ITEM # 15
DATE: 07-23-19

COUNCIL ACTION FORM

SUBJECT: FIELD ENGINEERING SERVICES FOR UNIT #7 OVERHAUL AT POWER PLANT

BACKGROUND:

This project calls for Unit 7 Turbine Generator to be disassembled, inspected, and repaired at the same time as the Unit 7 Boiler Repair Project. The steam turbine generator was manufactured by General Electric (GE) and placed into service in 1967. This overhaul is required to replace worn parts and inspect the turbine and generator for repairs that may be needed to prevent unplanned turbine/generator outages, prevent costly turbine/generator damage, and increase turbine/generator reliability.

Major turbine/generator overhauls are performed generally every 5-10 years, depending on amount of run time and conditions. The last major overhaul on Unit 7 was performed in 2007. The overhaul will consist of splitting the turbine casing, removing the turbine rotor, removing the end caps on the generator, and removing the generator stator. Numerous measurements and tests will be taken on all parts to assure there is no damage and they are within tolerance. Damaged or worn parts will be repaired or replaced, and the unit will be reassembled. The total project, including engineering, parts and labor, and related services, is estimated at $2,550,000.

GE is the original equipment manufacturer of the turbine generator. Because of the precision of the many parts inside the Turbine/Generator and the knowledge and experience required to inspect and repair them correctly, a field service person with GE will need to be on site overseeing all inspections and repairs during the entire project. As the OEM, GE has all needed drawings and is very familiar with our unit since we have used GE's services for the turbine controls conversion in 2016. Additionally, GE technical services were used during the last overhaul performed on Unit 8 in 2013.

Workers will be on site for 12 hour shifts, 6 days a week, for 5 weeks. The estimated cost for GE's technical services is $200,000 but actual cost will be billed according to contract rates for time and materials for services actually received and accepted by the City.

The City Purchasing Policies and Procedures requires that competitive proposals be solicited for professional services costing more than $50,000. Exceptions to this policy must be approved by City Council. Invoices will be based on contract rates for time and materials for services actually received and accepted by the City.

The approved FY 2018/19 Capital Improvements Plan includes the following funding for the Unit 7 Turbine Generator Overhaul.

2017/18 Engineering/Parts	$ 750,000
2018/19 Labor	1,500,000
2018/19 GE Tech Support	300,000
TOTAL	**$2,550,000**

Contracts awarded to date on this project are:

Professional engineering services (Burns & McDonnell)	$ 43,000.00
Steam turbine Unit 7 parts (awarded by City Council 5/14/2019)	380,307.67
Unit 7 Turbine Generator overhaul (awarded by City Council 6/11/2019)	411,464.00
Total	$834,771.67

ALTERNATIVES:

1. a. Approve an exception to the City's Purchasing Policies and Procedures for competitive bidding of professional services

   b. Award a contract to provide technical field advisor services for Unit 7 overhaul with General Electric Steam Services, Inc., Midlothian, Virginia, in an amount not-to-exceed $200,000.

2. Direct staff to solicit competitive proposals for field engineering services for Unit 7 overhaul from firms other than the original manufacturer of Unit 7 steam turbine generator.

3. Do not contract for technical field engineering services for Unit 7 overhaul.

CITY MANAGER'S RECOMMENDED ACTION:

This project will complete an overhaul of Unit 7 Turbine Generator. It is crucial to perform this work in a timely fashion in order to maintain compliance with the turbine generator and maintain reliability. General Electric is the manufacturer of the turbine generator and its technical field direction during the actual work is critical to the success of the project.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1 as stated above.