	0.1	0.2600	0.73	1.9
06/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
06/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**
Monthly Total		626		2705		81		11.5200		39		682		2758		77		4.6300		34
Year-to-Month Tot.		7940		26474		1250		177.1500		594		8295		30289		1060		63.6500		467

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 6
July 1, 2018 – June 30, 2019

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: 4/15/2019 @ 9:35:00 AM by Client

Laboratory No: 1904187-01
Date Received: 04/16/19
Date Analyzed: 04/16/19
Date Completed: 4/23/19 9:43 AM

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

Constituent:	Result	Units
Sulfur	0.11	grs S/100 SCF
Total Sulfur	1.82	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-16, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM	GPM Fractions	CHONS%
					Carbon, C
Oxygen	1.823	3.253	(Gallons per		62.38
Nitrogen	7.953	12.425	1000.000		
Hydrogen	0.000	0.000	cubic feet)		Hydrogen, H
Carbon Dioxide	0.855	2.097			20.42
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	86.730	77.597			4.78
Ethane	2.430	4.074			
Propane	0.172	0.422	0.047	(C3....C3) = 0.047	Nitrogen, N
IsoButane	0.014	0.045	0.005		12.43
n-Butane	0.016	0.052	0.005	(C3....C4) = 0.057	
IsoPentane	0.005	0.019	0.002		Sulfur, S
n-Pentane	0.003	0.013	0.001	(C3....C5) = 0.060	0.00
Hexanes +	0.000	0.002	0.000	(C3....C6+) = 0.060	
Totals:	100.00	100.00	0.060	0.223	100.00

Flammable Gases:	89.369		
Gas Properties calculated @ STP: degrees F.	60		
Measurement Base Pressure @ STP: psia	14.696	**H/C Ratio:** 0.33	

Gas State	Dry Btu / Cu. Ft	Btu / lb	Wet Btu / Cu. Ft
Gross, Ideal Gas	924.59	19567.76	908.51
Net, Ideal Gas	833.23	17633.94	818.73
Gross, Real Gas	**926.35**		910.24
Net, Real Gas	834.82		820.29

Relative Gas Density; [Air=1] Ideal:	0.6191	"F" Factor, DSCF/MMBtu @ 60F	8523	9457.2
Specific Gravity, [Air=1] Real gas:	0.6199	"F" Factor, DSCF/MMBtu @ 68F	8652	9601.2
Real Gas Density, Lb/Cu.Ft.:	0.0473	"F" Factor, DSCF/MMBtu @ 70F	8685	9637.7
Specific Volume, Cu.Ft./Lb:	21.1231	"FC" Factor, DSCF CO2/MMBtu @ 60F	1007.9	1118.4
Relative Liquid Density @ 60F/60F:	0.3426	"FC" Factor, DSCF CO2/MMBtu @ 68F	1023.2	1135.5
Compressibility, 'z':	0.9981			
Fuel kg per kg-mole Molecular wt avg	17.931			

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: 5/13/2019 @ 9:49:00 AM by Client

Laboratory No: 1905100-01
Date Received: 05/14/19
Date Analyzed: 05/14/19
Date Completed: 5/21/19 2:09 PM

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

Constituent:	Result	Units
Sulfur	0.16	grs S/100 SCF
Total Sulfur	2.63	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-16, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM	GPM Fractions	CHONS%
					Carbon, C
Oxygen	1.787	3.161	(Gallons per		63.93
Nitrogen	6.971	10.797	1000.000		
Hydrogen	0.000	0.000	cubic feet)		Hydrogen, H
Carbon Dioxide	0.786	1.913			20.72
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	86.029	76.303			4.55
Ethane	3.916	6.511			
Propane	0.433	1.055	0.119	(C3....C3) = 0.119	Nitrogen, N
IsoButane	0.030	0.095	0.010		10.80
n-Butane	0.036	0.117	0.011	(C3....C4) = 0.140	
IsoPentane	0.007	0.027	0.003		Sulfur, S
n-Pentane	0.005	0.019	0.002	(C3....C5) = 0.144	0.00
Hexanes +	0.000	0.002	0.000	(C3....C6+) = 0.144	
Totals:	100.00	100.00	0.144	0.548	100.00

