Section I – South Coast AQMD BACT/LAER Determination

Source Type: **Major/LAER**

Application No.: **601928, 601929 and 601930**

Equipment Category: **Gas Turbine**

Equipment Subcategory: **Simple Cycle, Natural Gas**

Date: **February 5, 2021**

1. EQUIPMENT INFORMATION

A. MANUFACTURER: General Electric	B. MODEL: LM6000 PC SPRINT
C. DESCRIPTION: Simple Cycle natural gas fired turbine with Intercooler and water injection.	
D. FUNCTION: The City of Riverside Public Utilities Department operates the Riverside Energy Resource Center facility which operates this gas turbine which produces electrical power for the city. The equipment is at a "Peaker" plant to support California Independent System Operator (CAISO) during periods of high electricity demand.	
E. SIZE/DIMENSIONS/CAPACITY: Net Power Output 49.8 MW	
COMBUSTION SOURCES	
F. MAXIMUM HEAT INPUT: 490 MMBTU/hr	
G. BURNER INFORMATION:	

TYPE	INDIVIDUAL HEAT INPUT	NUMBER
N/A	Rated heat input of single burner, in btu/hr	Number of burners

H. PRIMARY FUEL: Natural Gas	I. OTHER FUEL: Supplementary or standby fuels
J. OPERATING SCHEDULE: Hours 24 HRS//DAY 7 DAYS/WEEK 52 WKS/YR	
K. EQUIPMENT COST: N/A	
L. EQUIPMENT INFORMATION COMMENTS: Gas turbine is equipped with SCR and Oxidation catalyst.	

2. COMPANY INFORMATION

A. COMPANY: City of Riverside Public Utilities Dept.	B. FAC ID: 139796
C. ADDRESS: 5901 Payton Avenue CITY: Riverside STATE: CA ZIP: 92504	D. NAICS CODE: 221112
E. CONTACT PERSON: Charles Casey	F. TITLE: Utility Generation Manager
G. PHONE NO.: 951-710-5010	H. EMAIL: ccasey@riversideca.gov

3. PERMIT INFORMATION

A. AGENCY: South Coast AQMD	B. APPLICATION TYPE: NEW CONSTRUCTION
C. SCAQMD ENGINEER: Vicky Lee	
D. PERMIT INFORMATION: PC ISSUANCE DATE: 2/20/09 P/O NO.: G57637 PO ISSUANCE DATE: 6/13/2019	
E. START-UP DATE: 6/14/2013	
F. OPERATIONAL TIME: 6+ years (original P/O issued on 6/14/13, G25360, A/N: 481647)	

4. EMISSION INFORMATION

A. BACT EMISSION LIMITS AND AVERAGING TIMES: List all criteria contaminant or precursor emission limits, including facility limits, on the permit(s) that affects the equipment. Include units, averaging times and corrections (%O_2, %CO_2, dry, etc). For VOC, values must include if the concentration is reported as methane, hexane or any other compound. VOC mass emissions should include the molecular weight-to-carbon ratio, if applicable.

	VOC	NOx	SOx	CO	PM OR PM_{10}	INORGANIC
BACT Limit		2.3 PPMV		4 PPMV		
Averaging Time		1 HOUR		1 HOUR		
Correction		15 % O_2		15 % O_2		

B. OTHER BACT REQUIREMENTS: The NOx and CO emission limit shall not apply during turbine commissioning, start-up, shutdown, and equipment tuning.

C. BASIS OF THE BACT/LAER DETERMINATION: Achieved in Practice/New Technology

D. EMISSION INFORMATION COMMENTS:

5. CONTROL TECHNOLOGY

A. MANUFACTURER: SCR - Cormetech, CO OxyCat – BASF Catalyst LLC	B. MODEL: SCR – No. 3, CO OxyCat - Canmet

C. DESCRIPTION: Ammonia Injection Grid with aqueous ammonia 19% stored in a 12,000-gallon tank.

D. SIZE/DIMENSIONS/CAPACITY: SCR – 1024 cu ft: Width 8'- 11.6", Height 6' – 5", Length 3' – 2". CO Oxycat – 90 cu ft: Width 2'- 0", Height 2' – 4", Depth 0' – 3"

E. CONTROL EQUIPMENT PERMIT INFORMATION:

APPLICATION NO. 481651 PC ISSUANCE DATE: 6/19/09

PO NO.: G25363 PO ISSUANCE DATE: 6/26/2013

F. REQUIRED CONTROL EFFICIENCIES: .

CONTAMINANT	OVERALL CONTROL EFFICIENCY	CONTROL DEVICE EFFICIENCY	COLLECTION EFFICIENCY
VOC	___%	___%	___%
NOx	___%	___%	___%
SOx	___%	___%	___%
CO	___%	___%	___%
PM	___%	___%	___%
PM_{10}	___%	___%	___%
INORGANIC	___%	___%	___%

G. CONTROL TECHNOLOGY COMMENTS: The permit also has a limit of 2 ppm for VOC and 5 ppm for ammonia slip corrected to 15% O2.

6. DEMONSTRATION OF COMPLIANCE

A. COMPLIANCE DEMONSTRATED BY: CEMS data for a period of one year (2019) and Source Test results

B. DATE(S) OF SOURCE: Please refer to Section E

C. COLLECTION EFFICIENCY METHOD: N/A

D. COLLECTION EFFICIENCY PARAMETERS: N/A

E. SOURCE TEST/PERFORMANCE DATA: Enter source test results for each criteria contaminant or precursor (mass emissions, concentrations or efficiencies) if they differ from the requirements previously listed. As previously requested in Section 4, identify any corrections or averaging times

RATA Test Date	Unit 3	RATA Test Date	Unit 4
4/15/20	NOx = 1.83 ppm CO = 3.58 ppm	**4/16/20**	NOx = 2.13 ppm CO = 2.71 ppm
9/10/19	NOx = 2.14 ppm CO = 2.97 ppm	**10/3/19**	NOx = 2.23 ppm CO = 2.28 ppm
8/14/18	NOx = 2.01 ppm CO = 2.98 ppm	**2/2/18**	NOx = 2.26 ppm CO = 2.95 ppm

F. TEST OPERATING PARAMETERS AND CONDITIONS: Full load.

G. TEST METHODS (SPECIFY AGENCY): Method 100.1 for NOx and CO.

H. MONITORING AND TESTING REQUIREMENTS: Continuous Emissions Monitoring System and Compliance test every three years.

I. DEMONSTRATION OF COMPLIANCE COMMENTS: Unit has shown compliance from source test and CEMS data.

7. ADDITIONAL SCAQMD REFERENCE DATA

A. BCAT: 013008	B. CCAT: 81	C. APPLICATION TYPE CODE: 20
D. RECLAIM FAC? YES ☒ NO ☐	E. TITLE V FAC: YES ☒ NO ☐	F. SOURCE TEST ID(S):
G. SCAQMD SOURCE SPECIFIC RULES: Rule 2012		
H. HEALTH RISK FOR PERMIT UNIT		

H1. MICR: Click here to enter text.	H2. MICR DATE: Click here to enter a date.	H3. CANCER BURDEN: Click here to enter text.	H4. CB DATE: Click here to enter a date.
H5: HIA: Click here to enter text.	H6. HIA DATE: Click here to enter a date.	H7. HIC: Click here to enter text.	H8. HIC DATE: Click here to enter a date.