

RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES

DATE: JUNE 22, 2020

ITEM NO: 2

SUBJECT: SERVICE AGREEMENT WITH CORMETECH, INC. FOR CARBON MONOXIDE CATALYST REPLACEMENTS ON RIVERSIDE ENERGY RESOURCE CENTER UNITS 3 AND 4 IN AN AMOUNT OF \$561,195; AND WORK ORDER NO. 2027437 FOR RIVERSIDE ENERGY RESOURCE CENTER UNITS 3 AND 4 CARBON MONOXIDE CATALYST PROJECT IN A TOTAL AMOUNT OF \$633,000

ISSUES:

Approve a service agreement with Cormetech, Inc., of Durham, North Carolina, for Carbon Monoxide Catalyst Replacements on Riverside Energy Resource Center Units 3 and 4 in an amount of \$561,195 and approve Work Order No. 2027437 for the Riverside Energy Resource Center Carbon Monoxide Catalyst Project in a total amount of \$633,000.

RECOMMENDATIONS:

That the Board of Public Utilities:

1. Approve a service agreement with Cormetech, Inc., of Durham, North Carolina, for Carbon Monoxide catalyst replacement at Riverside Energy Resource Center Units 3 and 4 in an amount of \$561,195;
2. Approve Work Order No. 2027437 for the Riverside Energy Resource Center Catalyst Projects in a total amount of \$633,000; and
3. Authorize the City Manager, or designee, to execute the service agreements with Cormetech, Inc. including the ability to make non-substantial changes.

BACKGROUND:

Since their commissioning in June 2011, the Riverside Energy Resource Center Units 3 and 4 (RERC 3 & 4) have reliably produced 96 megawatts of electricity a year, helping Riverside Public Utilities (RPU) meet Riverside's energy needs. Each unit operates in compliance with the United States Environmental Protection Agency (EPA) and South Coast Air Quality Management District (SCAQMD) operational and air quality regulations. Two of the most stringent operating permit limitations are the emission concentration levels of Carbon Monoxide (CO) and Nitrogen Oxide (NOx). Hourly CO concentration emissions levels must average less than 4 parts per million (ppm), and NOx emissions hourly averages must be below 2.3 ppm.

Reducing the plant's CO and NOx air emissions to these microscopic levels are achieved in two separate stages. The first stage consists of 80 CO catalyst modules that have platinum and other precious metals in their composition. The modules are integral to each gas turbine and react with the raw emissions to

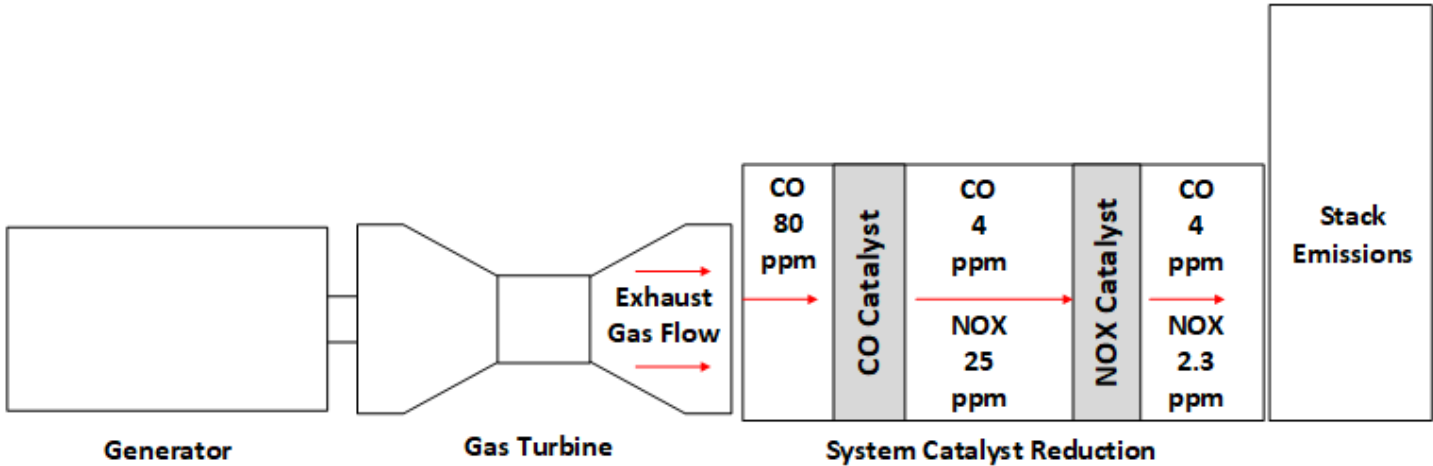
reduce CO emissions levels from 80 ppm to less than 4 ppm. This stage reduces more than 90% of CO emissions from each gas turbine. The second stage consists of eight Selective Catalytic Reduction (SCR) modules located downstream to the CO catalyst modules. The SCR modules react with plant emissions and reduce NOx emission levels from 25 ppm to 2.3 ppm. This stage reduces more than 90% of NOx emission.