Flammable Gases:	90.455		
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	951.71	19967.25	935.15
Net, Ideal Gas	858.18	18004.76	843.25
Gross, Real Gas	**953.62**		937.03
Net, Real Gas	859.91		844.95

Relative Gas Density; [Air=1] Ideal:	0.6245		"F" Factor, DSCF/MMBtu @ 60F	8517	9445.8
Specific Gravity, [Air=1] Real gas:	0.6254		"F" Factor, DSCF/MMBtu @ 68F	8647	9589.7
Real Gas Density, Lb/Cu.Ft.:	0.0478		"F" Factor, DSCF/MMBtu @ 70F	8680	9626.1
Specific Volume, Cu.Ft./Lb:	20.9380		"FC" Factor, DSCF CO2/MMBtu @ 60F	1012.3	1122.6
Relative Liquid Density @ 60F/60F:	0.3406		"FC" Factor, DSCF CO2/MMBtu @ 68F	1027.7	1139.7
Compressibility, 'z':	0.9980				
Fuel kg per kg-mole Molecular wt avg	18.087				

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: 6/11/2019 @ 8:55:00 AM by Client

Laboratory No: 1906136-01
Date Received: 06/13/19
Date Analyzed: 06/14/19
Date Completed: 6/20/19 12:36 PM

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

Constituent:	Result	Units
Sulfur	<0.06	grs S/100 SCF
Total Sulfur	<1.0	ppmv

Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-16, ASTM D-3246-11

Constituent:	Mole %	Weight %	GPM (Gallons per 1000.000 cubic feet)	GPM Fractions	CHONS%
					Carbon, C
Oxygen	2.387	4.208			60.34
Nitrogen	9.298	14.346			
Hydrogen	0.000	0.000			Hydrogen, H
Carbon Dioxide	0.760	1.842			19.76
Carbon Monoxide	0.000	0.000			
Hydrogen Sulfide	0.000	0.000			Oxygen, O
Methane	84.849	74.972			5.55
Ethane	2.547	4.218			
Propane	0.127	0.308	0.035	(C3....C3) = 0.035	Nitrogen, N
IsoButane	0.012	0.037	0.004		14.35
n-Butane	0.014	0.044	0.004	(C3....C4) = 0.043	
IsoPentane	0.004	0.015	0.001		Sulfur, S
n-Pentane	0.003	0.010	0.001	(C3....C5) = 0.045	0.00
Hexanes +	0.000	0.000	0.000	(C3....C6+) = 0.045	
Totals:	100.00	100.00	0.045	0.169	100.00

Flammable Gases: 87.555
Gas Properties calculated @ STP: degrees F. 60
Measurement Base Pressure @ STP: psia 14.696 **H/C Ratio:** 0.33

Gas State	Dry Btu / Cu. Ft	Btu / lb	Wet Btu / Cu. Ft
Gross, Ideal Gas	906.32	18942.86	890.55
Net, Ideal Gas	816.78	17071.15	802.57
Gross, Real Gas	**908.01**		892.21
Net, Real Gas	818.30		804.06

Relative Gas Density; [Air=1] Ideal:	0.6269		"F" Factor, DSCF/MMBtu @ 60F	8513	9446.8
Specific Gravity, [Air=1] Real gas:	0.6277		"F" Factor, DSCF/MMBtu @ 68F	8643	9590.7
Real Gas Density, Lb/Cu.Ft.:	0.0479		"F" Factor, DSCF/MMBtu @ 70F	8676	9627.1
Specific Volume, Cu.Ft./Lb:	20.8617		"FC" Factor, DSCF CO2/MMBtu @ 60F	1007.2	1117.6
Relative Liquid Density @ 60F/60F:	0.3494		"FC" Factor, DSCF CO2/MMBtu @ 68F	1022.5	1134.7
Compressibility, 'z':	0.9981				
Fuel kg per kg-mole Molecular wt avg	18.156				

