

# Russell City Energy Company, LLC

717 Texas Avenue  
Suite 1000  
Houston, TX 77002

January 27, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105-2097  
Attn: Title V Reports

TV Tracking #: 128

1.  RECEIVED IN ENFORCEMENT: 01/27/2021

Re: Russell City Energy Company, LLC  
Title V CEMS Semi-Annual Monitoring Report  
Facility No. B8136  
Reporting Period: July 1, 2020 – December 31, 2020

To Whom It May Concern:

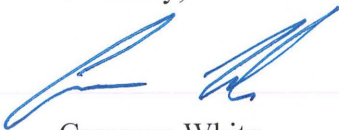
Enclosed is the Title V CEMS Semi-Annual Compliance Monitoring Report for the Russell City Energy Center (RCEC).

RCEC is currently in compliance with the District CEMS regulations. RCEC maintained compliance with the monitoring requirements listed in the Title V permit for RCEC during this reporting period with the exception of one Excess Emissions Event. Details are included in Appendix A.

Based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

If you have any questions or require additional information, please contact Carl Herman, EHS Specialist, at (989) 859-8289.

Sincerely,



Cameron White  
Plant Manager and  
Designated Representative/ Responsible Official  
Russell City Energy Company, LLC

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**Table VII – A**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-1, S-3 GAS TURBINE**  
**S-2, S-4 HEAT RECOVERY STEAM GENERATOR**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO <sub>x</sub>	BAAQMD 9-3-303	N		125 ppm	BAAQMD 1-520.1	C	CEM	X	
NO <sub>x</sub>	BAAQMD 9-9-301.1.3	Y		9 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD 9-9-501	C	CEM	X	
NO <sub>x</sub>	BAAQMD 9-9-301.2	N		0.15 lb/MW-hr or 5 ppmv	BAAQMD 9-9-501	C	CEM	X	
NO <sub>x</sub>	SIP 9-9-301.3	Y		9 ppmv @ 15% O <sub>2</sub> , dry	BAAQMD 9-9-501	C	CEM	X	
NO <sub>x</sub>	40 CFR 60 Subpart KKKK 60.4320(a) Table 1	Y		15 ppm at 15% O <sub>2</sub> or 0.43 lb/MW-hr	40 CFR 60 Subpart KKKK 60.4340(b)(1)	C	CEM	X	
NO <sub>x</sub>		Y		None	40 CFR 75.10	C	CEM	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM		X <sup>1</sup>
NO <sub>x</sub>	BAAQMD condition #23763, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM		X <sup>1</sup>
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19a	Y		16.5 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM		X <sup>1</sup>
NO <sub>x</sub>	BAAQMD condition #23763, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM		X <sup>1</sup>

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19a	Y		0.00735 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 19b	Y		2.0 ppmv, @ 15% O <sub>2</sub> , dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM		X <sup>1</sup>
NO <sub>x</sub>	BAAQMD condition #23763, part 19b	Y		2.0 ppmv, @ 15% O <sub>2</sub> , dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19b	Y		2.0 ppmv, @ 15% O <sub>2</sub> , dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM		X <sup>1</sup>

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 19b	Y		2.0 ppmv, @ 15% O <sub>2</sub> , dry, for each turbine and HRSG combined, 1-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 20	Y		95 lb/turbine during hot start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 20	Y		95 lb/turbine during hot start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 20	Y		40 lb/turbine during shutdown	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 20	Y		40 lb/turbine during shutdown	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 20	Y		480 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 20	Y		480 lb/turbine during cold start-up or combustor tuning operation	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 20	Y		125 lb/turbine during warm start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	

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								Yes	No
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 20	Y		125 lb/turbine during warm start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 22a	Y		1,453 lb/day for turbines, HRSGs, and fire pump diesel engine, combined, including turbine startup, shutdown, and combustor tuning	BAAQMD condition #23763, part 26	C	CEM	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 22a	Y		1,453 lb/day for turbines, HRSGs, and fire pump diesel engine, combined, including turbine startup, shutdown, and combustor tuning	Federal PSD Permit condition #26117, part 26	C	CEM	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 22b	Y		1225 lb/day for turbines, HRSGs, and fire pump diesel engine, combined during ozone season from June 1 through September 30	BAAQMD condition #23763, part 26	C	CEM	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 23a	Y		127 ton/yr for turbines, HRSGs, and fire pump diesel engine, combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 26	C	CEM	X	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 23a	Y		127 ton/yr for turbines, HRSGs, and fire pump diesel engine, combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 26	C	CEM	X	
NO <sub>x</sub>	BAAQMD condition #23763, part 51a	Y		4,800 lbs. from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	CEM, records, calculations	NA	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 63a			4,800 lbs. from commissioning activities for black start capability	Federal PSD Permit condition #26117, part 64	P/E	CEM, records, calculations	NA	

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								Yes	No
NO <sub>x</sub>	BAAQMD condition #23763, part 53a			5,760 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 26	P/E	CEM, records, calculations	NA	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 65a			5,760 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	Federal PSD Permit condition #26117, part 26	P/E	CEM, records, calculations	NA	
NO <sub>x</sub>	BAAQMD condition #23763, part 54a			11,520 lbs. for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 26	P/E	CEM, records, calculations	NA	
NO <sub>x</sub>	Federal PSD Permit condition #26117, part 66a			11,520 lbs. for both turbines combined during a black start emergency event	Federal PSD Permit condition #26117, part 26	P/E	CEM, records, calculations	NA	
CO	BAAQMD condition #23763, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM		X <sup>1</sup>
CO	BAAQMD condition #23763, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum and minimum load	X	

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								Yes	No
CO	Federal PSD Permit condition #26117, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM		X <sup>1</sup>
CO	Federal PSD Permit condition #26117, part 19c	Y		10 lb/hr, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load	X	
CO	BAAQMD condition #23763, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM	X	
CO	BAAQMD condition #23763, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum and minimum load	X	
CO	Federal PSD Permit condition #26117, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM	X	



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								Yes	No
CO	Federal PSD Permit condition #26117, part 19c	Y		0.0045 lb/MM BTU, for each turbine and HRSG combined, except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load	X	
CO	BAAQMD condition #23763, part 19d	Y		2.0 ppmv, dry, @ 15% O <sub>2</sub> , for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 26b	C	CEM		X <sup>1</sup>
CO	BAAQMD condition #23763, part 19d	Y		2.0 ppmv, dry, @ 15% O <sub>2</sub> , for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #13763, part 30	P/A	Source test at maximum and minimum load	X	
CO	Federal PSD Permit condition #26117, part 19d	Y		2.0 ppmv, dry, @ 15% O <sub>2</sub> , for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 26b	C	CEM		X <sup>1</sup>

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								Yes	No
CO	Federal PSD Permit condition #26117, part 19d	Y		2.0 ppmv, dry, @ 15% O <sub>2</sub> , for each turbine and HRSG combined, 3-hr average except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum and minimum load	X	
CO	BAAQMD condition #23763, part 20	Y		891 lb/turbine during hot start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
CO	Federal PSD Permit condition #26117, part 20	Y		891 lb/turbine during hot start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
CO	BAAQMD condition #23763, part 20	Y		2,514 lb/turbine during warm start-up	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
CO	Federal PSD Permit condition #26117, part 20	Y		2,514 lb/turbine during warm start-up	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
CO	BAAQMD condition #23763, part 20	Y		100 lb/turbine during shutdown	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	
CO	Federal PSD Permit condition #26117, part 20	Y		100 lb/turbine during shutdown	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
CO	BAAQMD condition #23763, part 20	Y		2,514 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 26	P/D	Records, calculations	X	

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								Yes	No
CO	Federal PSD Permit condition #26117, part 20	Y		2,514 lb/turbine during cold start-up or combustor tuning operation	Federal PSD Permit condition #26117, part 26	P/D	Records, calculations	X	
CO	BAAQMD condition #23763, part 22c	Y		7,360 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 26b	C	CEM	X	
CO	Federal PSD Permit condition #26117, part 22c	Y		7,360 lb/day for turbines, HRSGs, and fire pump diesel engine combined	Federal PSD Permit condition #26117, part 26b	C	CEM	X	
CO	BAAQMD condition #23763, part 23b	Y		330 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 26b	C	CEM	X	
CO	Federal PSD Permit condition #26117, part 23b	Y		330 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 26b	C	CEM	X	
CO	BAAQMD condition #23763, part 51b	Y		114,000 lbs. from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	CEM, records, calculations	NA	
CO	Federal PSD Permit condition #26117, part 63b	Y		114,000 lbs. from commissioning activities for black start capability	Federal PSD Permit condition #26117, part 64	P/E	CEM, records, calculations	NA	
CO	BAAQMD condition #23763, part 53b	Y		131,100 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 26	P/E	CEM, records, calculations	NA	

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								Yes	No
CO	Federal PSD Permit condition #26117, part 65b	Y		131,100 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	Federal PSD Permit condition #26117, part 26	P/E	CEM, records, calculations	NA	
CO	BAAQMD condition #23763, part 54b	Y		137,100 lbs. for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 26	P/E	CEM, records, calculations	NA	
CO	Federal PSD Permit condition #26117, part 66b	Y		137,100 lbs. for both turbines combined during a black start emergency event	Federal PSD Permit condition #26117, part 26	P/E	CEM, records, calculations	NA	
CO <sub>2</sub>		Y		None	40 CFR 75.10	C	fuel flow monitor and CO <sub>2</sub> calculation	X	
SO <sub>2</sub>	BAAQMD 9-1-301	Y		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
SO <sub>2</sub>	BAAQMD 9-1-302	Y		300 ppm (dry)		N		X	
SO <sub>2</sub>	40 CFR 60 Subpart KKKK 60.443(a)(2)	Y		0.060 lb/MMBtu	40 CFR 60 Subpart KKKK 60.4365(a)	P	Natural gas sulfur content certification	X	
SO <sub>2</sub>		Y		None	40 CFR 75.11, 40 CFR 75, Appendix D, part 2.3		Fuel measurements, calculations	X	
SO <sub>2</sub>	BAAQMD condition #23763, part 19g	Y		6.21 lb/hr, for turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	
SO <sub>2</sub>	BAAQMD condition #23763, part 19g	Y		0.00128 lb/MM BTU, for turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	

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								Yes	No
SO <sub>2</sub>	BAAQMD condition #23763, part 22f	Y		292 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
SO <sub>2</sub>	BAAQMD condition #23763, part 23e	Y		12.2 ton/yr for turbines, HRSGs, and diesel fire pump combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
SO <sub>2</sub>	BAAQMD condition #23763, part 51e	Y		124 lbs. from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	Records, calculations	NA	
SO <sub>2</sub>	BAAQMD condition #23763, part 53e	Y		292 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 27	P/E	Records, calculations	NA	
SO <sub>2</sub>	BAAQMD condition #23763, part 54e	Y		298 lbs. for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 27	P/E	Records, calculations	NA	
Opacity	BAAQMD 6-1-301	N		≥ Ringelmann No. 1 for no more than 3 minutes in any hour		N		X	
Opacity	SIP 6-301	Y		≥ Ringelmann No. 1 for no more than 3 minutes in any hour		N		X	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N		X	
FP	SIP 6-310	Y		0.15 grain/dscf		N		X	
FP	BAAQMD 6-1-310.3	N		0.15 grain/dscf @ 6% O <sub>2</sub>		N		X	
	SIP 6-310.3	Y		0.15 grain/dscf @ 6% O <sub>2</sub>		N		X	
PM <sub>10</sub>	BAAQMD condition #23763, part 19h	Y		7.5 lb/hr, for each turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	