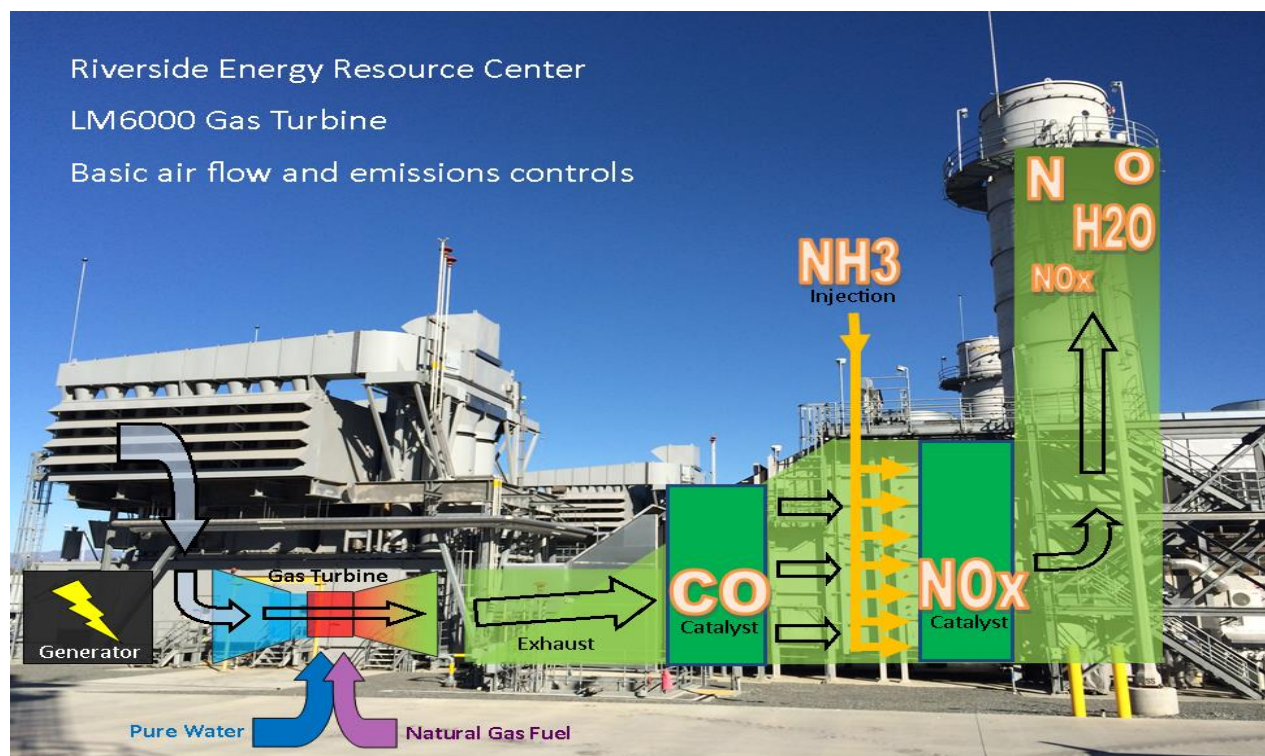
During a scheduled outage in November 2019, Staff extracted catalyst samples from RERC Units 3 and 4 for laboratory analysis. Test results indicate the CO modules have reached the end of their useful life. CO catalyst modules are normally replaced after seven years; however, through exceptional operating and maintenance practices, the life of the modules in RERC 3 & 4 was extended to 9 years. Staff recommends replacing the CO catalysts modules on RERC 3 & 4.