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 6
July 1, 2018 – June 30, 2019

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 4/1/2019 thru 6/30/2019

Parameter	Start	End	Duration	Value	Min	Max	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 4/1/2019 thru 6/30/2019

Parameter	Start	End	Duration	Value	Min	Max	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 6
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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 6
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Month	Turbine 1 SAM Emissions lbs 12-Month Rolling	Turbine 2 SAM Emissions lbs 12-Month Rolling	Facility SAM Emissions lbs 12-Month Rolling
Jul 2018	1132.56	1529.75	2662.31
Aug 2018	1193.99	1651.36	2845.35
Sep 2018	1053.89	1466.75	2520.64
Oct 2018	1114.27	1601.87	2716.14
Nov 2018	1147.60	1689.63	2837.23
Dec 2018	1150.71	1781.59	2932.30
Jan 2019	1143.05	1793.73	2936.78
Feb 2019	1305.04	2069.38	3374.42
Mar 2019	1237.51	2033.70	3271.21
Apr 2019	1196.79	1953.57	3150.36
May 2019	1187.15	1939.58	3126.73
Jun 2019	1134.85	1897.15	3032.00

CONDITION OF CERTIFICATION
AQ-25 and AQ-28

Annual Toxic Air Contaminant Emissions

Russell City Energy Center
Annual Compliance Report – Year 6
July 1, 2018 – June 30, 2019

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 6
July 1, 2018 – June 30, 2019

Russell City

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Quarterly Compliance Report

2019 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)
04/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	210	2024	928
04/08/2019	1.1500	8.0	3.8	0.9000	15.0	6.6	2.0	23.0	10.4	212	2047	939
04/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	212	2047	939
04/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	212	2047	939
04/11/2019	1.9000	13.4	6.4	0.9300	15.5	6.8	2.8	28.9	13.2	215	2076	952
04/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	215	2076	952
04/19/2019	2.6300	18.6	8.8	0.3400	5.4	2.4	3.0	24.0	11.2	218	2100	963
04/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
04/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963

Russell City
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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)
04/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/10/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/11/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/12/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	218	2100	963
05/13/2019	2.3400	16.4	7.8	0.1300	2.1	0.9	2.5	18.6	8.8	220	2118	972
05/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/18/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	220	2118	972
05/20/2019	1.1200	7.9	3.8	**Down**	**Down**	**Down**	1.1	7.9	3.8	221	2126	976
05/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	221	2126	976
05/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	221	2126	976
05/23/2019	2.4700	17.5	8.3	0.4700	8.0	3.5	2.9	25.5	11.8	224	2152	987
05/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987

Russell City

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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)
05/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
05/31/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/01/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/02/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/03/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/04/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/05/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/06/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/07/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/08/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/09/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	224	2152	987
06/10/2019	2.7600	19.4	9.2	1.3700	23.1	10.2	4.1	42.6	19.4	228	2194	1007
06/11/2019	3.0500	21.5	10.2	1.5100	25.2	11.1	4.6	46.7	21.3	233	2241	1028
06/12/2019	3.1300	22.0	10.4	1.4900	24.6	10.8	4.6	46.6	21.2	238	2288	1049
06/13/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	238	2288	1049
06/14/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	238	2288	1049
06/15/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	238	2288	1049
06/16/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	238	2288	1049
06/17/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	238	2288	1049
06/18/2019	2.5800	18.3	8.7	0.2600	4.4	1.9	2.8	22.7	10.6	240	2310	1060
06/19/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/20/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/21/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/22/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/23/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/24/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/25/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/26/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060

Russell City

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

Quarterly Compliance Report

2019 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)
06/27/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/28/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/29/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060
06/30/2019	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	**Down**	240	2310	1060