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								Yes	No
PM <sub>10</sub>	BAAQMD condition #23763, part 19h	Y		0.0036 lb/MMBTU, for each turbine and HRSG combined	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 19h	Y		7.5 lb/hr, for each turbine and HRSG combined	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load	X	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 19h	Y		0.0036 lb/MMBTU, for each turbine and HRSG combined	Federal PSD Permit condition #26117, part 30	P/A	Source test at maximum load	X	
PM <sub>10</sub>	BAAQMD condition #23763, part 22e	Y		413 lb/day for turbines, HRSGs, and fire pump diesel engine combined	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 22e	Y		413 lb/day for turbines, HRSGs, and fire pump diesel engine combined	Federal PSD Permit condition #26117, part 27	P/D	Records, calculations	X	
PM <sub>10</sub>	BAAQMD condition #23763, part 23d	Y		71.8 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 23d	Y		71.8 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	Federal PSD Permit condition #26117, part 27	P/D	Records, calculations	X	
PM <sub>10</sub>	BAAQMD condition #23763, part 51d	Y		150 lbs. from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	Records, calculations	NA	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 63d	Y		150 lbs. from commissioning activities for black start capability	Federal PSD Permit condition #26117, part 27	P/E	Records, calculations	NA	

**Title V CEMS Semi-Annual Monitoring Report**

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
PM <sub>10</sub>	BAAQMD condition #23763, part 53d	Y		360 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 64	P/E	Records, calculations	NA	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 65d	Y		360 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	Federal PSD Permit condition #26117, part 27	P/E	Records, calculations	NA	
PM <sub>10</sub>	BAAQMD condition #23763, part 54d	Y		360 lbs. for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 27	P/E	Records, calculations	NA	
PM <sub>10</sub>	Federal PSD Permit condition #26117, part 66d	Y		360 lbs. for both turbines combined during a black start emergency event	Federal PSD Permit condition #26117, part 27	P/E	Records, calculations	NA	
POC	BAAQMD condition #23763, part 19f	Y		2.86 lb/hr (as CH <sub>4</sub> ) for each turbine and HRSG combined except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	
POC	BAAQMD condition #23763, part 19f	Y		0.00128 lb/MM BTU (as CH <sub>4</sub> ) for each turbine, and HRSG combined except during turbine startup, shutdown, combustor tuning operation, commissioning activities for black start capability, or black start emergency operations.	BAAQMD condition #23763, part 30	P/A	Source test at maximum load	X	

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
POC	BAAQMD condition #23763, part 20	Y		35.3 lb/turbine during hot start-up	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 20	Y		79 lb/turbine during warm start-up	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 20	Y		16 lb/turbine during shutdown	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 20	Y		83 lb/turbine during cold start-up or combustor tuning operation	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 22d	Y		295 lb/day (as CH4) for turbines and HRSGs combined	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 23c	Y		28.5 ton/yr for turbines, HRSGs, and fire pump diesel engine combined (includes emissions from commissioning period)	BAAQMD condition #23763, part 27	P/D	Records, calculations	X	
POC	BAAQMD condition #23763, part 51c	Y		6,080 lbs/ from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	Records, calculations	NA	
POC	BAAQMD condition #23763, part 53c	Y		7,300 lb/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 27	P/E	Records, calculations	NA	
POC	BAAQMD condition #23763, part 54c	Y		14,600 lbs. for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 27	P/E	Records, calculations	NA	



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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NH <sub>3</sub>	BAAQMD condition #23763, Part 19e	N		5 ppmv, dry, @ 15% O <sub>2</sub> , averaged over 3 hrs for each turbine and HRSG combined except during turbine startup or shutdown	BAAQMD condition #23763, part 26c, part 29	C	Ammonia injection rate monitor, calculations, and annual source test	X	
Formaldehyde	BAAQMD condition #23763, part 25	N		10,912 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations	X	
Formaldehyde	BAAQMD condition #23763, part 25	N		10,912 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test	X	
Benzene	BAAQMD condition #23763, part 25	N		226 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations	X	
Benzene	BAAQMD condition #23763, part 25	N		226 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test	X	
Specified PAHs	BAAQMD condition #23763, part 25	N		1.8 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 28	P/D	Records, calculations	X	
Specified PAHs	BAAQMD condition #23763, part 25	N		1.8 lb/yr for turbines and HRSGs combined	BAAQMD condition #23763, part 32	P/every two years on P-1 or P-2	Source test	X	
Heat Input limit	BAAQMD condition #23763, part 13	Y		2,238.6 MM BTU/hour, 3-hr average for each Turbine and HRSG, total	BAAQMD condition #23763, part 26a	C	Fuel meter, calculations	X	
Heat Input limit	Federal PSD Permit condition #26117, part 13	Y		2,238.6 MM BTU/hour, 3-hr average for each Turbine and HRSG, total	Federal PSD Permit condition #26117, part 26a	C	Fuel meter, calculations	X	

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Heat Input Limit	BAAQMD condition #23763, part 14	Y		53,726 MM BTU/calendar day, for each Turbine and HRSG, total	BAAQMD condition #23763, part 26a	C	fuel meter, calculations	X	
Heat Input Limit	Federal PSD Permit condition #26117, part 14	Y		53,726 MM BTU/calendar day, for each Turbine and HRSG, total	Federal PSD Permit condition #26117, part 26a	C	fuel meter, calculations	X	
Heat Input Limit	BAAQMD condition #23763, part 15	Y		35,708,858 MM BTU/year for S-1 & S-3 Turbines and S-2 & S-4 HRSGs combined	BAAQMD condition #23763, part 26a	C	fuel meter, calculations	X	
Heat Input Limit	Federal PSD Permit condition #26117, part 15	Y		35,708,858 MM BTU/year for S-1 & S-3 Turbines and S-2 & S-4 HRSGs combined	Federal PSD Permit condition #26117, part 26a	C	fuel meter, calculations	X	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 50	Y		242 metric tons per hour for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 15	P/M	Fuel meter, calculations	X	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 51	Y		5,802 metric tons per day for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 54	P/M	Fuel meter, calculations	X	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 52	Y		1,928,182 metric tons per year for gas turbines and HRSGs, combined	Federal PSD Permit condition #26117, part 54	P/M	Fuel meter, calculations	X	
CO <sub>2</sub> E	BAAQMD condition #23763, part 51f	Y		3,298,700 lbs. CO <sub>2</sub> E from commissioning activities for black start capability	BAAQMD condition #23763, part 52	P/E	Records, calculations	NA	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 63f	Y		3,298,700 lbs. CO <sub>2</sub> E from commissioning activities for black start capability	Federal PSD Permit condition #26117, part 64	P/E	Records, calculations	NA	

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
CO <sub>2</sub> E	BAAQMD condition #23763, part 53f	Y		12,786,900 lb CO <sub>2</sub> E/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	BAAQMD condition #23763, part 26	P/E	Records, calculations	NA	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 65f	Y		12,786,900 lb CO <sub>2</sub> E/day for both turbines combined when commissioning activities for black start capability or black start emergency operations occur	Federal PSD Permit condition #26117, part 54	P/E	Records, calculations	NA	
CO <sub>2</sub> E	BAAQMD condition #23763, part 54f	Y		11,644,500 lbs. CO <sub>2</sub> E for both turbines combined during a black start emergency event	BAAQMD condition #23763, part 26	P/E	Records, calculations	NA	
CO <sub>2</sub> E	Federal PSD Permit condition #26117, part 66f	Y		11,644,500 lbs. CO <sub>2</sub> E for both turbines combined during a black start emergency event	Federal PSD Permit condition #26117, part 54	P/E	Records, calculations	NA	
Heat Rate Limit	Federal PSD Permit condition #26117, part 53	Y		7,730 BTU/KW-hr for each gas turbine	Federal PSD Permit condition #26117, part 55	P/A	Source Test	X	
Commissioning Activities for Black Start Capability	BAAQMD condition #23763, part 50	Y		20 hours for both gas turbines combined.	BAAQMD condition #23763, part 52	P/E	Records, calculations	NA	
Commissioning Activities for Black Start Capability	Federal PSD Permit condition #26117, part 62	Y		20 hours for both gas turbines combined.	Federal PSD Permit condition #26117, part 64	P/E	Records, calculations	NA	

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**Table VII – B  
 Applicable Limits and Compliance Monitoring Requirements  
 S-5, COOLING TOWER**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Opacity	BAAQMD 6-1-303.1	N		≥ Ringelmann No. 2 for no more than 3 minutes in any hour		N		X	
Opacity	SIP Regulation 6-303.1	Y		≥ Ringelmann 2.0 for 3 minutes in any hour		N		X	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
Total Dissolved Solids	BAAQMD Condition #23763, part 44	Y		6,200 ppmw (mg/l)	BAAQMD Condition #23763, part 44	P/D	Sample and test cooling tower water	X	
Total Dissolved Solids	Federal PSD Permit Condition #26117, part 44	Y		6,200 ppmw (mg/l)	Federal PSD Permit Condition #26117, part 44	P/D	Sample and test cooling tower water	X	

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**Table VII – C**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-6, FIRE PUMP DIESEL ENGINE**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Opacity	BAAQMD 6-1-303.1	N		≥ Ringelmann No. 2 for no more than 3 minutes in any hour		N		X	
Opacity	SIP Regulation 6-303.1	Y		≥ Ringelmann 2.0 for 3 minutes in any hour		N		X	
FP	BAAQMD 6-1-310	N		0.15 grain/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
SO <sub>2</sub>	BAAQMD 9-1-301	Y		Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤ 0.05 ppm for 24 hours	None	N	N/A	X	
SO <sub>2</sub>	BAAQMD 9-1-304	Y		Fuel Sulfur Limit 0.5%	BAAQMD Condition # 20498, Parts 5 and 8	P/E	Vendor Certification	X	
Reliability Related Hours	BAAQMD 9-8-330	N		50 hours	9-8-502	P/E	Totalizing meter, Record-keeping	X	
Hours for maintenance and testing	Title 17, California Code of Regulations section 93115.6(a)(4)	N		Not operate more than the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 – “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,” 2002 edition	93115.10(d)	P/E	Totalizing meter. Record-keeping	X	
Reliability-related activities	BAAQMD Condition #23763, part 46	N		50 hours per calendar year	BAAQMD Condition #23763, parts 48, 49	P/E	Totalizing meter, record-keeping	X	

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Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
Reliability-related activities	Federal PSD Permit Condition #26117, part 46	N		50 hours per calendar year	Federal PSD Permit Condition #26117, parts 48, 49	P/E	Totalizing meter, record-keeping	X	
CO <sub>2</sub> E	Federal PSD Permit Condition #26117, part 56	Y		7.6 metric tons per rolling 12-month period	Federal PSD Permit Condition #26117, part 58	P/E	Totalizing meter, record-keeping	X	

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**Table VII – D**  
**Applicable Limits and Compliance Monitoring Requirements**  
**S-7, S-8, S-9, S-10, & S-11 CIRCUIT BREAKERS**

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Y	N
CO <sub>2</sub> E	Federal PSD Permit Condition #26117, part 59	Y		39.3 metric tons per rolling 12- month period from S-7 through S-11, combined	Federal PSD Permit Condition #26117, part 60	P	Record-keeping, calculations	X	

# Attachment A



# Russell City Energy Company, LLC

3862 Depot Road  
Hayward, CA, 94545

November 13<sup>th</sup>, 2020

Director of Compliance and Enforcement Division  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports  
[compliance@BAAQMD.gov](mailto:compliance@BAAQMD.gov)

BAAQMD Compliance and Enforcement Division, MAILSTOP: RCA 30-DAY REPORT  
375 Beale Street, Suite 600  
San Francisco, CA 94105

**Re: Russell City Energy Company, LLC Permit #B8136  
Major Facility Review Permit (Title V Permit)  
30-Day Title V Non-Compliance Report (RCA # 07V97)  
30-Day Breakdown Report (RCA # 07V96)**

In accordance with the Major Facility Review Permit (Title V Permit) for the Russell City Energy Company (the "Facility"), this letter is intended to satisfy the 30-day follow-up reporting requirement as required by Section 1.F of the Title V Permit and the 30-day breakdown report. The Title V Permit non-compliance 10-day notification for this event was submitted to the District on October 23<sup>rd</sup>, 2020.

