



Council Meeting: April 24, 2012

SUBJECT: Award of Contract to Overhaul Power Generation Facility Engines #1 and #2 and Approval of Budget Modification No. 33 (F1103-52)

BACKGROUND

Approval is requested for the award of contract in the amount of \$289,926, excluding applicable taxes, to Peterson Power Systems of San Leandro to perform a major overhaul of the Power Generation Facility Caterpillar Engines #1 and #2, as required by the Environmental Services Department. Approval is also requested for a 10% contract contingency in the amount of \$28,993 to cover any unforeseen conditions encountered during the work, and for Budget Modification No. 33 to move funding from FY 2012/2013 to the current fiscal year to complete the project.

DISCUSSION

The Power Generation Facility (PGF) is an electrical generation power plant located within the Water Pollution Control Plant (WPCP). The PGF was designed in 1995, constructed in 1997 and commissioned in November 1997. The PGF is owned and operated by the City of Sunnyvale and has the capacity to generate 1.6 megawatts of electricity. The facility is equipped with two Caterpillar Model 3516 Engine Generator Sets (800kW each) with Caterpillar Brushless SR4 Generators.

The engines are designed to burn lean fuels, including landfill gas, digester gas and air-blended natural gas (ABNG) or any combination of those gases. Currently, about 80% of the Plant's PGF fuel demands are met by the use of landfill and digester gas, with the balance being made up with ABNG. The PGF facility presently generates enough power to meet all of the needs of the Water Pollution Control Plant, and when both generators are running a small amount of power is exported back to the California power grid. In addition, heat generated by the engines is recovered and used in other plant processes.

In order to efficiently burn the blended gas fuel, meet strict air emission regulations and optimize electrical output, the Caterpillar engines must be maintained on a regular basis. Engine #1 is currently at 37,251 hours and Engine #2 is at 38,490 hours since the last major rebuild. Engine #2 will be rebuilt first, then after an appropriate break-in period #1 will follow. Though the factory-recommended interval for a major rebuild is at 40,000 hours of

operation, the engines must be overhauled now in order to comply with air emission regulations.

Section 2.08.070(b) of the Sunnyvale Municipal Code exempts from competitive bidding "situations where solicitations of bids would for any reason be impractical, unavailing or impossible." In this case, Peterson Power Systems of San Leandro is the only authorized Caterpillar dealer in the Bay Area and, as such, is the only local source for the remanufactured Caterpillar parts used in the overhaul.

FISCAL IMPACT

Estimated cost to the City will be \$289,926 plus \$28,993 for contingencies for a total budget of \$318,919. The Wastewater Utility has an annual appropriation for replacement of operating equipment such as engines and pumps. The FY 2011/2012 original budget in the Wastewater Equipment Replacement Account is \$151,393, with \$74,621 remaining for the year. In order to complete the project, staff is recommending bringing forward part of the FY 2012/2013 budget for equipment replacement, which is currently planned to be \$445,572.

There are a variety of pieces of equipment that are scheduled for replacement in FY 2012/2013. The funding remaining will address the highest priority equipment, which in this case is replacement of the dual media filters, part of the tertiary treatment process. Other components that require replacement are less critical and can be deferred to the following year for replacement. As staff reviews and makes adjustments to equipment replacement schedules annually, the deferral of replacement will be accounted for so that there is no impact on wastewater rates as a result of this budget modification.

**Budget Modification No. 33
 FY 2011/2012**

	Current	Increase/ (Decrease)	Revised
Wastewater Management Fund			
<u>Expenditures</u>			
Wastewater Equipment Replacement Account 020201 - FY 2011/2012	\$151,393	\$244,298	\$395,691
Wastewater Equipment Replacement Account 020201 - FY 2012/2013	\$445,572	(\$244,298)	\$201,274

PUBLIC CONTACT

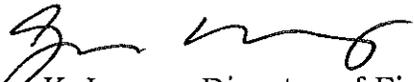
Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's Web site.

