

COUNCIL ACTION FORM

**SUBJECT: WATER POLLUTION CONTROL FACILITY METHANE
ENGINE- GENERATOR REHABILITATION PROJECT**

BACKGROUND:

The City's Water Pollution Control Facility uses three Caterpillar engines to convert methane into electricity to help power the WPC Plant. The engines drive a generator that is connected to the plant's electrical grid via automatic switchgear. Hot water from the engines is used to heat the primary digesters in order to treat the solids collected by the treatment process. This, in turn, generates methane gas that is captured and burned in the engines.

Methane Engine-Generator Set No. 3 (MG Set No. 3) is currently undergoing a rebuild, and MG Set No. 2 recently failed. This leaves only MG No. 1 in operation. This is a smaller engine with only half the generating capacity of the other two engines. Ideally, at least two of the three engines will always be available for service. The failure of MG Set No. 2 puts the Facility at risk in case MG No. 1 was also to fail.

MG Set No. 2 is original to the plant construction in 1989 and, like the other engines, periodically requires a major overhaul. The rehabilitation of these engines is not a routine maintenance task, but is something that can be expected to be required approximately every 30,000 hours.

Staff recommends that repairs to MG Set No. 2 be performed immediately. The cost of the repair is estimated at \$129,000. This overhaul is not currently programmed in either the operating budget or the Capital Improvements Plan. Savings in the form of unspent contingency from the WPC Clarifier Painting Project (\$53,449) is available to offset a portion of the repair costs. It is hoped that 2012/13 CIP projects will eventually produce savings that can retroactively be applied to this shortfall. In the meantime, however, Council will need to authorize the balance of the expense to come from the available Sanitary Sewer Fund balance.

Upon Council authorization, staff will secure the specifications for the repairs, which will be brought back to Council for issuance of a Notice to Bidders.

ALTERNATIVES:

1. Direct staff to proceed with development of specifications for the repair to Methane Engine-Generator Set No. 2, with a project budget of \$129,000 and funding as shown above.

2. Do not take any action related to Methane Engine-Generator Set No. 2 at this time.

MANAGER'S RECOMMENDED ACTION:

Production of electrical energy through the use of treatment process byproducts is an excellent example of "green energy," and it helps reduce the cost of purchased power for the treatment facility. In order to reduce the facility's electrical consumption and its electrical demand charges, it is in the City's best interest to restore this unit to service as soon as possible. This will also help maintain reliability of the majority of the three MG engine-generator sets.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, thereby directing staff to proceed with development of specifications for the repair to Methane Engine-Generator Set No. 2.