

COUNCIL ACTION FORM

SUBJECT: **STEAM TURBINE NO. 8 OVERHAUL CHANGE ORDER**

BACKGROUND:

This project is required to replace worn parts that were discovered after the Unit #8 steam turbine and generator were opened and inspected for repairs. This work is needed to avoid more serious damage to the turbine and generator. Repairs and replacement of worn parts will be completed as the inspection progresses and work is defined.

On January 22, 2013, City Council awarded a contract to NAES Corporation, Houston, TX, for Steam Turbine No. 8 Overhaul in the amount of \$807,800. Council may recall that this amount included the following components:

- \$443,800 for the lump sum base bid contract portion
- \$91,500 for the time and material based “not to exceed” contract portion
- **\$272,500 for the estimated time and material based contract portion**

The proposed change order would be Change Order No. 1. The turbine and generator were partially disassembled last week and it was discovered that the required turbine repairs that would allow this unit to operate for at least five additional years are more extensive than what was originally anticipated. The \$272,500 bid in the estimated time and material based portion of the contract is now not large enough to cover the needed work.

The updated estimate for turbine repair is now \$443,982. This cost was developed after a close visual inspection by Century Turbine Repair, a reputable turbine repair facility and the NAES subcontractor on the Unit #8 overhaul. A total non-destructive exam has not yet been completed. Additional repair work may be required after testing is complete.

This change order will add an additional \$171,482 to the project, bringing the total project dollar amount to \$979,282.

Council should note that the increased work covered in this change order is for the steam turbine only. Assessment of the generator is currently underway. **It is important to understand that, while down for an outage, these repairs are on our critical path to meeting the outage’s scheduled deadlines and avoiding additional outage costs.**

The engineer’s estimate to perform the overhaul work with the present work scope required and a reasonable amount of repair is \$1,830,000. The approved FY 2012/13

Budget and Capital Improvements Plan include \$3,500,000 for the turbine generator overhaul including parts, professional technical assistance, and contractor services.

To date, the project budget has the following items encumbered:

1.	\$526,086.90*	Actual cost for Unit #8 Steam Turbine Parts * This total did not include freight
2.	\$807,800.00	Actual cost of Base Bid, plus cost-not-to-exceed Options for Steam Turbine No. 8 Overhaul
3.	\$171,482.00	Contract Change Order No. 1 to Steam Turbine No. 8 Overhaul (this item)
4.	\$256,870.00	Actual cost for GE representative to provide technical direction for this overhaul.
	<u>\$1,762,238.90</u>	TOTAL
	Engineer's Estimate:	\$1,830,000
	Budgeted Amount:	\$3,500,000

ALTERNATIVES:

1. Approve contract Change Order No. 1 to NAES Corporation, Houston, TX, in the amount of \$171,482 for the Steam Turbine No. 8 Overhaul.
2. Reject contract Change Order No. 1 and delay the additional needed repairs.

MANAGER'S RECOMMENDED ACTION:

The Unit 8 Turbine-Generator is currently down for a major overhaul. 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. We are now into our 8th year since the last overhaul and the unit is showing increased wear. Without this overhaul and replacement of these parts, the Power Plant's performance would degrade considerably over time and the risk of catastrophic failure would greatly increase. This change order is necessary to restore the steam turbine back to good working order and allow the unit to run until the next major overhaul in approximately five years.

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