RECOMMENDATION

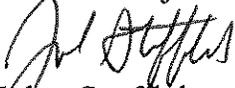
It is recommended that Council:

1. Award a contract, in substantially the same form as the attached draft Purchase Order and in the amount of \$289,926, excluding applicable taxes, to Peterson Power Systems for the overhaul of Power Generation Facility Caterpillar Engines #1 and #2;
2. Approve a 10% contingency in the amount of \$28,993; and
3. Approve Budget Modification No. 33 to move funding forward for this project.

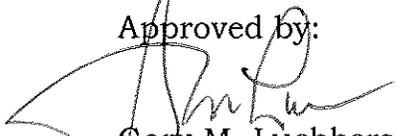
Reviewed by:


Grace K. Leung, Director of Finance
Prepared by: Pete Gonda, Purchasing Officer

Reviewed by:


John Stufflebean
Director of Environmental Services

Approved by:


Gary M. Luebbers
City Manager

Attachments

- A. Draft Purchase Order
- B. Peterson Powers Systems Quotes

PETERSON



2828 TEAGARDEN ST
 SAN LEANDRO, CA 94577
 800-963-6446

CITY OF SUNNYVALE
 FINANCE DEPARTMENT
 ACCOUNTS PAYABLE
 P O BOX 3707
 SUNNYVALE CA, 94088-3707

Service Dept. Copy

CUSTOMER NO. 6283550	CONTACT CARLOS GONZALES	PHONE NO. 408 730 7629	FAX NO.	EMAIL
QUOTE NO. 1215758	P.O. NO.	DATE Mar 29, 2012	WORK ORDER NO.	
MAKE AA	MODEL 3516	SERIAL NO. 04EK00772	UNIT NO. 1	HOURS 0

SEGMENT: 1 Perform In-Frame Overhaul on site in Sunnyvale. The in-frame overhaul consists of replacing the cylinder heads, pistons, liners, the installation of new main bearings and rod bearings. We will also replace the oil pump and oil cooler at this time.
 >Dissassemble engine
 >Inspect and evaluate componants
 >Assemble engine to Caterpillar guidelines
 >Paint final assembly.
 >Start - up and test for performance

Note: Core values not included in quoted price. All core must meet Caterpillar Criteria or the following prices will be additional to quoted price.

- > Cylinder Head \$944.80 each
- > Piston Packs \$ 649.50 each
- > Oil Pump \$2389.78
- > Oil Cooler \$1112.68

If any additional repairs are found during tear down inspection. A detailed report will be given and a quote will be generated for the additional repairs and submitted for your approval.

Warranty: Peterson Power Systems warrants labor for a period of 90 days. Caterpillar parts carry a 6 month warranty.

Exclusions:

- >On site overtime hours
- >Any additional repairs outside of scope of work stated above.

Parts	Qty	Item No	Description	Unit Price	Ext Price
	9	1496031	BEARING-MAIN	\$157.06	\$1,413.54
	16	3550783	KIT-GASKET(S	\$224.89	\$3,595.04
	2	7C6209	PLATE-THRUST	\$315.88	\$631.76
	16	1946518	PLUG-SPARK	\$93.24	\$1,491.84
	50	1U5516	DISC	\$1.48	\$74.00
	1	2072434	GASKET KIT	\$260.53	\$260.53
	1	2153046	KIT - GASKET	\$555.31	\$555.31
	5	2223117	CLEANER-BRAK	\$3.87	\$19.35
	5	2223123	OIL-PENETRAT	\$4.07	\$20.35
	12	4C4200	PAINT-YELLOW	\$9.51	\$114.12
	8	4C4205	PRIMER YELLO	\$8.08	\$48.48
	2	4C5599	ANTI SEIZE	\$17.09	\$34.18