RERC 3 & 4 utilize the best available CO and SCR designs, and each unit is regulated to the lowest possible emission levels in the industry. Maintaining RERC 3 & 4 reliability and regulatory compliance is contingent on the completion of the CO catalyst replacement during an outage planned on November 2020. Continued operation in the current condition is not recommend or sustainable.

The urgency and magnitude of these required repairs align with the intention of the approved budget in the Public Utilities Contingency Generating Plants Account. Performance of the catalyst modules degrades rapidly at the end of their useful life, and delaying to the next budget approval cycle is not feasible.

The following illustration outline the flow of emissions on a gas turbine engine at RERC.





DISCUSSION:

On March 11, 2019, the Board of Public Utilities awarded RFP No.1883 to Cormetech Inc. for the CO catalyst replacements on RERC Units 1 & 2. Cormetech provided the most responsive proposal based on price, qualifications and industry experience. Staff completed the repairs on RERC Units 1 & 2 in May 2019 and was very impressed with Cormetech's performance during the project.

Based on the findings on RERC Units 1 & 2, staff extracted catalyst samples for analysis at the next scheduled outage for RERC Units 3 & 4. Results indicated the catalysts on the units had reached end of useful on life.

The units at RERC are identical but the air operating permits are different between the unit pairs. RERC Units 3 & 4 are regulated to lowest allowed CO emissions levels for the state – 4 ppm (RERC Units 1 & 2 are only regulated to 6 ppm). The lower limit requires a higher performance from the CO modules and impacts their life cycle. Since commissioning, staff consistently achieves this regulatory milestone through sound operating practice combined with eight additional cu ft of catalyst material added to the modules.

Staff contacted Cormetech and negotiated the same price and terms offered in RFP 1883. This represents a savings of approximately \$50,000 for the eight additional cubic feet of catalyst material. Because of the fluctuation of platinum and precious metal market prices, Cormetech can only offer firm pricing to July 1, 2020.

The project/fiscal breakdown is as follows:

Project and Fiscal Breakdown

Work Type	Performed By:	Amount (\$)
CO Catalyst Replacement	Cormetech, Inc.	\$561,195
Contingency CO Catalyst Replacement Project Work Order	RPU	\$56,120
RPU Staff Labor	RPU	\$15,685
Total Work Order Amount CO Catalyst		\$633,000
Project detail		
Anticipated Start Date:	July 01, 2020	
Anticipated Duration:	180 days	
Coordination Required:	SCAQMD and other vendors	

The City Council Purchasing Resolution No. 23256 provides that agreements can be entered into if they meet specified criteria for the new contract to “piggyback” on the prior contract. Under Section 702(g) of City Council Resolution No. 23256, Exceptions, Competitive Procurement through the Informal Procurement and Formal Procurement process shall not be required when Services can be Procured from a Contractor who offers the same or better price, terms and conditions as the Contractor previously offered as the Lowest Responsive Bidder under Competitive Procurement or negotiations conducted by the City or another public agency, provided that, in the opinion of the Manager, it is in the best interests of the City to do so.

The Purchasing Manager concurs that the recommended action to approve the agreement is in compliance with Purchasing Resolution No. 23256.

FISCAL IMPACT:

The total fiscal impact is estimated at \$633,000. Sufficient funds are available in the Public Utilities Contingency Generating Plants Account No. 6120100-428500.

Prepared by: Daniel E. Garcia, Utilities Assistant General Manager/Resources
 Approved by: Todd M. Corbin, Utilities General Manager
 Approved by: Al Zelinka, FAICP, City Manager
 Approved as to form: Gary G. Geuss, City Attorney

Certifies availability of funds: Brian Seinturier, Utilities Fiscal Manager

Attachments:

1. Service Agreement with Cormetech, Inc.
2. Presentation