## Incident

On October 17<sup>th</sup>, 2020 during hours 8 and 9, Unit 2 experienced indicated exceedances of the NO<sub>x</sub> limits stated in Title V Permit Condition #16676 parts 19(a) and 19(b). On October 17<sup>th</sup>, 2020 during hour 9, Unit 2 experienced indicated exceedances of the CO limits stated in Title V Permit Condition #16676 parts 19(c) and 19(d). The Facility submitted a Reportable Compliance Activity (RCA) Form on October 17, 2020 for both excess emissions (RCA #07V97) and breakdown (RCA #07V96) events. A summary of the indicated excess emissions are included Attachment A.

## Investigation

On October 17<sup>th</sup> at 0910 local time, the CEMS indicated a step change in the NO<sub>x</sub> emissions for Unit 2. The indicated value for NO<sub>x</sub> ppm elevated from 1.45 ppm to 12.00 ppm in a single minute, see Attachment B. The Operating Technician noted that process variables correlated with NO<sub>x</sub> such as fuel flow and ammonia injection rate had not changed in a manner that would cause the step change in NO<sub>x</sub> during the corresponding time, see attachment C. The Operator also noted that High Vacuum and Low Stack Sample Flow alarms were active, indicating the sample line was plugged. The Operating Technician then placed the control system in a manual

orientation that would ensure emissions limits would not be exceeded while work was performed to repair the sample line.

At 1012 local time, the plant Maintenance Technician placed Unit #2 CEMS in maintenance to begin diagnosing and repairing the CEMS. The sample conditioning system, specifically the cooling system used to reduce moisture in the sample line, had frozen, resulting in a failure of the system to operate as expected. The Maintenance Technicians thawed the system and returned the system to normal operations at 1334 local time.

During the period between 910 local time and 1334 local time, the emissions reported by the CEMS were not representative of actual emissions. The facility is confident that the actual emissions during this time were in compliance with permit limits. CO emissions do not fluctuate during normal operation periods while operating at steady load. NO<sub>x</sub> emissions are closely correlated to the heat input and ammonia injection rate to the SCR, respectively. Attachment C, Hourly Operations Report, shows that during the period between the 0810-1234 CEMS time, process conditions were relatively steady and there is no reason to believe that CO or NO<sub>x</sub> emissions were out of compliance.

#### Probable Cause

Maintenance Technicians identified that the temperature switch used to maintain the CEMS sample line chiller bath temperature had failed. The failure caused the moisture in the sample line to freeze. This ice buildup prevented stack gas from reaching the analyzers. The gas that the analyzers were measuring during this time were not representative of actual emissions and resulted in the CEMS recording the indicated excess. .

#### Corrective Actions

The Facility is in the process of implementing the following corrective actions:

- Technicians will repair the switch that failed resulting in the low sample chiller bath temperature.

An alarm will be put in place indicating low sample bath temperature that will allow technicians to respond quickly to prevent the sample line from freezing.

If you have any questions or require additional information, please contact Carl Herman at (989) 859-8289.

*As a Responsible Official, I certify that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.*

Sincerely,



Cameron White  
Plant Manager and  
Designated Representative/ Responsible Official  
Russell City Energy Company, LLC

# Attachment A

## Russell City Hayward, CA Turbine-2 Daily Compliance Report October 17, 2020

NOx ppmc - 2 * NOx lb/mmBtu - 0.00735 * NOx lb/hr - 16.5 * SOx lb/hr - 6.21	<b>1-Hr Emission Limits</b> CO ppmc - 2 * CO lb/mmBtu - 0.0045 * CO lb/hr - 10 * PM lb/hr - 7.5	POC lb/hr - 2.86 CT HI mmBtu/hr - 2038.6 DB HI mmBtu/hr - 200 Total HI mmBtu/hr - 2238.6	<b>3-Hr Roll Emission Lmt</b> NH3 Slip ppmc - 5 *	<b>Daily Emission Limits</b> CT HI mmBtu - 48926 DB HI mmBtu - 4800 Total HI mmBtu - 53726	<b>Facility Daily Emission Limits</b> NOx lbs- 1453 POC lbs- 295 SO2 lbs- 292 CO lbs- 7360 PM lbs- 413 NOx lbs (Ozone Season)- 1225
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Hour	NOx ppm @15% O2 *	NOx lb/mmBtu *	NOx lbs *	CO ppm @15% O2 *	CO lb/mmBtu *	CO lbs *	3-Hr Rolling NH3 Slip ppm @15% O2 *	SOx lbs	PM lbs	POC lbs	CT Heat Input mmBtu	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	Process Status
00	1.68	0.00619	12.51	0.01	0.00003	0.05	0.50	1.62	2.22	0.1400	1868.1	154.9	2019.9	Normal
01	1.70	0.00625	12.58	0.00	0.00001	0.01	0.50	1.61	2.21	0.1400	1842.9	168.9	2011.8	Normal
02	1.75	0.00642	10.72	0.27	0.00060	0.99	0.50	1.33	1.83	0.1200	1649.4	154.8	1668.0	Normal
03	1.70	0.00626	9.10	0.66	0.00147	2.13	1.13	1.16	1.60	0.1000	1455.7	<b>Down</b>	1455.7	Normal
04	1.62	0.00595	11.31	0.07	0.00016	0.31	1.53	1.52	2.10	0.1300	1905.1	<b>Down</b>	1905.1	Normal
05	1.80	0.00662	10.81	0.42	0.00093	1.51	1.73	1.31	1.80	0.1100	1635.0	<b>Down</b>	1635.0	Normal
06	1.49	0.00546	10.96	0.06	0.00013	0.27	1.20	1.61	2.21	0.1400	1910.0	96.4	2006.4	Normal
07	1.63	0.00600	12.01	0.04	0.00009	0.19	0.87	1.60	2.20	0.1400	1899.6	100.7	2000.3	Normal
08	16.44 #	0.06042 #	100.24 #	2.00	0.00448	7.40	1.43	1.34	1.84	0.1200	1670.8	54.1	1676.2	Normal
09	18.46 #	0.06784 #	98.15 #	7.06 #	0.01579 #	22.78 #	2.90	1.16	1.60	0.1000	1450.9	<b>Down</b>	1450.9	Normal
10	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	4.25	1.48	2.04	0.1300	1854.4	<b>Down</b>	1854.4	Normal
11	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	<b>Maint</b>	4.80	1.30	1.79	0.1100	1630.3	<b>Down</b>	1630.3	Normal
12	1.46	0.00535	7.78	0.73	0.00164	2.38	1.90	1.16	1.59	0.1000	1444.7	<b>Down</b>	1444.7	Normal
13	1.70	0.00625	11.26	0.00	0.00001	0.02	1.70	1.44	1.98	0.1300	1800.4	<b>Down</b>	1800.4	Normal
14	1.68	0.00618	9.83	0.26	0.00059	0.93	1.63	1.27	1.75	0.1100	1590.2	<b>Down</b>	1590.2	Normal
15	1.69	0.00621	9.97	0.63	0.00142	2.06	1.47	1.28	1.76	0.1100	1599.7	<b>Down</b>	1599.7	Normal
16	1.46	0.00537	10.84	0.01	0.00002	0.03	1.07	1.62	2.22	0.1400	1871.3	164.2	2019.1	Normal
17	1.60	0.00587	11.89	0.00	0.00001	0.02	0.57	1.62	2.23	0.1400	1832.8	193.9	2026.7	Normal
18	1.72	0.00631	12.76	0.01	0.00002	0.04	0.10	1.62	2.22	0.1400	1829.5	193.0	2022.5	Normal
19	1.66	0.00610	10.51	0.27	0.00061	0.98	0.43	1.38	1.89	0.1200	1718.6	39.2	1719.8	Normal
20	1.47	0.00538	10.87	0.01	0.00001	0.02	0.50	1.61	2.22	0.1400	1872.9	145.3	2018.2	Normal
21	1.69	0.00620	12.47	0.00	0.00001	0.01	0.50	1.61	2.21	0.1400	1865.4	143.1	2008.5	Normal
22	1.63	0.00598	9.99	0.38	0.00085	1.36	0.57	1.34	1.84	0.1200	1673.6	30.7	1674.5	Normal
23	1.81	0.00664	13.24	0.04	0.00010	0.18	0.67	1.59	2.19	0.1400	1890.4	142.0	1992.6	Normal
Facility/Daily Total			685.1			53.7		64.7	116.2	5.6	41761.7	1469.2	43231	
Max Value	18.46	0.06784	100.24	7.06	0.01579	22.78	4.8	1.62	2.23	0.14	1910	193.9	2026.7	

\* - Excluding Startup and Shutdown

# - Indicates Exceedance

\*\* - Heat Input are Unit Daily Totals

\*\*\*\* - Mass Emissions are Facility Daily Totals

# Attachment B

**Russell City**  
Hayward, CA  
**Turbine-2 Hourly Emissions Report**  
October 17, 2020 - Hour 8

Minute	1-Hr Emission Limits						3-Hr Rolling Emission Limits					Process Status
	O2%	NOx ppm @15% O2 - 2 *	NOx ppm @15% O2 - 2 *	NOx lb/mmBtu - 0.00735 *	NOx lb/mmBtu - 0.0045 *	NOx lb/hr - 16.5 *	NOx lb/hr - 16.5 *	CO lb/hr - 10 *	CO lb/hr - 10 *	NH3 Slip ppm @15% O2 - 5 *	SCR NOx ppm	
08:00	13.57	1.76	1.42	0.00521	9.53	0.11	0.09	0.00020	0.37	0.4	30.50	Normal
08:01	13.56	1.78	1.43	0.00526	9.52	0.09	0.07	0.00016	0.29	0.4	30.82	Normal
08:02	13.63	1.85	1.50	0.00552	9.91	0.13	0.11	0.00024	0.43	0.4	30.32	Normal
08:03	13.68	1.88	1.54	0.00565	10.15	0.12	0.10	0.00022	0.39	0.5	29.61	Normal
08:04	13.70	1.89	1.55	0.00569	10.18	0.13	0.11	0.00024	0.43	0.5	28.83	Normal
08:05	13.76	1.90	1.57	0.00577	10.37	0.14	0.12	0.00026	0.47	0.6	27.78	Normal
08:06	13.84	1.88	1.57	0.00578	10.22	0.20	0.17	0.00037	0.65	1.6	24.99	Normal
08:07	13.95	1.82	1.55	0.00568	9.86	0.21	0.18	0.00040	0.69	1.6	24.80	Normal
08:08	13.99	1.75	1.49	0.00549	9.35	0.21	0.18	0.00040	0.68	1.7	24.79	Normal
08:09	14.01	1.69	1.45	0.00532	9.07	0.27	0.23	0.00052	0.89	1.7	24.97	Normal
08:10	14.61	12.79	12.00	0.04410	76.59	0.58	0.54	0.00122	2.12	3.1	25.51	Normal
08:11	15.00	19.89	19.89	0.07311	127.60	1.35	1.35	0.00302	5.27	4.5	25.95	Normal
08:12	15.10	20.51	20.86	0.07669	135.00	1.44	1.46	0.00328	5.77	4.8	25.96	Normal
08:13	15.13	20.85	21.32	0.07837	139.04	1.38	1.41	0.00316	5.61	4.8	25.75	Normal
08:14	15.17	20.79	21.41	0.07869	138.84	1.36	1.40	0.00313	5.52	5.0	25.21	Normal
08:15	15.19	20.27	20.94	0.07699	134.10	1.46	1.51	0.00338	5.89	5.1	24.48	Normal
08:16	15.21	19.86	20.59	0.07570	131.78	1.58	1.64	0.00367	6.39	4.5	24.17	Normal
08:17	15.22	19.61	20.37	0.07488	129.77	1.65	1.71	0.00383	6.64	4.5	24.15	Normal
08:18	15.23	19.44	20.23	0.07436	127.58	1.69	1.76	0.00393	6.74	4.5	24.11	Normal
08:19	15.24	19.20	20.01	0.07357	125.22	1.84	1.92	0.00429	7.30	4.5	24.00	Normal
08:20	15.24	18.99	19.80	0.07277	121.91	2.03	2.12	0.00473	7.92	4.6	23.99	Normal
08:21	15.25	18.92	19.76	0.07263	119.54	2.35	2.45	0.00549	9.04	4.6	24.32	Normal
08:22	15.25	19.15	20.00	0.07351	119.70	2.44	2.55	0.00570	9.28	4.2	26.65	Normal
08:23	15.25	19.58	20.45	0.07516	123.57	2.40	2.51	0.00561	9.22	4.2	27.12	Normal
08:24	15.23	19.92	20.73	0.07620	124.43	2.26	2.35	0.00526	8.59	4.3	27.16	Normal
08:25	15.25	19.96	20.84	0.07662	124.46	2.36	2.46	0.00551	8.95	4.3	27.07	Normal
08:26	15.26	19.76	20.67	0.07599	123.57	2.55	2.67	0.00597	9.71	4.3	26.93	Normal
08:27	15.28	19.60	20.58	0.07564	122.76	2.63	2.76	0.00618	10.03	4.3	26.88	Normal
08:28	15.29	19.45	20.46	0.07519	122.19	2.76	2.90	0.00649	10.55	4.3	26.86	Normal
08:29	15.29	19.31	20.31	0.07465	121.55	2.73	2.87	0.00642	10.45	4.2	26.83	Normal
08:30	15.30	19.24	20.27	0.07451	121.52	2.66	2.80	0.00627	10.23	4.2	26.89	Normal
08:31	15.29	19.16	20.15	0.07407	120.86	2.61	2.74	0.00614	10.02	4.2	26.86	Normal

