

COUNCIL ACTION FORM

SUBJECT: POWER PLANT UNIT 8 STEAM TURBINE PARTS

BACKGROUND:

This project is for the procurement of critical and miscellaneous parts for the Power Plant's Unit 8 Turbine-Generator Overhaul project. This unit is scheduled to be disassembled, inspected, and repaired at the same time as the Unit 8 Boiler Repair Project. This work is required to replace worn parts and inspect the turbine and generator for repairs that may be needed to avoid more serious damage. Repairs and replacement of worn parts will be completed as the inspection progresses. Experience has shown that certain parts require replacement every major overhaul and some parts become unusable during the disassembly process. This overhaul and parts replacement is recommended by boiler and machinery insurance carriers and follows accepted industry standards.

This portion of the project is for the purchase and delivery of turbine parts required to replenish inventory items and parts expected to be used during the overhaul.

The engineer's estimate for anticipated parts is \$875,000 based on preliminary quotes received from General Electric, the turbine-generator original equipment manufacturer (OEM).

Replacement of all the parts included in the engineer's estimate may not ultimately be required. However, these parts must be on site and available to prevent delays if needed during the overhaul. Parts not used for this overhaul will be stored for future overhaul work. The parts list was developed by reviewing past overhaul reports and recommendations from General Electric, as well as the judgment of the turbine-generator's current condition by plant management.

The City Council should note that during the overhaul, additional unforeseen components of the turbine that are disassembled may require replacement. Although City staff works to minimize the number of additional items that may need to be ordered, the experience of last year's Unit 7 turbine-generator overhaul showed there is a potential for future change orders for this project if additional worn components are uncovered during the disassembly process. This is a common occurrence in the power generation industry, and the project budget includes sufficient funding for unforeseen parts needs.

The disassembly/inspection/repair/reassembly portion of the project will have separate plans and specifications and will be bid separately at a later date. Lack of parts availability would result in claims for delay and extra work by the contractor performing the work.

The approved FY 2020/21 Capital Improvements Plan includes the following funding for the Unit 8 Turbine Generator Overhaul.

2019/20 Material/Parts	\$1,000,000
<u>2020/21 Construction/Labor</u>	<u>\$2,000,000</u>
TOTAL	\$3,000,000

Upon City Council approval and receipt of favorable bids, the actual Unit 8 Turbine-Generator Overhaul would take place during the Unit 8 Boiler Repair Project outage. The unit is expected to return to service near the end of calendar year 2020.

ALTERNATIVES:

1. Approve the preliminary plans and specifications for the Unit 8 Steam Turbine Parts Procurement and set March 25, 2020, as the bid due date and April 14, 2020, as the date of hearing and award of contract.
2. Delay the purchase of the steam turbine parts.

CITY MANAGER'S RECOMMENDED ACTION:

The Unit 8 Turbine-Generator is scheduled for a major overhaul during the outage for the Unit 8 Boiler Tube Repair Project, tentatively scheduled for summer of 2020. Turbine-generator overhauls are typically performed in the industry about every five years to restore unit efficiency and to maintain good unit life and reliability. These are parts that will most likely be needed for the overhaul and can also be placed in inventory. Without this overhaul, the Power Plant's performance would degrade considerably over time.

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