75	4C87650	WHITE OIL PAD	\$1.50	\$112.50
4	4W3027	BREATHER A	\$72.94	\$291.76
16	0R7700	CYL PACK	\$1,453.41	\$23,254.56
1	0R3230	PUMP GP	\$1,183.37	\$1,183.37
1	0R5544	CORE GP-OIL	\$2,876.95	\$2,876.95
1	1497050	GASKET KIT	\$399.76	\$399.76
16	0R7734	HEAD GP CYL	\$827.59	\$13,241.44
			Total Parts	\$49,618.84
Labor				
300	FLD	Labor to perform in-frame overhaul	\$155.00	\$46,500.00
60	TRV	Travel labor to and from jobsite for two techs - 15 days	\$124.00	\$7,440.00
20	SHP	Shop Labor to prep new cylinder heads prior to delivering to job site	\$152.00	\$3,040.00
			Total Labor	\$56,980.00
Miscellaneous				
15	TRK MILAGE	15 days of two truck milage @ 120 miles per day	\$336.00	\$5,040.00
			Total Miscellaneous	\$5,040.00
			Segment 1 Total	\$111,636.64

SEGMENT: 2 Perform inspection of components.
 inspect and advise on the condition of the following components.
 > Turbo chargers
 > Aftercooler
 > Water Pump
 > Camshafts
 > Lifter Assemblies
 > Thrust Plate
 Do not order the attached parts until instructed by the customer.

Parts	Qty	Item No	Description	Unit Price	Ext Price
	1	10R1072	WATER PUMP	\$1,028.41	\$1,028.41
	1	1T0132	SEAL	\$6.28	\$6.28
	1	3B8453	SEAL	\$1.79	\$1.79
	1	3J1907	SEAL	\$0.82	\$0.82
	1	3P6081	GASKET	\$2.05	\$2.05
	1	4F7387	SEAL	\$5.19	\$5.19
	1	5N1940	GASKET	\$2.51	\$2.51
	2	8T1919	SEAL	\$5.10	\$10.20
	1	9M3786	SEAL O RING	\$5.94	\$5.94
	1	9X4594	SEAL	\$29.15	\$29.15
	2	9Y6893	GASKET	\$2.86	\$5.72
	2	9Y8069	GASKET	\$3.43	\$6.86
	1	1313815	SEAL GP	\$44.65	\$44.65
	2	0R6968	CARTRIDGE GP	\$1,502.88	\$3,005.36
	4	1S4810	GASKET	\$0.77	\$3.08
	4	1S6595	GASKET	\$0.69	\$2.76
	2	4W9725	GASKET	\$5.68	\$11.36
	4	5G1442	GASKET	\$3.55	\$14.20
	4	6P9890	SEAL	\$8.41	\$33.64

	2	8T1919	SEAL	\$5.10	\$10.20
	4	1525705	GASKET	\$51.03	\$204.12
	1	10R1072	WATER PUMP	\$627.65	\$627.65
	1	0R3230	PUMP GP	\$1,183.37	\$1,183.37
	1	0R7849	DAMPER AS	\$1,772.68	\$1,772.68
	1	4P8353	CAMSHAFT A	\$2,617.05	\$2,617.05
	1	7C2049	CAMSHAFT FT	\$2,612.61	\$2,612.61
	1	7C2051	CAMSHAFT R	\$3,133.32	\$3,133.32
	1	7C2054	CAMSHAFT A-F	\$3,133.32	\$3,133.32
	1	7C6209	PLATE-THRUST	\$315.88	\$315.88
	32	2636679	LIFTER AS	\$179.90	\$5,758.80
			Total Parts		\$25,686.97
Labor					
	80		Labor hours to inspect and replace if needed.	\$146.00	\$11,680.00
			Total Labor		\$11,680.00
Miscellaneous					
	1		Misc charges	\$125.98	\$125.96
	1		Inbound frieght	\$800.00	\$800.00
			Total Miscellaneous		\$925.96
			Segment 2 Total		\$38,192.93

SEGMENT: 4 Refurbish Fisher gas control valve.

	<u>Qty</u>	<u>Item No</u>	<u>Description</u>	<u>Unit Price</u>	<u>Ext Price</u>
Parts					
	1	R66X000042	Repair Kit	\$350.00	\$350.00
	1	1D475635072	4" stem / plug	\$644.00	\$644.00
	1	1H720799012	Sealing Washer	\$18.92	\$18.92
			Total Parts		\$1,012.92
Labor					
	3		Labor to refurbish gas valve.	\$146.00	\$438.00
			Total Labor		\$438.00
			Segment 4 Total		\$1,450.92

SEGMENT: 5 - Refurbish Generator. Remove generator prepare unit for shipment to Stanley Electric for complete inspection and refurbishing. Re-assemble the engine and generator.