Minute	O2%	NOx ppm	NOx ppm @ 15% O2	NOx lb/mmBtu	NOx lb/hr	CO ppm	CO ppm @ 15% O2	CO lb/mmBtu	CO lb/hr	NH3 ppm Slip @ 15% O2	SCR NOx ppm	Process Status
08:32	15.30	19.04	20.06	0.07374	120.26	2.57	2.71	0.00606	9.88	4.2	26.79	Normal
08:33	15.29	18.92	19.90	0.07314	119.41	2.56	2.69	0.00602	9.83	4.2	26.70	Normal
08:34	15.28	18.84	19.78	0.07271	118.69	2.55	2.68	0.00599	9.78	4.2	26.63	Normal
08:35	15.27	18.80	19.70	0.07242	118.12	2.53	2.65	0.00593	9.67	4.2	26.56	Normal
08:36	15.27	18.72	19.62	0.07211	117.68	2.56	2.68	0.00600	9.79	4.2	26.49	Normal
08:37	15.27	18.64	19.53	0.07181	117.24	2.54	2.66	0.00596	9.73	4.2	26.39	Normal
08:38	15.25	18.58	19.40	0.07132	116.54	2.55	2.66	0.00596	9.74	4.2	26.36	Normal
08:39	15.25	18.52	19.34	0.07109	116.34	2.50	2.61	0.00584	9.56	4.1	26.35	Normal
08:40	15.25	18.44	19.26	0.07078	115.72	2.45	2.56	0.00572	9.35	4.1	26.32	Normal
08:41	15.25	18.39	19.20	0.07059	115.67	2.45	2.56	0.00572	9.37	4.1	26.31	Normal
08:42	15.26	18.32	19.16	0.07045	116.08	2.44	2.55	0.00571	9.41	4.1	26.31	Normal
08:43	15.25	18.25	19.06	0.07005	116.42	2.33	2.43	0.00544	9.04	4.0	26.29	Normal
08:44	15.24	18.20	18.97	0.06974	116.86	2.29	2.39	0.00534	8.95	4.0	26.22	Normal
08:45	15.24	18.05	18.82	0.06916	114.74	2.17	2.26	0.00506	8.39	4.0	25.95	Normal
08:46	15.25	17.85	18.64	0.06852	113.20	2.22	2.32	0.00519	8.57	4.1	25.64	Normal
08:47	15.25	17.75	18.54	0.06814	111.80	2.32	2.42	0.00542	8.89	4.1	25.53	Normal
08:48	15.23	17.83	18.55	0.06820	112.09	2.32	2.41	0.00540	8.88	4.1	25.71	Normal
08:49	15.25	17.84	18.63	0.06848	111.69	2.37	2.47	0.00554	9.04	4.2	25.68	Normal
08:50	15.25	17.79	18.58	0.06829	111.31	2.55	2.66	0.00596	9.71	4.2	25.58	Normal
08:51	15.25	17.70	18.48	0.06794	110.80	2.66	2.78	0.00622	10.14	4.2	25.52	Normal
08:52	15.24	17.69	18.44	0.06778	110.71	2.67	2.78	0.00623	10.18	4.1	25.58	Normal
08:53	15.23	17.64	18.36	0.06747	110.36	2.63	2.74	0.00612	10.01	4.2	25.55	Normal
08:54	15.23	17.59	18.30	0.06728	110.04	2.59	2.70	0.00603	9.86	4.1	25.51	Normal
08:55	15.23	17.54	18.25	0.06709	109.71	2.52	2.62	0.00587	9.60	4.1	25.54	Normal
08:56	15.24	17.51	18.25	0.06710	109.81	2.54	2.65	0.00592	9.69	4.1	25.55	Normal
08:57	15.24	17.48	18.22	0.06698	109.69	2.54	2.65	0.00592	9.69	4.1	25.53	Normal
08:58	15.25	17.44	18.21	0.06695	108.01	2.59	2.70	0.00605	9.76	4.2	25.44	Normal
08:59	15.28	17.37	18.24	0.06703	105.88	2.88	3.02	0.00677	10.69	4.3	25.37	Normal
Average Total 3-Hr Ring	14.98	15.85	16.44 *	0.06042 *	100.24 *	1.93	2.00 *	0.00448 *	7.40 *	3.7	26.19	Normal
										1.43 *		

\* - Excluding Startup and Shutdown

# Attachment C

## Russell City Hayward, CA Turbine-2 Hourly Operations Report October 17, 2020 - Hour 8

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<b>1-Hr Limits</b>	
CT Heat Input - 2038.6	DB Heat Input - 200
Total Heat Input - 2238.6	

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Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
08:00	73690.1	1739.2	0.086	91.1	1830.3	1059.8	158.5	214.6	226.33	82.3	346.7	248.7	649.0	0.85	Normal
08:01	73452.9	1733.6	0.071	75.2	1808.8	1059.8	158.2	211.9	226.23	83.6	346.7	248.7	648.4	0.84	Normal
08:02	73506.2	1734.9	0.056	59.3	1794.2	1059.8	158.3	209.4	226.05	84.7	346.6	248.7	647.7	0.84	Normal
08:03	74007.4	1746.9	0.046	48.8	1795.7	1059.9	159.5	206.8	226.14	85.7	346.7	248.7	647.0	0.84	Normal
08:04	74527.6	1759.1	0.029	30.7	1789.8	1059.9	161.0	204.6	226.03	86.6	346.7	248.7	646.2	0.84	Normal
08:05	75270.9	1776.7	0.019	20.1	1796.8	1059.9	162.6	202.3	226.32	87.2	346.7	248.7	645.2	0.85	Normal
08:06	74940.5	1768.9	<b>Down</b>	<b>Down</b>	1768.9	1059.9	162.0	200.8	226.31	87.5	346.8	248.8	644.3	0.84	Normal
08:07	73557.9	1736.3	<b>Down</b>	<b>Down</b>	1736.3	1059.9	158.3	198.6	226.58	87.6	346.8	248.8	643.0	0.83	Normal
08:08	72124.0	1702.4	<b>Down</b>	<b>Down</b>	1702.4	1059.9	154.7	195.9	226.10	87.1	346.7	248.7	641.8	0.82	Normal
08:09	72221.2	1704.7	<b>Down</b>	<b>Down</b>	1704.7	1059.9	154.9	192.8	226.29	83.6	346.7	248.7	640.6	0.81	Normal
08:10	73580.8	1736.8	<b>Down</b>	<b>Down</b>	1736.8	1059.9	158.0	190.8	226.86	81.4	346.7	248.7	639.2	0.82	Normal
08:11	73941.3	1745.3	<b>Down</b>	<b>Down</b>	1745.3	1059.9	158.5	189.0	238.43	80.2	346.7	248.6	637.6	0.82	Normal
08:12	74576.7	1760.3	<b>Down</b>	<b>Down</b>	1760.3	1059.9	160.4	187.9	249.70	79.5	346.7	248.6	636.2	0.82	Normal
08:13	75163.9	1774.2	<b>Down</b>	<b>Down</b>	1774.2	1059.9	162.2	186.8	250.46	79.3	346.8	248.6	634.7	0.83	Normal
08:14	74747.4	1764.3	<b>Down</b>	<b>Down</b>	1764.3	1059.9	160.9	186.4	251.81	80.8	346.8	248.7	633.4	0.83	Normal
08:15	73794.5	1741.8	<b>Down</b>	<b>Down</b>	1741.8	1059.9	159.1	185.7	251.79	82.8	346.7	248.7	632.3	0.82	Normal
08:16	73749.9	1740.8	<b>Down</b>	<b>Down</b>	1740.8	1059.9	158.7	185.2	225.41	84.1	346.8	248.6	631.2	0.82	Normal
08:17	73419.5	1733.0	<b>Down</b>	<b>Down</b>	1733.0	1059.9	158.2	184.4	226.52	85.3	346.8	248.7	630.3	0.81	Normal
08:18	72688.0	1715.7	<b>Down</b>	<b>Down</b>	1715.7	1059.9	156.1	184.1	226.25	86.4	346.8	248.7	629.6	0.81	Normal
08:19	72108.0	1702.0	<b>Down</b>	<b>Down</b>	1702.0	1059.9	154.6	183.3	226.55	86.9	346.8	248.7	628.8	0.81	Normal
08:20	70972.7	1675.2	<b>Down</b>	<b>Down</b>	1675.2	1059.9	151.8	182.7	226.63	87.2	346.9	248.6	628.1	0.80	Normal
08:21	69727.9	1645.9	<b>Down</b>	<b>Down</b>	1645.9	1059.9	148.0	181.6	226.83	87.5	346.9	248.7	627.2	0.78	Normal
08:22	68986.6	1628.4	<b>Down</b>	<b>Down</b>	1628.4	1059.9	145.9	180.1	226.55	88.0	346.9	248.7	626.2	0.77	Normal
08:23	69646.2	1644.1	<b>Down</b>	<b>Down</b>	1644.1	1060.0	147.2	178.9	226.97	87.8	346.9	248.7	625.3	0.78	Normal
08:24	69176.4	1633.0	<b>Down</b>	<b>Down</b>	1633.0	1060.0	146.0	178.2	227.27	84.2	346.9	248.7	624.2	0.78	Normal
08:25	68812.6	1624.4	<b>Down</b>	<b>Down</b>	1624.4	1060.0	145.3	177.3	227.21	82.1	346.9	248.7	623.5	0.77	Normal
08:26	68887.8	1626.2	<b>Down</b>	<b>Down</b>	1626.2	1060.0	144.9	176.5	227.15	81.0	346.8	248.7	622.8	0.77	Normal
08:27	68755.6	1622.9	<b>Down</b>	<b>Down</b>	1622.9	1059.9	144.9	175.9	227.72	79.5	346.9	248.7	622.1	0.77	Normal
08:28	68845.3	1625.0	<b>Down</b>	<b>Down</b>	1625.0	1059.9	145.1	175.3	227.53	78.9	346.9	248.7	621.4	0.77	Normal
08:29	68980.4	1628.2	<b>Down</b>	<b>Down</b>	1628.2	1059.9	145.4	174.8	226.63	79.9	346.9	248.7	620.7	0.77	Normal

