ITEM # 42
DATE April 22, 2008

COUNCIL ACTION FORM

SUBJECT: APPROVAL OF PLANS AND SPECIFICATIONS AND NOTICE TO BIDDERS FOR POWER PLANT NITROGEN OXIDE REDUCTION

BACKGROUND:

This project is to furnish and install NO_x reduction equipment on Units 7 and 8 at the Power Plant. The equipment is designed to reduce emissions of nitrogen oxides (NO_x) in keeping with the USEPA Clean Air Interstate Rule (CAIR). Beginning in 2009, this rule requires facilities that emit NO_x in excess of 0.15 lb NO_x per million Btu heat input to obtain allowances from facilities with emissions under the 0.15 lb threshold. This program is known as "cap and trade" and in effect creates a market for NO_x 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 NO_x to $4000/ton NO_x. Given an allowance price of $2000/ton, staff expects that NO_x allowances could cost $2,000,000 per year for Units 7 and 8.

Units 7 and 8 currently emit NO_x at a rate of approximately 0.37 and 0.39 lb NO_x/MMBtu respectively. The City has awarded a contract to Burns & McDonnell, Kansas City, MO, to develop plans and specifications for NO_x reduction systems for Units 7 and 8. We expect 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_x formation.

NO_x reduction projects for both Units 7 and 8 are currently budgeted for $4,500,000 in capital over three fiscal years. The approved FY 2007/08 CIP budget includes $300,000 for engineering services to design the projects.

Staff believes it will be fiscally prudent to complete NO_x reduction systems on Units 7 and 8 as soon as possible, as the City will be responsible for purchasing allowances for excess NO_x emissions beginning on January 1, 2009. We plan to manage the project to install equipment on Unit 7 in February 2009 and on Unit 8 in April 2009.

Staff plans to include incentive payments in the equipment and installation contract according to the level of NO_x reduction achieved. Based on the anticipated cost of allowances, staff feels that it is in the City's best interests to achieve the maximum NO_x reduction as quickly as possible. This contract may be awarded to a single firm to provide NO_x reduction on both units, or it may be awarded to two different firms, one for each unit, depending upon proposals received. The incentives will reward a contractor for achieving the highest level of NO_x reduction possible in the shortest possible time frame. Incentives could total $240,000 additional on the base contract.

ALTERNATIVES:

1. Approve the plans and specifications for the Electric Services Department Power Plant Nitrogen Oxide Control Project. Set June 11, 2008, as the bid due date and June 24, 2008, as the date of hearing and award of contract. Include the provision for incentive payments.

2. Approve the specifications and drawings at this time, and set the requested bid due date and date for hearing and award of contract, but do not include the incentive provision.

3. Do not approve the plans and specifications for the Power Plant Nitrogen Oxide Control Project at this time.

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 Plant would be able to achieve these goals. It may not be possible to complete all the work necessary in the allotted time due to great demands for materials and long lead-times with suppliers. As such, the Plant may need to purchase additional NO_x allowances in the short term while modifications are being made. By including incentive provisions in the bid documents, and moving forward at this time, staff hopes to maximize our opportunity to reduce NO_x emissions before new NO_x limits come into place and minimize our exposure to purchasing NO_x allowances on the open market. At an estimated allowance cost of $2,000,000 per year at current emission rates, and a project cost of $4,500,000, the payback for proceeding with this project is 2.5 years.

While the Burns & McDonnell report regarding power supply options indicates under the most cost-effective future that Unit #7 would be retired; it must be remembered that this option is not a given. This scenario is dependent upon the completion of a coal-burning unit near Ames by 2013-2014. It would also be dependent upon transmission being available or being able to be permitted and constructed by that same 2013-2014 time frame. This project will keep Unit #7 operating at the highest-efficiency and lowest-cost level possible until 2013-2014, and possibly beyond should no coal option be available in the necessary time frame.

By offering the incentive to lower NO_x formation in both units to the .15 lb/MMBtu level, the utility could save $ 462,000 per year in allowance purchases.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, approving the plans and specifications for the Electric Services Department Power Plant NO_x Reduction Project – Equipment & Installation. Set June 11, 2008, as the bid due date and June 24, 2008, as the date of hearing and award of contract.