

OFFICE OF THE CITY MANAGER
DES MOINES, IOWA

ITEM 41B

CITY COUNCIL COMMUNICATION 97-062
FEBRUARY 3, 1997 AGENDA

SUBJECT:	TYPE:	SUBMITTED BY:
OVERHAUL OF SUPERIOR ENGINE/GENERATORS AT WASTEWATER RECLAMATION FACILITY	◆ RESOLUTION ORDINANCE RECEIVE/FILE	HAROLD E. SMITH CITY ENGINEER

SYNOPSIS —

On November 4, 1996, by Roll Call No. 96-3758, the Des Moines City Council approved the non-competitive procurement with Cooper Energy Services, Mount Vernon, Ohio, for the overhaul of one of the three Superior Engine/Generators located at the Wastewater Reclamation Facility and inspection of the other two engine/generators at a total cost of \$62,000. Engine/Generator No. 2 has been overhauled; and the inspections of the other two are complete. Cooper Energy Services now recommends a complete overhaul for Engine/Generator No. 3 and a somewhat lesser overhaul procedure for Engine/Generator No. 1.

Failure to overhaul these generators at this time will lead accelerated damage by running and the risk of failure—which would require replacement. Cooper Energy Service personnel are still on site finishing work under their service contract on Engine No. 2, and the City can save substantial cost by having them continue with the recommended repairs.

FISCAL IMPACT —

Funds for the required major overhaul work are available in the Wastewater Reclamation Authority Repair and Replacement Fund under Budget Index Code 056168.

RECOMMENDATION —

Approval of the non-competitive procurement for the overhaul services necessary to restore Engine/Generator No. 3 and Engine/Generator No. 1, including parts and labor, at an actual cost basis not to exceed \$150,000 with Cooper Energy Services of Mount Vernon, Ohio.

BACKGROUND —

Analysis of operation of the three engine/generators at the Wastewater Reclamation Authority by Cooper Energy Services has resulted in a recommendation for major overhaul work. Oil analysis on these generators indicated the immediate overhaul on Unit No. 2, which was authorized by Roll Call No. 96-3758 at a cost of \$62,000—which included a more-detailed analysis of Units 1 and 3. Breakdown and inspection of Unit No. 3 shows serious flaws that need to be repaired immediately, or the unit will need to be taken out of service to eliminate the risk of engine failure. Internal parts of this engine have substantial carbon buildup that causes improper detonations during ignition cycles. Engine No. 1 has similar damage but also has one cylinder that is blowing oil past the rings and worn cam rollers.

These three engine/generator units burn methane gas from the plant process and produce some \$300,000 worth of electricity each year. The units would have a current replacement cost of approximately \$1-million each. The units have been in continuous service for five and one-half years

with normal maintenance costs. Operation history for these kinds of units around the country indicate that major overhaul work can be expected on a three- to five-year frequency.

Major overhauls of sophisticated units of this type are best accomplished by factory service representatives with specialized skills. In addition, manufacturers will not warrant parts unless they are installed by their own service reps.