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
08:30	69094.3	1630.9	Down	Down	1630.9	1059.9	145.6	174.5	227.70	82.2	346.9	248.7	620.1	0.77	Normal
08:31	69124.3	1631.8	Down	Down	1631.8	1060.0	145.8	174.2	226.33	84.2	347.0	248.8	619.5	0.77	Normal
08:32	69086.7	1630.9	Down	Down	1630.9	1060.0	145.8	174.2	226.81	85.4	346.9	248.7	619.0	0.77	Normal
08:33	69160.0	1632.6	Down	Down	1632.6	1060.0	145.9	174.1	227.72	86.5	346.9	248.7	618.5	0.77	Normal
08:34	69151.2	1632.4	Down	Down	1632.4	1060.0	145.9	174.0	226.84	87.0	346.9	248.7	618.0	0.77	Normal
08:35	69093.9	1631.0	Down	Down	1631.0	1060.0	145.8	174.0	227.42	87.4	346.9	248.7	617.7	0.77	Normal
08:36	69133.5	1632.0	Down	Down	1632.0	1060.0	146.0	173.9	226.86	87.8	346.9	248.7	617.6	0.77	Normal
08:37	69161.9	1632.7	Down	Down	1632.7	1060.0	145.9	174.1	227.02	88.0	346.9	248.7	617.5	0.77	Normal
08:38	69221.5	1634.1	Down	Down	1634.1	1060.0	146.0	174.0	226.84	86.5	346.9	248.7	617.3	0.77	Normal
08:39	69305.3	1636.5	Down	Down	1636.5	1060.3	146.1	174.1	226.94	83.5	346.9	248.6	617.1	0.77	Normal
08:40	69229.3	1634.9	Down	Down	1634.9	1060.4	146.0	173.9	227.21	82.1	346.9	248.6	616.6	0.77	Normal
08:41	69389.7	1638.6	Down	Down	1638.6	1060.4	146.5	174.3	226.74	80.8	346.9	248.7	616.0	0.77	Normal
08:42	69772.1	1647.7	Down	Down	1647.7	1060.4	147.5	174.4	226.82	79.8	346.8	248.7	615.8	0.78	Normal
08:43	70388.8	1661.9	Down	Down	1661.9	1060.2	149.2	174.4	226.29	80.1	346.9	248.7	615.6	0.78	Normal
08:44	70971.4	1675.7	Down	Down	1675.7	1060.2	151.0	175.0	226.40	81.8	347.0	248.7	615.6	0.79	Normal
08:45	70267.1	1659.1	Down	Down	1659.1	1060.2	149.2	175.6	226.28	83.7	346.9	248.5	615.8	0.78	Normal
08:46	69972.6	1652.1	Down	Down	1652.1	1060.2	148.0	175.7	226.74	85.2	347.0	248.6	615.8	0.78	Normal
08:47	69500.3	1640.8	Down	Down	1640.8	1060.1	147.1	175.9	226.85	86.0	347.0	248.6	615.8	0.77	Normal
08:48	69619.0	1643.6	Down	Down	1643.6	1060.1	147.0	175.8	226.61	86.8	347.0	248.7	615.8	0.77	Normal
08:49	69083.8	1631.0	Down	Down	1631.0	1060.1	145.8	175.8	226.86	87.3	346.9	248.7	615.7	0.77	Normal
08:50	69043.2	1630.0	Down	Down	1630.0	1060.1	145.6	175.6	227.42	88.1	346.9	248.6	615.8	0.77	Normal
08:51	69071.0	1630.8	Down	Down	1630.8	1060.2	145.7	175.6	227.27	88.5	346.9	248.7	615.8	0.77	Normal
08:52	69177.0	1633.3	Down	Down	1633.3	1060.2	146.0	175.2	227.30	85.4	346.9	248.6	615.9	0.77	Normal
08:53	69280.0	1635.8	Down	Down	1635.8	1060.2	146.1	175.2	227.82	82.6	346.9	248.6	616.0	0.77	Normal
08:54	69274.5	1635.6	Down	Down	1635.6	1060.2	146.2	175.0	227.16	81.2	347.0	248.7	616.0	0.77	Normal
08:55	69254.5	1635.3	Down	Down	1635.3	1060.3	146.3	175.2	226.16	80.7	346.9	248.8	616.0	0.77	Normal
08:56	69303.3	1636.4	Down	Down	1636.4	1060.3	146.3	174.9	225.82	80.6	347.0	248.6	615.9	0.77	Normal
08:57	69352.7	1637.6	Down	Down	1637.6	1060.3	146.2	174.9	226.95	80.5	347.0	248.8	615.8	0.77	Normal
08:58	68321.5	1613.3	Down	Down	1613.3	1060.3	143.5	174.6	226.93	82.1	346.9	248.5	615.8	0.77	Normal
08:59	66895.5	1579.6	Down	Down	1579.6	1060.3	139.0	174.0	226.86	83.9	347.0	248.6	615.5	0.75	Normal
Average	70776.0	1670.8	0.051	54.1	1676.2	1060.0	150.4	182.1	228.56	84.1	346.9	248.7	625.5	0.79	Normal
Total Rate	70776.0	1670.8	0.005	5.4	1676.2				228.6						

**Russell City**  
Hayward, CA  
**Turbine-2 Hourly Operations Report**  
October 17, 2020 - Hour 9

**1-Hr Limits**  
CT Heat Input - 2038.6      DB Heat Input - 200  
Total Heat Input - 2238.6

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
09:00	64692.1	1527.6	Down	Down	1527.6	1060.3	132.1	173.2	228.06	85.4	347.0	248.7	615.1	0.73	Normal
09:01	61336.1	1448.3	Down	Down	1448.3	1060.3	122.0	171.0	227.18	86.5	347.0	248.7	614.6	0.69	Normal
09:02	61069.5	1442.0	Down	Down	1442.0	1060.3	120.6	168.7	226.57	87.4	346.9	248.6	614.2	0.69	Normal
09:03	60962.5	1439.5	Down	Down	1439.5	1060.3	120.7	166.4	227.11	88.0	347.0	248.6	613.6	0.69	Normal
09:04	60972.4	1439.7	Down	Down	1439.7	1060.3	120.5	164.4	226.91	88.5	347.0	248.6	613.0	0.68	Normal
09:05	60940.3	1439.0	Down	Down	1439.0	1060.3	120.5	162.8	227.14	88.7	346.9	248.6	612.3	0.68	Normal
09:06	60871.6	1437.4	Down	Down	1437.4	1060.3	120.5	161.5	226.47	85.8	346.9	248.7	611.6	0.68	Normal
09:07	60898.4	1438.0	Down	Down	1438.0	1060.3	120.5	160.4	226.91	83.3	347.0	248.6	610.8	0.68	Normal
09:08	60905.3	1438.1	Down	Down	1438.1	1060.3	120.6	159.8	226.73	81.6	346.9	248.6	610.1	0.68	Normal
09:09	60837.6	1436.5	Down	Down	1436.5	1060.3	120.6	159.2	227.10	79.8	346.9	248.7	609.3	0.68	Normal
09:10	60958.9	1439.4	Down	Down	1439.4	1060.3	120.5	158.6	227.56	79.4	347.0	248.7	608.6	0.68	Normal
09:11	60834.6	1436.5	Down	Down	1436.5	1060.3	120.5	158.3	214.45	79.3	346.9	248.7	608.2	0.68	Normal
09:12	60937.4	1438.9	Down	Down	1438.9	1060.3	120.5	158.3	214.88	80.6	347.0	248.7	607.6	0.68	Normal
09:13	60881.1	1437.6	Down	Down	1437.6	1060.3	120.5	158.1	215.57	82.2	347.0	248.6	607.1	0.68	Normal
09:14	60823.2	1436.2	Down	Down	1436.2	1060.3	120.5	158.0	214.76	83.9	346.9	248.7	606.7	0.68	Normal
09:15	60927.5	1438.7	Down	Down	1438.7	1060.3	120.5	157.9	214.59	85.1	347.0	248.6	606.3	0.68	Normal
09:16	60794.1	1435.5	Down	Down	1435.5	1060.3	120.4	157.9	214.37	85.7	347.0	248.6	606.1	0.68	Normal
09:17	60896.4	1437.9	Down	Down	1437.9	1060.3	120.5	158.0	215.15	86.3	347.0	248.7	605.9	0.68	Normal
09:18	60920.3	1438.5	Down	Down	1438.5	1060.3	120.5	157.8	214.79	87.0	347.0	248.7	606.0	0.68	Normal
09:19	60822.2	1436.2	Down	Down	1436.2	1060.3	120.5	158.0	214.82	87.5	346.9	248.7	605.7	0.68	Normal
09:20	60901.4	1438.1	Down	Down	1438.1	1060.3	120.5	158.1	215.22	85.2	346.9	248.7	605.6	0.68	Normal
09:21	60888.3	1437.7	Down	Down	1437.7	1060.3	120.5	158.1	215.19	83.1	347.0	248.6	605.1	0.68	Normal
09:22	60872.6	1437.4	Down	Down	1437.4	1060.3	120.6	158.2	215.86	81.3	347.0	248.7	604.6	0.68	Normal
09:23	60934.1	1438.8	Down	Down	1438.8	1060.3	120.6	158.2	214.78	80.5	347.0	248.6	604.5	0.68	Normal
09:24	60849.7	1436.8	Down	Down	1436.8	1060.3	120.5	158.2	213.45	80.4	347.0	248.7	604.5	0.68	Normal
09:25	60866.7	1437.2	Down	Down	1437.2	1060.3	120.6	158.4	214.91	80.2	347.0	248.6	604.3	0.68	Normal
09:26	60880.4	1437.6	Down	Down	1437.6	1060.3	120.6	158.4	215.74	81.5	347.0	248.7	604.3	0.68	Normal
09:27	60921.0	1438.5	Down	Down	1438.5	1060.3	120.5	158.3	215.23	83.7	347.0	248.6	604.0	0.68	Normal
09:28	60919.4	1438.6	Down	Down	1438.6	1060.4	120.6	158.3	215.64	85.3	347.0	248.6	603.9	0.68	Normal
09:29	60901.0	1438.1	Down	Down	1438.1	1060.3	120.6	158.4	215.12	86.4	346.9	248.6	603.8	0.68	Normal



Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
09:30	60830.4	1436.4	Down	Down	1436.4	1060.3	120.5	158.3	214.98	87.2	346.9	248.6	603.8	0.68	Normal
09:31	60849.7	1437.0	Down	Down	1437.0	1060.4	120.5	158.4	215.71	87.9	346.9	248.7	603.6	0.68	Normal
09:32	60885.0	1437.8	Down	Down	1437.8	1060.4	120.5	158.3	215.80	88.5	346.9	248.7	603.7	0.68	Normal
09:33	60888.0	1437.9	Down	Down	1437.9	1060.4	120.5	158.4	215.88	89.3	346.9	248.6	604.0	0.68	Normal
09:34	60877.5	1437.6	Down	Down	1437.6	1060.4	120.4	158.7	215.12	87.8	347.0	248.6	604.0	0.68	Normal
09:35	60845.1	1436.9	Down	Down	1436.9	1060.4	120.5	158.6	215.73	84.2	346.9	248.5	603.8	0.68	Normal
09:36	60800.9	1435.8	Down	Down	1435.8	1060.4	120.5	158.5	215.48	81.5	347.0	248.6	603.8	0.68	Normal
09:37	60865.0	1437.3	Down	Down	1437.3	1060.4	120.5	158.5	215.64	80.6	346.8	248.6	603.6	0.68	Normal
09:38	60885.7	1437.8	Down	Down	1437.8	1060.4	120.4	158.6	215.78	80.2	346.9	248.6	603.3	0.68	Normal
09:39	60959.9	1439.6	Down	Down	1439.6	1060.4	120.5	158.8	216.49	79.7	346.9	248.6	603.1	0.68	Normal
09:40	60918.4	1438.6	Down	Down	1438.6	1060.4	120.6	158.7	216.64	80.7	346.8	248.7	603.1	0.68	Normal
09:41	60787.2	1435.5	Down	Down	1435.5	1060.4	120.5	158.6	216.78	82.6	347.1	248.7	603.0	0.68	Normal
09:42	60904.3	1438.3	Down	Down	1438.3	1060.4	120.3	158.6	216.53	84.7	346.9	248.6	603.0	0.68	Normal
09:43	60922.0	1438.7	Down	Down	1438.7	1060.4	120.5	158.5	214.90	86.3	346.9	248.6	603.0	0.68	Normal
09:44	60875.2	1437.6	Down	Down	1437.6	1060.4	120.5	158.4	215.52	87.2	346.9	248.6	602.9	0.68	Normal
09:45	60864.4	1437.3	Down	Down	1437.3	1060.4	120.6	158.3	215.62	88.0	346.9	248.6	602.9	0.68	Normal
09:46	60835.3	1436.6	Down	Down	1436.6	1060.4	120.6	158.2	215.16	88.6	346.9	248.6	603.1	0.68	Normal
09:47	60817.6	1436.2	Down	Down	1436.2	1060.4	120.5	158.3	215.20	88.9	346.8	248.6	603.1	0.68	Normal
09:48	60887.6	1437.9	Down	Down	1437.9	1060.4	120.5	158.1	215.44	85.8	346.8	248.6	603.1	0.68	Normal
09:49	60915.1	1438.7	Down	Down	1438.7	1060.5	120.5	158.1	215.88	82.9	346.8	248.5	603.3	0.68	Normal
09:50	60913.8	1438.5	Down	Down	1438.5	1060.4	120.5	158.1	215.73	81.5	346.8	248.7	603.3	0.68	Normal
09:51	60861.1	1437.2	Down	Down	1437.2	1060.4	120.5	158.0	215.58	80.6	346.8	248.7	603.2	0.68	Normal
09:52	60809.1	1436.0	Down	Down	1436.0	1060.4	120.5	157.9	215.50	80.9	346.9	248.6	603.2	0.68	Normal
09:53	60821.9	1436.3	Down	Down	1436.3	1060.4	120.5	158.0	214.69	80.9	346.9	248.6	603.1	0.68	Normal
09:54	61572.0	1454.0	Down	Down	1454.0	1060.4	122.5	158.3	215.74	82.2	347.0	248.6	603.1	0.69	Normal
09:55	63193.4	1492.5	Down	Down	1492.5	1060.5	127.2	158.9	216.61	84.3	347.0	248.7	602.7	0.71	Normal
09:56	64544.5	1524.4	Down	Down	1524.4	1060.5	131.5	159.8	215.88	85.6	347.0	248.6	602.5	0.72	Normal
09:57	65970.3	1558.0	Down	Down	1558.0	1060.5	135.8	161.3	215.66	86.2	346.8	248.7	602.7	0.74	Normal
09:58	67974.7	1605.4	Down	Down	1605.4	1060.5	142.6	163.1	215.43	86.8	347.0	248.5	603.1	0.76	Normal
09:59	71206.7	1681.7	Down	Down	1681.7	1060.5	151.3	165.4	214.90	87.7	346.9	248.6	603.7	0.78	Normal
Average	61441.6	1450.9	Down	Down	1450.9	1060.4	122.2	159.6	217.54	84.3	346.9	248.6	605.6	0.69	Normal
Total Rate	61441.6	1450.9	Down	Down	1450.9				217.5						

**Russell City**  
Hayward, CA  
**Turbine-2 Hourly Operations Report**  
October 17, 2020 - Hour 10

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**1-Hr Limits**  
CT Heat Input - 2038.6      DB Heat Input - 200  
Total Heat Input - 2238.6

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Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
10:00	74477.2	1759.0	Down	Down	1759.0	1060.5	159.8	168.4	213.79	88.3	346.9	248.6	604.4	0.81	Normal
10:01	77661.1	1834.1	Down	Down	1834.1	1060.5	167.8	171.9	213.70	87.1	346.9	248.6	605.3	0.85	Normal
10:02	80507.6	1901.4	Down	Down	1901.4	1060.5	175.2	176.1	214.94	84.4	346.8	248.6	606.5	0.87	Normal
10:03	81121.0	1915.9	Down	Down	1915.9	1060.5	176.8	180.6	214.30	82.8	346.9	248.6	607.9	0.87	Normal
10:04	80849.1	1909.4	Down	Down	1909.4	1060.5	176.0	184.4	213.89	82.3	346.9	248.6	609.5	0.87	Normal
10:05	79992.4	1889.2	Down	Down	1889.2	1060.5	173.9	187.8	215.03	81.8	346.9	248.6	611.2	0.88	Normal
10:06	79445.6	1876.3	Down	Down	1876.3	1060.5	172.5	190.3	215.45	81.0	346.8	248.6	613.0	0.88	Normal
10:07	78969.7	1864.9	Down	Down	1864.9	1060.4	171.6	192.3	214.51	81.3	346.9	248.6	614.7	0.88	Normal
10:08	78724.9	1858.9	Down	Down	1858.9	1060.3	170.8	193.4	214.91	82.3	346.8	248.7	616.3	0.88	Normal
10:09	78578.4	1855.5	Down	Down	1855.5	1060.3	170.3	194.2	215.37	83.7	347.0	248.6	617.8	0.88	Normal
10:10	78356.9	1850.2	Down	Down	1850.2	1060.3	170.0	194.7	215.72	84.9	346.9	248.7	619.5	0.87	Normal
10:11	78295.7	1848.8	Down	Down	1848.8	1060.3	169.8	195.0	216.28	85.6	346.9	248.6	620.7	0.88	Normal
10:12	78447.9	1852.6	Down	Down	1852.6	1060.4	169.8	195.1	220.23	86.2	346.9	248.6	621.7	0.87	Normal
10:13	78399.1	1851.4	Down	Down	1851.4	1060.4	169.8	195.0	239.60	86.7	346.9	248.6	622.4	0.87	Normal
10:14	78422.3	1852.0	Down	Down	1852.0	1060.4	169.9	194.8	239.65	86.8	346.8	248.7	622.9	0.87	Normal
10:15	78531.6	1854.4	Down	Down	1854.4	1060.3	170.1	194.6	238.86	85.4	346.8	248.6	623.3	0.87	Normal
10:16	78519.2	1854.1	Down	Down	1854.1	1060.3	170.2	194.5	239.19	84.3	346.8	248.6	623.6	0.87	Normal
10:17	78517.9	1854.0	Down	Down	1854.0	1060.3	170.1	194.3	239.59	83.8	346.9	248.8	624.0	0.87	Normal
10:18	78637.3	1856.9	Down	Down	1856.9	1060.3	170.2	194.2	239.15	83.2	346.9	248.7	624.4	0.87	Normal
10:19	78606.9	1856.3	Down	Down	1856.3	1060.4	170.3	194.2	238.81	81.8	346.9	248.8	624.7	0.87	Normal
10:20	78625.8	1856.8	Down	Down	1856.8	1060.4	170.4	194.1	239.03	81.1	346.9	248.8	624.9	0.87	Normal
10:21	78691.3	1858.3	Down	Down	1858.3	1060.4	170.4	194.2	238.72	82.2	346.9	248.7	625.1	0.87	Normal
10:22	78770.4	1860.2	Down	Down	1860.2	1060.4	170.5	194.2	238.79	83.6	346.9	248.7	625.4	0.87	Normal
10:23	78652.6	1857.2	Down	Down	1857.2	1060.3	170.3	194.1	237.49	84.6	347.0	248.7	625.5	0.87	Normal
10:24	78658.9	1857.4	Down	Down	1857.4	1060.3	170.3	194.2	238.66	85.2	346.9	248.7	625.6	0.87	Normal
10:25	78635.3	1856.8	Down	Down	1856.8	1060.3	170.3	194.3	239.28	85.6	346.9	248.7	626.0	0.87	Normal
10:26	78607.8	1856.2	Down	Down	1856.2	1060.3	170.3	194.1	238.75	86.0	347.0	248.7	626.5	0.88	Normal
10:27	78609.8	1856.2	Down	Down	1856.2	1060.3	170.2	194.2	239.43	86.5	346.9	248.7	626.8	0.87	Normal
10:28	78597.7	1855.9	Down	Down	1855.9	1060.3	170.3	194.2	239.58	87.3	346.8	248.8	626.9	0.88	Normal
10:29	78648.7	1857.1	Down	Down	1857.1	1060.3	170.4	194.4	239.23	85.4	346.9	248.7	627.1	0.87	Normal