	<u>Qty</u>	<u>Item No</u>	<u>Description</u>	<u>Unit Price</u>	<u>Ext Price</u>
Parts					
	1	SOL	Clean, Dip & Bake generator & report	\$6,220.00	\$6,220.00
			Total Parts		\$6,220.00
Labor					
	30		field labor	\$155.00	\$4,650.00
			Total Labor		\$4,660.00
Miscellaneous					
	1		transportation of gen end	\$500.00	\$500.00
			Total Miscellaneous		\$500.00
			Segment 5 - Total		\$11,370.00

TOTAL

\$162,662.69

- *The above pricing is good for 30 days*
- *Estimate EXCLUDES sales tax, freight, misc. service fees and hauling charges unless otherwise stated.*
- *You will be notified if additional repairs or parts are required.*
- *All invoices are due net 10th prox.*

ESTIMATED REPAIR TIME: 15 working days from start date

Any questions? Please call Patrick Higgins at 800-963-6446 Ext: 510 895-8400.



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CITY OF SUNNYVALE
 FINANCE DEPARTMENT
 ACCOUNTS PAYABLE
 P O BOX 3707

Service Dept. Copy

SUNNYVALE CA, 94088-3707

CUSTOMER NO.	CONTACT	PHONE NO.	FAX NO.	EMAIL
6283550	CARLOS GONZALES	408 730 7629		cgonzales@ci.sunnyvale.ca.us
QUOTE NO.	P.O. NO.	DATE	WORK ORDER NO.	
1214234		Jan 30, 2012		
MAKE	MODEL	SERIAL NO.	UNIT NO.	HOURS
AA	3516	04EK00771	2	0

SEGMENT: 1 Perform In-Frame Overhaul on site in Sunnyvale. The in-frame overhaul consists of replacing the cylinder heads, pistons, liners, the installation of new main bearings and rod bearings. We will also replace the oil pump and oil cooler at this time.

- >Dissassemble engine
- >Inspect and evaluate componants
- >Assemble engine to Caterpillar guidelines
- >Install new Air Starter
- >Paint final assembly.
- >Start - up and test for performance

Note: Core values not included in quoted price. All core must meet Caterpillar Criteria or the following prices will be additional to quoted price.

- > Cylinder Head \$944.60 each
- > Piston Packs \$ 649.50 each
- > Oil Pump \$2389.76
- > Oil Cooler \$1112.68

If any additional repairs are found during tear down inspection. A detailed report will be given and a quote will be generated for the additional repairs and submitted for your approval.

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	16	1948518	PLUG-SPARK	\$93.24	\$1,491.84
	50	1U5516	DISC	\$1.48	\$74.00
	1	2072434	GASKET KIT	\$260.53	\$260.53
	1	2153046	KIT - GASKET	\$555.31	\$555.31
	5	2223117	CLEANER-BRAK	\$3.87	\$19.35
	5	2223123	OIL-PENETRAT	\$4.07	\$20.35
	12	4C4200	PAINT-YELLOW	\$9.51	\$114.12
	6	4C4205	PRIMER YELLO	\$8.08	\$48.48

2	4C5599	ANTI SEIZE	\$17.09	\$34.18
75	4C87650	WHITE OIL PAD	\$1.50	\$112.50
4	4W3027	BREATHER A	\$72.94	\$291.76
16	0R7700	CYL PACK	\$1,453.41	\$23,254.56
1	0R3230	PUMP GP	\$1,183.37	\$1,183.37
1	0R5544	CORE GP-OIL	\$2,876.95	\$2,876.95
1	1497050	GASKET KIT	\$399.76	\$399.76
16	0R7734	HEAD GP CYL	\$827.59	\$13,241.44
1	STARTER	NEW AIR STARTER	\$2,675.88	\$2,675.88
			Total Parts	\$52,294.72

