



Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: December 21, 2015

Re: Construction of Boiler 8 NOx Reduction Upgrades

## Executive Summary

Staff has prepared for Council consideration of an ordinance approving plans and specifications for Boiler 8 NOx reduction upgrades, authorizing part of the project to be constructed by city employees or existing contracts and part to be bid by the purchasing agent and paid for with funds previously allocated to Capital Improvement Project, EL0183

## Discussion

Water & Light owns and operates a 35 MW natural gas fired steam boiler and turbine at the Municipal Power Plant that was installed in 1970. The system, known as Boiler 8 - Turbine 8, was originally designed to burn fuel-oil and natural gas. As the price of both of those fuels had historically been high, relative to coal, the boiler does not have a high historical use rate. The unit uses older technology and currently has a high emission rate with respect to nitrogen oxides or NOx. Water & Light recognized an opportunity with the recent availability of economically priced natural gas and conducted a preliminary study regarding upgrading Boiler 8 to reduce NOx emissions.

The study, delivered in April 2012, determined that upgrades could be made at reasonable cost, thus allowing W&L to improve the utility of the boiler in the new natural gas environment. W&L established a Capital Improvement Project, EL0183. The Boiler 8 - Turbine 8 system has the capability of being used as either a base-load or peak-load power generation asset. The estimated cost of the upgrades is \$2,900,000 and is already appropriated to CIP Project EL0183.

Water & Light held an interested parties meeting on February 3, 2014 at City Hall. After a public hearing on March 2, 2014, Council authorized preparation of plans and specifications for the project. In June 2015 the City's design consultant SEGA engineering issued plans for low NOx burners. Water and Light is now ready to proceed with construction of these improvements.

Water & Light is proposing to utilize a combination of City employees and existing Term and Supply contracts for the labor portion of this project and intends to bid materials through the City's Purchasing Agent.



## Fiscal Impact

Short-Term Impact: \$2,900,000 previously appropriated to CIP Project EL0183.

Long-Term Impact: Improved performance of the Boiler 8 - Turbine 8 system in the current low price natural gas environment.

## Vision & Strategic Plan Impact

### Vision Impacts:

Primary Impact: Not Applicable, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

### Strategic Plan:

Primary Impact: Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

### Comprehensive Plan Impacts:

Primary Impact: Infrastructure, Secondary Impact: Environmental Management, Tertiary Impact: Not Applicable

## Legislative History

Date	Action
02/03/2014	Interested Parties meeting held.
02/17/2014	R22-14 Resolution setting public hearing.
03/03/2014	Public hearing.

## Suggested Council Action

Staff recommends Council approve an ordinance approving plans and specifications for Boiler 8 NOx Reduction Upgrades, authorizing part of the project to be constructed by city employees or existing contracts and part to be bid by the purchasing agent and paid for with funds previously allocated to Capital Improvement Project, EL0183