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
10:30	78496.6	1853.5	Down	Down	1853.5	1060.3	170.3	194.4	239.59	84.0	346.8	248.7	627.2	0.88	Normal
10:31	78602.3	1856.0	Down	Down	1856.0	1060.3	170.2	194.4	239.97	83.9	346.8	248.7	627.3	0.88	Normal
10:32	78505.1	1853.7	Down	Down	1853.7	1060.3	170.1	194.3	240.44	83.3	346.8	248.7	627.3	0.88	Normal
10:33	78507.1	1853.8	Down	Down	1853.8	1060.3	170.1	194.3	239.99	83.8	346.8	248.8	627.3	0.88	Normal
10:34	78550.6	1854.8	Down	Down	1854.8	1060.3	170.1	194.3	239.87	84.3	347.0	248.7	627.2	0.87	Normal
10:35	78529.7	1854.5	Down	Down	1854.5	1060.4	170.2	194.2	239.88	84.3	347.0	248.7	627.3	0.87	Normal
10:36	78626.5	1856.8	Down	Down	1856.8	1060.4	170.4	194.1	239.47	84.5	347.0	248.7	627.4	0.87	Normal
10:37	78679.5	1857.8	Down	Down	1857.8	1060.3	170.3	193.8	238.69	85.6	347.0	248.8	627.5	0.87	Normal
10:38	78766.2	1860.1	Down	Down	1860.1	1060.4	170.3	194.3	239.00	86.8	346.9	248.8	627.6	0.88	Normal
10:39	78647.4	1857.3	Down	Down	1857.3	1060.4	170.3	194.5	238.94	87.7	346.9	248.7	627.6	0.87	Normal
10:40	78482.6	1853.4	Down	Down	1853.4	1060.4	170.0	194.8	239.37	88.5	347.0	248.7	627.8	0.87	Normal
10:41	78506.4	1853.9	Down	Down	1853.9	1060.4	169.9	194.9	239.90	89.0	347.0	248.7	627.8	0.87	Normal
10:42	78438.7	1852.3	Down	Down	1852.3	1060.4	169.9	194.8	239.48	89.3	346.8	248.7	628.3	0.88	Normal
10:43	78448.8	1852.6	Down	Down	1852.6	1060.4	169.8	195.0	239.66	89.3	346.9	248.8	628.4	0.87	Normal
10:44	78598.3	1856.1	Down	Down	1856.1	1060.4	169.7	195.0	239.63	89.0	346.9	248.8	628.4	0.87	Normal
10:45	78627.2	1856.8	Down	Down	1856.8	1060.4	169.8	195.2	240.36	88.4	347.0	248.8	628.5	0.88	Normal
10:46	78583.3	1855.8	Down	Down	1855.8	1060.4	170.0	195.1	239.86	88.1	347.0	248.8	628.3	0.87	Normal
10:47	78473.4	1853.2	Down	Down	1853.2	1060.4	169.9	195.3	238.72	87.4	346.9	248.8	628.2	0.87	Normal
10:48	78440.3	1852.4	Down	Down	1852.4	1060.4	169.6	195.1	239.43	86.7	346.9	248.8	628.1	0.87	Normal
10:49	78510.3	1854.0	Down	Down	1854.0	1060.4	169.6	195.2	239.33	86.1	347.0	248.7	628.0	0.87	Normal
10:50	78452.8	1852.7	Down	Down	1852.7	1060.4	169.7	195.3	239.95	85.8	347.0	248.8	627.9	0.87	Normal
10:51	78512.6	1853.9	Down	Down	1853.9	1060.3	169.7	195.3	240.79	86.0	347.0	248.7	628.0	0.87	Normal
10:52	78502.5	1853.7	Down	Down	1853.7	1060.3	169.7	195.4	239.19	87.2	347.0	248.8	628.3	0.87	Normal
10:53	78572.5	1855.3	Down	Down	1855.3	1060.3	169.8	195.1	239.37	88.3	347.0	248.8	628.4	0.87	Normal
10:54	78533.3	1854.4	Down	Down	1854.4	1060.3	169.8	194.9	239.66	89.3	346.9	248.8	628.4	0.87	Normal
10:55	78632.7	1856.7	Down	Down	1856.7	1060.3	169.9	195.1	239.47	89.9	346.9	248.7	628.3	0.87	Normal
10:56	78548.9	1854.8	Down	Down	1854.8	1060.3	169.8	195.6	238.96	89.3	346.9	248.7	628.3	0.87	Normal
10:57	78304.2	1849.0	Down	Down	1849.0	1060.3	169.3	195.9	238.74	88.5	347.0	248.7	628.5	0.88	Normal
10:58	76732.6	1811.9	Down	Down	1811.9	1060.3	165.3	195.8	239.34	87.7	347.0	248.7	628.5	0.87	Normal
10:59	74120.6	1750.2	Down	Down	1750.2	1060.3	158.9	195.0	239.60	87.1	347.0	248.8	628.4	0.84	Normal
Average	78524.9	1854.4	Down	Down	1854.4	1060.4	170.0	192.9	234.14	85.7	346.9	248.7	623.9	0.87	Normal
Total Rate	78524.9	1854.4	Down	Down	1854.4				234.1						

**Russell City**  
Hayward, CA  
**Turbine-2 Hourly Operations Report**  
October 17, 2020 - Hour 11

**1-Hr Limits**  
CT Heat Input - 2038.6      DB Heat Input - 200  
Total Heat Input - 2238.6

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
11:00	71726.2	1693.7	Down	Down	1693.7	1060.3	152.9	193.3	239.39	86.2	346.9	248.7	628.3	0.82	Normal
11:01	68868.8	1626.2	Down	Down	1626.2	1060.3	145.3	191.3	239.36	85.9	346.9	248.7	628.4	0.79	Normal
11:02	66504.5	1570.4	Down	Down	1570.4	1060.3	138.3	188.6	239.61	85.6	346.9	248.8	628.0	0.77	Normal
11:03	65986.3	1558.1	Down	Down	1558.1	1060.3	136.2	185.5	239.92	85.0	346.9	248.7	627.2	0.76	Normal
11:04	66478.3	1569.7	Down	Down	1569.7	1060.3	137.7	182.7	239.75	84.6	346.9	248.7	626.2	0.76	Normal
11:05	66811.7	1577.6	Down	Down	1577.6	1060.3	139.0	180.4	239.54	85.6	346.9	248.8	625.1	0.76	Normal
11:06	67193.2	1586.6	Down	Down	1586.6	1060.3	140.0	178.4	239.66	87.0	347.0	248.8	623.8	0.76	Normal
11:07	67416.3	1592.0	Down	Down	1592.0	1060.4	140.8	177.0	239.52	88.1	346.9	248.7	622.7	0.77	Normal
11:08	67617.2	1596.8	Down	Down	1596.8	1060.4	141.5	175.6	239.67	89.0	346.9	248.8	621.8	0.77	Normal
11:09	67951.8	1604.7	Down	Down	1604.7	1060.4	142.0	174.7	240.15	89.0	346.9	248.7	620.8	0.78	Normal
11:10	67939.1	1604.4	Down	Down	1604.4	1060.4	142.3	174.2	239.20	87.5	346.9	248.8	619.9	0.78	Normal
11:11	68024.2	1606.4	Down	Down	1606.4	1060.4	142.6	173.6	239.29	86.8	346.9	248.8	619.1	0.78	Normal
11:12	68223.0	1611.2	Down	Down	1611.2	1060.5	142.7	173.1	240.73	86.5	346.9	248.7	618.4	0.78	Normal
11:13	68529.6	1618.5	Down	Down	1618.5	1060.5	143.7	173.1	240.07	86.2	346.9	248.7	617.7	0.78	Normal
11:14	69024.6	1630.2	Down	Down	1630.2	1060.5	145.1	173.1	239.80	85.7	346.8	248.8	617.3	0.78	Normal
11:15	70912.9	1674.6	Down	Down	1674.6	1060.4	149.8	173.5	239.60	85.1	346.9	248.8	617.0	0.79	Normal
11:16	72540.2	1713.0	Down	Down	1713.0	1060.4	154.0	174.4	239.86	84.9	346.9	248.8	616.8	0.81	Normal
11:17	73266.1	1730.2	Down	Down	1730.2	1060.4	155.9	175.6	239.83	84.6	347.0	248.7	616.4	0.81	Normal
11:18	72799.3	1719.2	Down	Down	1719.2	1060.4	154.7	176.9	239.96	85.3	346.9	248.8	616.3	0.81	Normal
11:19	72025.8	1700.7	Down	Down	1700.7	1060.3	152.9	178.1	239.35	86.6	346.9	248.8	616.1	0.81	Normal
11:20	71843.6	1696.4	Down	Down	1696.4	1060.3	152.1	178.8	239.65	87.8	346.9	248.7	616.2	0.81	Normal
11:21	70547.8	1665.8	Down	Down	1665.8	1060.3	149.2	179.5	239.17	88.6	346.9	248.8	616.2	0.80	Normal
11:22	69658.6	1644.8	Down	Down	1644.8	1060.3	146.8	179.7	239.48	88.9	347.0	248.7	616.5	0.79	Normal
11:23	69836.9	1648.9	Down	Down	1648.9	1060.2	147.2	179.7	239.59	87.4	346.9	248.8	616.7	0.79	Normal
11:24	69664.8	1644.8	Down	Down	1644.8	1060.2	147.0	179.6	240.02	86.6	346.8	248.8	616.8	0.79	Normal
11:25	70377.3	1661.7	Down	Down	1661.7	1060.2	148.7	179.4	239.59	85.8	346.9	248.8	616.8	0.80	Normal
11:26	71193.3	1680.9	Down	Down	1680.9	1060.2	150.5	179.5	239.61	85.1	346.9	248.8	616.9	0.80	Normal
11:27	71140.9	1679.5	Down	Down	1679.5	1060.1	150.5	179.5	239.50	84.7	346.9	248.8	617.0	0.80	Normal
11:28	70691.7	1668.9	Down	Down	1668.9	1060.1	149.4	179.5	239.73	84.2	346.9	248.7	617.3	0.80	Normal
11:29	69856.2	1649.2	Down	Down	1649.2	1060.1	147.5	179.7	239.54	83.5	346.9	248.8	617.3	0.79	Normal

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
11:30	69970.4	1651.9	Down	Down	1651.9	1060.1	147.5	179.3	240.09	83.6	346.9	248.8	617.3	0.79	Normal
11:31	70223.6	1658.0	Down	Down	1658.0	1060.2	148.1	179.1	240.23	84.8	346.9	248.8	617.3	0.79	Normal
11:32	70119.9	1655.6	Down	Down	1655.6	1060.2	148.0	178.9	239.74	86.2	346.9	248.7	617.1	0.79	Normal
11:33	70073.4	1654.5	Down	Down	1654.5	1060.2	147.9	178.8	239.48	87.3	346.9	248.8	616.8	0.79	Normal
11:34	69819.9	1648.5	Down	Down	1648.5	1060.2	147.2	178.6	239.31	88.2	346.9	248.9	616.6	0.79	Normal
11:35	69438.1	1639.3	Down	Down	1639.3	1060.1	145.9	178.4	240.08	88.6	346.9	248.7	616.3	0.79	Normal
11:36	68650.3	1620.7	Down	Down	1620.7	1060.1	144.0	178.0	240.57	86.7	346.9	248.8	616.3	0.78	Normal
11:37	68295.7	1612.4	Down	Down	1612.4	1060.1	142.8	177.4	240.57	85.7	346.9	248.7	616.3	0.78	Normal
11:38	68394.5	1614.7	Down	Down	1614.7	1060.1	142.8	177.1	240.10	84.9	346.9	248.8	616.2	0.78	Normal
11:39	68640.5	1620.5	Down	Down	1620.5	1060.1	143.8	176.5	240.19	84.2	346.9	248.7	616.1	0.78	Normal
11:40	68696.7	1621.8	Down	Down	1621.8	1060.1	144.3	176.0	239.33	83.8	346.9	248.8	615.8	0.78	Normal
11:41	69146.9	1632.4	Down	Down	1632.4	1060.1	144.8	175.8	239.24	83.5	346.9	248.7	615.6	0.79	Normal
11:42	68811.9	1624.5	Down	Down	1624.5	1060.1	144.3	175.6	239.69	82.8	346.9	248.8	615.5	0.79	Normal
11:43	68813.9	1624.6	Down	Down	1624.6	1060.1	144.2	175.4	239.66	82.4	346.9	248.8	615.4	0.78	Normal
11:44	69038.3	1629.9	Down	Down	1629.9	1060.1	145.0	175.3	239.78	83.3	346.8	248.8	615.4	0.79	Normal
11:45	69548.0	1641.9	Down	Down	1641.9	1060.1	145.6	175.1	238.91	84.8	346.9	248.9	615.4	0.79	Normal
11:46	68922.8	1627.2	Down	Down	1627.2	1060.1	144.5	175.3	240.30	86.0	346.9	248.8	615.1	0.79	Normal
11:47	69066.4	1630.7	Down	Down	1630.7	1060.2	144.7	175.3	239.32	87.0	346.8	248.7	615.0	0.79	Normal
11:48	69036.7	1630.0	Down	Down	1630.0	1060.2	144.8	175.2	239.18	87.9	346.8	248.8	615.0	0.79	Normal
11:49	69003.9	1629.2	Down	Down	1629.2	1060.2	144.7	175.4	239.16	87.2	346.8	248.8	614.9	0.79	Normal
11:50	68995.8	1629.0	Down	Down	1629.0	1060.2	144.7	175.3	239.11	85.2	346.8	248.8	614.8	0.79	Normal
11:51	68874.4	1626.2	Down	Down	1626.2	1060.2	144.6	175.3	239.60	84.3	346.9	248.8	614.4	0.78	Normal
11:52	68929.1	1627.5	Down	Down	1627.5	1060.2	144.7	175.3	239.45	83.6	346.9	248.8	614.3	0.79	Normal
11:53	69060.6	1630.6	Down	Down	1630.6	1060.2	145.0	175.3	239.22	83.2	346.9	248.6	614.4	0.79	Normal
11:54	68920.2	1627.2	Down	Down	1627.2	1060.2	144.7	175.6	239.71	82.5	346.8	248.7	614.5	0.79	Normal
11:55	68156.3	1609.2	Down	Down	1609.2	1060.2	142.6	175.4	240.19	82.1	346.8	248.8	614.5	0.78	Normal
11:56	66721.7	1575.3	Down	Down	1575.3	1060.2	138.3	175.0	239.69	82.1	346.8	248.8	614.5	0.76	Normal
11:57	65952.9	1557.2	Down	Down	1557.2	1060.2	135.7	174.3	239.43	83.1	346.9	248.7	614.6	0.76	Normal
11:58	65148.2	1538.2	Down	Down	1538.2	1060.2	133.1	173.5	240.70	84.5	346.8	248.9	614.5	0.75	Normal
11:59	63820.5	1506.6	Down	Down	1506.6	1060.0	129.1	172.2	239.26	85.7	346.9	248.8	614.3	0.73	Normal
Average	69049.0	1630.3	Down	Down	1630.3	1060.2	144.9	177.5	239.69	85.5	346.9	248.8	617.7	0.79	Normal
Total Rate	69049.0	1630.3	Down	Down	1630.3				239.7						