Labor

300	FLD	Labor to perform In-frame overhaul	\$155.00	\$46,500.00
60	TRV	Travel labor to and from jobsite for two techs - 15 days	\$124.00	\$7,440.00
20	SHP	Shop Labor to prep new cylinder heads prior to delivering to job site	\$152.00	\$3,040.00
			Total Labor	\$56,980.00

Miscellaneous

15	TRK MILAGE	15 days of two truck milage @ 120 miles per day	\$336.00	\$5,040.00
			Total Miscellaneous	\$5,040.00
			Segment 1 Total	\$114,314.72

SEGMENT: 2

Perfrom inspection of componants.
 Inspect and advise on the condition of the following componants.
 > Turbo chargers
 > Aftercooler
 > Water Pump
 Do not order the attached parts until instructed by the customer.

Qty	Item No	Description	Unit Price	Ext Price
1	10R1072	WATER PUMP	\$1,028.41	\$1,028.41
1	10R1072	*CORE DEPOSIT* - WATER PUMP	\$627.65	\$627.65
1	1T0132	SEAL	\$6.28	\$6.28
1	3B8453	SEAL	\$1.79	\$1.79
1	3J1907	SEAL	\$0.82	\$0.82
1	3P6061	GASKET	\$2.05	\$2.05
1	4F7387	SEAL	\$5.19	\$5.19
1	5N1940	GASKET	\$2.51	\$2.51
2	8T1919	SEAL	\$5.10	\$10.20
1	9M3786	SEAL O RING	\$5.94	\$5.94
1	9X4594	SEAL	\$29.15	\$29.15
2	9Y6893	GASKET	\$2.86	\$5.72
2	9Y8069	GASKET	\$3.43	\$6.86
1	1313815	SEAL GP	\$44.65	\$44.65
2	0R6968	CARTRIDGE GP	\$1,502.68	\$3,005.36
2	0R6968	*CORE DEPOSIT* - CARTRIDGE GP	\$732.49	\$1,464.98
4	1S4810	GASKET	\$0.77	\$3.08
4	1S6595	GASKET	\$0.69	\$2.76
2	4W9725	GASKET	\$5.68	\$11.36

	4	5G1442	GASKET	\$3.55	\$14.20
	4	5P9890	SEAL	\$8.41	\$33.64
	2	8T1919	SEAL	\$5.10	\$10.20
	4	1525705	GASKET	\$51.03	\$204.12
				Total Parts	\$6,526.92
Labor					
	30		Labor hours to change componahts if needed	\$146.00	\$4,380.00
				Total Labor	\$4,380.00
Miscellaneous					
	1		Misc charges	\$125.96	\$125.96
				Total Miscellaneous	\$125.96
				Segment 2 Total	\$11,032.88
SEGMENT: 3	Perform meggar test on Generator end and provide report on test.				
	<u>Qty</u>	<u>Item No</u>	<u>Description</u>	<u>Unit Price</u>	<u>Ext Price</u>
Flat Rate All					
	1		Meggar test	\$475.00	\$475.00
				Total Flat Rate All	\$475.00
				Segment 3 Total	\$475.00
SEGMENT: 4	Refurbish Fisher gas control valve.				
	<u>Qty</u>	<u>Item No</u>	<u>Description</u>	<u>Unit Price</u>	<u>Ext Price</u>
Parts					
	1	R66X000042	Repair Kit	\$350.00	\$350.00
	1	1D475635072	4" stem / plug	\$644.00	\$644.00
	1	1H720799012	Sealling Washer	\$18.92	\$18.92
				Total Parts	\$1,012.92
Labor					
	3		Labor to refurbish gas valve.	\$146.00	\$438.00
				Total Labor	\$438.00
				Segment 4 Total	\$1,450.92
			TOTAL		\$127,273.52

- The above pricing is good for 30 days
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- You will be notified if additional repairs or parts are required.
- All invoices are due net 10th prox.

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