

## COUNCIL ACTION FORM

**SUBJECT: POWER PLANT UNITS 7 AND 8 NITROGEN OXIDE REDUCTION PROJECT**

**BACKGROUND:**

This project will provide for furnishing and installing nitrogen oxide (NO<sub>x</sub>) reduction equipment on Units 7 and 8 at the City's Power Plant. The approved 2009/10 Capital Improvements Plan (CIP) includes \$2,000,000 for Unit 7 NO<sub>x</sub> reduction. The CIP also includes \$3,400,000 for Unit 8 NO<sub>x</sub> reduction. The proposed bid documents call for completion of the work on Unit 7 by December 31, 2009, and completion of the work on Unit 8 by December 31, 2010. The bidding documents allow for award to a successful bidder to perform work on Unit 7, Unit 8 or both. **The Council should note that this bid process could result in the award of more than one contract for NO<sub>x</sub> reduction, should separate bidders be successful in their submittals for Units 7 and 8. This is a rather unusual situation for the City's normal bid processes.**

The equipment is designed to reduce emissions of nitrogen oxides in keeping with the U.S. EPA Clean Air Interstate Rule (CAIR). This rule requires facilities that emit NO<sub>x</sub> in excess of their U.S. EPA allotment of allowances to obtain allowances from facilities whose actual emissions are less than their allotment, and therefore have allowances to sell. This program is known as "cap and trade" and in effect creates a market for NO<sub>x</sub> allowances. There is considerable uncertainty regarding the cost to obtain these allowances, but staff expects the value could be in a range of \$1000/ton to \$5000/ton NO<sub>x</sub>.

Units 7 and 8 currently emit NO<sub>x</sub> at a rate of approximately 0.37 and 0.39 lb NO<sub>x</sub>/MMBtu, respectively. Burns & McDonnell, Kansas City, MO, developed plans and specifications for NO<sub>x</sub> reduction systems for Units 7 and 8 and the project was initially bid in 2008. The bids were rejected and the project delayed when the CAIR was judicially suspended in July 2008. The regulations have now been reinstated.

Staff expects these systems to include overfire air distribution equipment, burner retrofits and fuel oil igniters. These systems will stage and distribute combustion air in order to reduce peak flame temperatures and subsequent NO<sub>x</sub> formation.

Staff believes it will be fiscally advantageous to complete NO<sub>x</sub> reduction systems on Units 7 and 8 sooner, as the City is responsible for purchasing allowances to offset excess NO<sub>x</sub> emissions emitted as of January 1, 2009. Our goal is to manage this project to install equipment on Unit 7 by December 31, 2009, and on Unit 8 by December 31, 2010. **This timing of the work is important in the evaluation of the**

**bids, as both units cannot be down at the same time, nor can they be down during peak power usage times. We may see additional charges included in the bids to accommodate our need for scheduling.** A low bidder who may propose to do the work on both units in succession, and through the peaking season, would in all likelihood be rejected based on purchased power costs and reliability concerns.

Staff plans to include incentive payments in the equipment and installation contract according to the level of NO<sub>x</sub> reduction achieved. The Council should be aware that the incentives for reducing NO<sub>x</sub> significantly below the levels specified in the plans and specifications may be as much as several hundred thousand dollars for reductions on both units. Payback on this incentive could be as quick as one or two years, however, with NO<sub>x</sub> credits running in the range of \$1,000 to \$5,000 per ton.

**ALTERNATIVES:**

1. Approve the preliminary plans and specifications for the Electric Services Department Power Plant Units 7 and 8 Nitrogen Oxide Reduction Project, and set July 29, 2009, as the bid due date and August 11, 2009, as the date of hearing and award of contract.
2. Delay the Nitrogen Oxide Reduction Project.

**MANAGER'S RECOMMENDED ACTION:**

It is essential for the Power Plant to maintain a positive environmental record in the community and to be in compliance with EPA mandated rules and regulations. It is also imperative to achieve this in the most cost effective way possible. By choosing Alternative No. 1, the Power Plant should be able to achieve these goals. By moving forward at this time, we will maximize our opportunity to reduce NO<sub>x</sub> emissions and minimize our exposure to purchasing NO<sub>x</sub> allowances on the open market.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, approving the preliminary plans and specifications for the Electric Services Department Power Plant Units 7 and 8 NO<sub>x</sub> Reduction Project – Equipment & Installation, and setting July 29, 2009, as the bid due date and August 11, 2009, as the date of hearing and award of contract.