**Russell City**  
Hayward, CA  
**Turbine-2 Hourly Operations Report**  
October 17, 2020 - Hour 12

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**1-Hr Limits**  
CT Heat Input - 2038.6      DB Heat Input - 200  
Total Heat Input - 2238.6

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Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
12:00	62902.9	1484.9	Down	Down	1484.9	1060.0	126.0	170.8	241.24	86.8	346.9	248.7	613.9	0.72	Normal
12:01	61181.8	1444.3	Down	Down	1444.3	1060.0	121.2	169.0	240.66	87.7	346.9	248.8	613.4	0.71	Normal
12:02	60996.3	1439.9	Down	Down	1439.9	1060.0	120.5	167.2	240.40	87.7	346.9	248.7	612.8	0.70	Normal
12:03	60866.4	1437.1	Down	Down	1437.1	1060.2	120.4	165.3	239.93	85.4	346.8	248.7	612.0	0.70	Normal
12:04	60962.2	1439.4	Down	Down	1439.4	1060.2	120.4	163.6	241.05	84.4	346.8	248.8	611.3	0.70	Normal
12:05	60885.3	1437.5	Down	Down	1437.5	1060.2	120.5	162.5	240.52	83.7	346.8	248.8	610.2	0.70	Normal
12:06	60857.5	1436.9	Down	Down	1436.9	1060.2	120.4	161.5	240.69	83.1	346.8	248.8	609.5	0.70	Normal
12:07	60970.8	1439.7	Down	Down	1439.7	1060.3	120.2	160.8	239.80	81.7	346.9	248.7	609.0	0.70	Normal
12:08	60799.0	1435.6	Down	Down	1435.6	1060.3	120.3	160.0	240.95	80.8	346.8	248.8	608.5	0.69	Normal
12:09	60870.6	1437.3	Down	Down	1437.3	1060.3	120.2	159.6	240.14	80.9	346.9	248.8	607.7	0.70	Normal
12:10	60914.5	1438.4	Down	Down	1438.4	1060.3	120.2	159.4	240.67	81.3	346.9	248.9	607.3	0.69	Normal
12:11	60822.2	1436.3	Down	Down	1436.3	1060.4	120.2	159.2	240.20	82.8	346.9	248.8	607.0	0.70	Normal
12:12	60794.1	1435.7	Down	Down	1435.7	1060.4	120.3	159.2	239.12	84.5	346.8	248.8	606.4	0.69	Normal
12:13	60864.8	1437.3	Down	Down	1437.3	1060.4	120.3	159.1	239.70	85.5	346.9	248.8	606.2	0.69	Normal
12:14	60815.0	1436.0	Down	Down	1436.0	1060.3	120.3	159.0	239.75	86.5	346.9	248.8	605.8	0.70	Normal
12:15	60899.1	1438.1	Down	Down	1438.1	1060.4	120.3	158.9	239.88	87.4	346.9	248.8	605.5	0.70	Normal
12:16	60772.8	1435.2	Down	Down	1435.2	1060.4	120.3	158.9	240.05	87.6	346.8	248.8	605.1	0.70	Normal
12:17	60795.4	1435.7	Down	Down	1435.7	1060.4	120.3	159.0	240.37	85.9	346.8	248.8	604.9	0.70	Normal
12:18	60827.8	1436.5	Down	Down	1436.5	1060.4	120.3	159.0	240.81	84.5	346.8	248.7	604.8	0.70	Normal
12:19	60786.9	1435.3	Down	Down	1435.3	1060.3	120.4	158.9	240.27	83.3	346.9	248.8	604.6	0.70	Normal
12:20	60889.6	1437.8	Down	Down	1437.8	1060.3	120.4	159.0	240.07	82.2	346.8	248.8	604.3	0.70	Normal
12:21	60873.2	1437.4	Down	Down	1437.4	1060.3	120.4	159.2	239.61	81.6	346.8	248.8	604.0	0.70	Normal
12:22	60809.1	1435.9	Down	Down	1435.9	1060.3	120.4	159.3	240.25	81.5	346.8	248.8	603.8	0.69	Normal
12:23	60863.4	1437.2	Down	Down	1437.2	1060.3	120.4	159.2	239.46	81.8	346.8	248.8	603.7	0.70	Normal
12:24	60899.1	1438.0	Down	Down	1438.0	1060.3	120.5	159.2	239.81	81.3	346.8	248.8	603.8	0.70	Normal
12:25	60782.6	1435.3	Down	Down	1435.3	1060.3	120.4	159.3	239.53	81.9	346.9	248.9	603.9	0.70	Normal
12:26	60854.6	1437.0	Down	Down	1437.0	1060.3	120.4	159.4	239.25	83.2	346.9	248.8	603.7	0.70	Normal
12:27	60848.7	1436.7	Down	Down	1436.7	1060.2	120.3	159.4	239.79	84.6	346.9	248.8	603.7	0.70	Normal
12:28	60864.4	1437.0	Down	Down	1437.0	1060.2	120.4	159.4	239.60	85.7	346.9	248.9	603.6	0.70	Normal
12:29	60808.8	1435.7	Down	Down	1435.7	1060.2	120.4	159.4	238.58	86.8	347.0	248.8	603.4	0.70	Normal

Minute	CT Gas Flow lb/hr	CT Heat Input mmBtu/hr	DB Gas Flow mmscf/hr	DB Heat Input mmBtu/hr	Total Heat Input mmBtu/hr	GCV Gas Btu/scf	CT Megawatts	ST Megawatts	NH3 Flow lb/hr	Shelter Temp °F	SCR HSL Temp °F	Stack HSL Temp °F	SCR Inlet Temp °F	SCR Inlet Diff. Press. Inches H2O	Process Status
12:30	60905.0	1438.0	Down	Down	1438.0	1060.2	120.4	159.5	240.32	86.8	346.8	248.8	603.4	0.70	Normal
12:31	60793.4	1435.2	Down	Down	1435.2	1060.1	120.2	159.6	239.28	84.2	346.9	248.8	603.3	0.70	Normal
12:32	60920.7	1438.2	Down	Down	1438.2	1060.1	120.4	159.6	239.16	81.9	346.8	248.8	603.3	0.69	Normal
12:33	60878.8	1437.3	Down	Down	1437.3	1060.1	120.3	159.7	239.16	81.3	346.9	248.8	602.9	0.70	Normal
12:34	60729.9	1433.7	Down	Down	1433.7	1060.1	120.3	159.5	239.81	81.3	346.8	248.8	602.7	0.70	Normal
12:35	60814.3	1435.7	Down	Down	1435.7	1060.1	120.3	159.5	239.72	80.9	346.9	248.8	602.8	0.70	Normal
12:36	60802.6	1435.5	Down	Down	1435.5	1060.1	120.3	159.5	239.95	80.7	346.8	248.8	602.8	0.70	Normal
12:37	60853.3	1436.6	Down	Down	1436.6	1060.1	120.4	159.5	226.82	80.5	346.9	248.8	602.9	0.70	Normal
12:38	60876.8	1437.2	Down	Down	1437.2	1060.1	120.4	159.5	211.32	80.2	346.8	248.8	602.9	0.70	Normal
12:39	60804.9	1435.5	Down	Down	1435.5	1060.1	120.3	159.4	210.12	81.0	346.9	248.8	603.0	0.70	Normal
12:40	60922.0	1438.3	Down	Down	1438.3	1060.1	120.5	159.4	209.49	82.5	346.9	248.9	603.0	0.70	Normal
12:41	60800.9	1435.4	Down	Down	1435.4	1060.1	120.4	159.4	207.69	84.1	346.9	248.8	602.9	0.70	Normal
12:42	60804.5	1435.5	Down	Down	1435.5	1060.1	120.5	159.5	205.08	85.3	346.9	248.8	602.8	0.70	Normal
12:43	60828.1	1436.2	Down	Down	1436.2	1060.2	120.4	159.4	205.15	86.0	346.9	248.8	602.8	0.70	Normal
12:44	60858.8	1436.9	Down	Down	1436.9	1060.2	120.5	159.5	203.25	86.8	346.8	248.8	602.7	0.69	Normal
12:45	60847.4	1436.6	Down	Down	1436.6	1060.2	120.4	159.4	201.42	84.8	346.8	248.8	602.7	0.69	Normal
12:46	60851.3	1436.7	Down	Down	1436.7	1060.2	120.5	159.2	200.31	82.4	346.8	248.9	602.7	0.69	Normal
12:47	60806.8	1435.7	Down	Down	1435.7	1060.2	120.4	159.0	199.07	81.0	346.8	248.8	602.7	0.69	Normal
12:48	60819.6	1436.0	Down	Down	1436.0	1060.2	120.3	159.1	201.80	80.3	346.8	248.9	602.6	0.69	Normal
12:49	60822.5	1436.1	Down	Down	1436.1	1060.2	120.2	159.0	203.57	79.9	346.9	248.8	602.5	0.69	Normal
12:50	60823.2	1436.1	Down	Down	1436.1	1060.2	120.1	159.1	205.59	79.3	346.8	248.8	602.5	0.69	Normal
12:51	60795.4	1435.6	Down	Down	1435.6	1060.3	120.3	159.2	207.01	79.4	346.8	248.9	602.5	0.69	Normal
12:52	60805.2	1435.8	Down	Down	1435.8	1060.3	120.4	159.1	207.82	79.4	346.9	248.8	602.5	0.69	Normal
12:53	60782.6	1435.3	Down	Down	1435.3	1060.3	120.4	159.1	205.34	82.0	346.9	248.9	602.6	0.69	Normal
12:54	60855.2	1437.0	Down	Down	1437.0	1060.3	120.4	159.2	203.32	84.2	346.9	248.8	602.6	0.69	Normal
12:55	61679.3	1456.6	Down	Down	1456.6	1060.4	122.7	159.4	204.25	85.3	346.9	248.9	602.5	0.70	Normal
12:56	62644.5	1479.4	Down	Down	1479.4	1060.4	125.6	160.2	206.53	85.9	346.9	248.9	602.6	0.71	Normal
12:57	63636.0	1502.8	Down	Down	1502.8	1060.4	128.9	161.2	209.16	86.5	346.9	248.8	602.6	0.72	Normal
12:58	65756.0	1552.8	Down	Down	1552.8	1060.4	135.2	162.4	215.88	86.8	346.9	248.8	602.7	0.74	Normal
12:59	68814.5	1624.9	Down	Down	1624.9	1060.3	144.1	164.1	224.04	86.5	346.9	248.8	603.1	0.77	Normal
Average	61190.2	1444.7	Down	Down	1444.7	1060.2	121.4	160.2	227.56	83.5	346.9	248.8	604.8	0.70	Normal
Total Rate	61190.2	1444.7	Down	Down	1444.7				227.6						