ITEM # ___29__
DATE: 12-16-14

COUNCIL ACTION FORM

SUBJECT: **REPLACEMENT OF POWER PLANT COOLING TOWERS**

BACKGROUND:

The 2014-2019 Capital Improvements Plan (CIP) includes a $1,600,000 project to make major repairs to the Power Plant's Unit 7 and Unit 8 cooling towers. These cooling towers are used to cool the water that condenses the steam into water after power is generated in the steam turbine.

Two recent evaluations of the cooling towers have confirmed that both structures have reached a state of unacceptable deterioration. This stems from erosion and decay due to near continuous operation since 1967 for unit #7 and 1982 for unit #8, with periodic repairs throughout this time period. **The conclusion of the original equipment manufacturer and third party inspections is to change project from a repair to a total replacement of both towers being rebuilt on their existing concrete basins.**

This project is crucial because the Power Plant turbines cannot operate without functioning cooling towers. Poorly performing cooling tower operation directly effects power production and lowers plant operating efficiency.

The City's cooling tower structures are made from wood, which erodes and decays over time with the constant flow of air and water. Last winter ice caused damage to the towers that required assistance from outside firms to repair. During the repairs, Power Plant staff had both towers inspected by a tower supplier. Their inspection was intended to develop a scope of work for repair of both towers. However, the repairs required were so extensive that they recommended replacement of both towers. Staff then hired a third party independent cooling tower specialist/consultant to inspect the towers for a second opinion on repair versus replacement. This consultant advised the City that the towers had reached the end of their lives, and that the City should expeditiously replace both towers in order to operate safely and reliably.

Staff has developed a new Capital Improvement Plan project sheet for Cooling Tower "Replacement" that will be presented to Council as part of the new CIP and will replace the current Cooling Tower "Repair" project already approved by Council. This replacement project is now estimated to cost $4,000,000. In order to have the needed work done next September, it is vital that engineering work commence immediately.

This phase of the project is for engineering services. The scope of work requires the engineering firm to provide detailed technical specifications, a detailed engineer's cost estimate, a list of potential bidders, bid evaluation assistance, and post contract award administration of the contract and field management of the contract and contractor during the periods of field work. Plans are to perform

the tower replacement work on Unit #8 at the same time the unit is down for the coal to natural gas fuel conversion project this fall. To meet this schedule, engineering must be performed in early 2015.

On October 29, 2014, a Request for Proposal (RFP) was issued to eighteen firms for proposals. The RFP was advertised on the Current Bid Opportunities section of the Purchasing webpage, and was also sent to two plan rooms. On November 25, 2014, staff received proposals from nine firms. Staff evaluated the proposals and independently evaluated and scored all nine proposals in the following two steps:

STEP 1:

The proposals were evaluated based on compliance with proposal documents. This criterion was rated on a Pass / Fail basis.

STEP 2:

The proposals were evaluated based on: 1) the firm's experience and references for similar projects; 2) knowledge, capabilities, skills, and abilities of the proposed project team based on the resumes submitted; 3) the described work approach; and 4) price and rates.

Based on the matrix used to quantify these proposals, the averaged scores in this step are shown below:

Offerors	**Averaged Scores**	**Evaluated Not-to-Exceed Amount (NTE) for Design & Bid Evaluation Assistance ***	**Post Contract Admin Work and Field Management (T & M or NTE)****	**OVERALL (NTE or Amount + T & M)**
Zachry Engineering Minneapolis, MN	**893**	**$47,500**	**$73,500 (based on 3 months at $24,500/month)**	**$121,000**
Brown Engineering Des Moines, IA	860	$44,000	$19,500 (based on 5 days for both towers)	$63,500
Kiewit Engineering & Design Co., Lenexa, KS	773	$70,000	Time & Material	$70,000 + T & M
Sega Inc Stilwell, KS	731	$105,000	$98,000	$203,000
Black & Veatch Corporation Overland Park, KS	691	$89,500	$106,700	$196,200
Burns & McDonnell Kansas City, MO	645	$195,000	$160,000	$355,000
Sargent & Lundy, LLC Chicago, IL	619	$190,000	$136,000	$326,000
Lutz, Daily & Brain, LLC Consulting Engineers Overland Park, KS	560	$219,000	$77,280	$296,280
Farris Engineering Des Moines, IA	522	$398,910	Time & Material	$398,910 + T & M

*The Evaluated NTE is the amount in column 3 that contributed to the Averaged Scores in column 2. This insured a "like-kind" evaluation of all of the price portions of the proposals since two of the offerors did not submit NTE pricing for post contract scope of work.

** It was not a mandatory requirement for offerors to propose NTE pricing for the Post Contract Administrative Work and Field Management pricing in column 4. The primary reason was because the actual amount of work needed will depend on the power plant staff's work load and whether the work can be done in house.

Each score was based on a scale of 1 to 10. Overall, 1,000 possible points were available cumulatively for each firm. The overall weighted score was a function of the aforementioned evaluation factors.

Staff judged that Zachry's experience is more comprehensive and their job approach better developed than the other firms. Zachry's post contract work appeared very reasonable, and their price quote was among the lowest received.

The apparent low bidder, Brown Engineering, assumed only five days of Administrative Work and Field Management, whereas all other bidders assumed a more realistic amount of time on site. For this reason, staff was very concerned that the required work could not be adequately accomplished by Brown at the price quoted.

Kiewit Engineering & Design was another highly ranked bidder. However, the unspecified nature of Kiewit's "time + materials" quote versus Zachry's not-to-exceed price made selecting Zachary a more secure funding choice.

Based on the averaged scores and a unanimous decision by the evaluation committee, staff is recommending that a contract be awarded to Zachry Engineering, Minneapolis, MN, for an amount not-to-exceed $121,000. Payments would be calculated on unit prices bid for actual work performed.

As was noted above, the current, Council-approved CIP has $1,220,000 in FY15/16 and $400,000 in FY16/17 for cooling tower repairs. The proposed CIP which City Council will receive in early 2015 will include a new Cooling Tower CIP sheet replacing the existing one, with $125,000 in FY2014/15 for engineering, and $3,875,000 in FY 15/16 for materials and labor to replace the cooling towers.

ALTERNATIVES:

1. Award a contract to Zachry Engineering, Minneapolis, MN, for Engineering for Units 7 and 8 Cooling Tower Replacement in an amount not-to-exceed $121,000.

2. Reject all proposals and delay the engineering for the replacement of the Units 7 and 8 Cooling Towers.

MANAGER'S RECOMMENDED ACTION:

Multiple outside evaluations have confirmed that this project is necessary to restore the integrity and efficiency of the cooling towers. If the cooling towers are not replaced this coming year, then the risks of catastrophic failure will increase significantly. Should that happen, electricity production would stop.

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