COUNCIL AGENDA: JUNE 4, 2013

SUBJECT: PRE-SELECTION OF SLUDGE DEWATERING EQUIPMENT AND ELECTRIC BLOWERS

SOURCE: Public Works Department - Engineering Division

COMMENT: On March 19, 2013, Council directed Public Works to advertise for the pre-selection of a sludge de-watering machine and for the pre-selection of three electric blowers. Both pieces of equipment are essential in the day to day operation of the wastewater treatment plant.

The City's consultant, AECom, prepared technical specifications on both pieces of equipment and formatted the documents so that the City received a 20 year life cycle cost analysis from the individual vendors. Proposals were accepted by the City on April 30, 2013 and each proposal was reviewed by staff and AECom. Staff's summary of the 20 year cost analysis is shown below. The full evaluation by AECom on each piece of equipment is included in Council's packet.

THREE ELECTRIC BLOWERS

Manufacturer	Initial Cost to Purchase	Annual Power Cost	20 Year Life Cycle Cost
Neuros	$671,100	$207,977	$5,531,257
His	$446,699	$227,899	$5,646,634
Piller	$772,599	$196,881	$5,455,945

SCREW PRESS SLUDGE DE-WATERING EQUIPMENT

Manufacturer	Initial Cost to Purchase	Annual Polymer Cost	20 Year Life Cycle Cost
FKC	$341,830	$122,486	$3,793,876
Huber	$390,000	$81,657	$3,303,369
PW Tech*	$298,000	$40,829**	$2,478,210

Staff recommends that the City pre-select the Piller Electric Blower because it satisfies the technical specifications and has the lowest 20 year life cycle cost.

The PW Tech Sludge dewatering machine did not meet or satisfy the technical specifications. Further, there is reason to believe that the amount of polymer (lbs.) suggested by the vendor to achieve the desired sludge

"dryness" has been underrepresented. Staff recommends that the City pre-select the Huber Screw Press De-Watering Machine. Once the de-watering machine and electric blowers have been pre-selected, a pre-selection document will be prepared and presented to the successful vendor. The vendor's signature on the document affirms the cost is as presented in their proposal and commits the vendor to a specific delivery schedule.

RECOMMENDATION: That the City Council:

1. Approve the pre-selection matrix as presented in the staff report: and

2. Direct the Public Works Director to prepare or have prepared a "Commitment" document that commits the pre-selected vendor to the purchase price as presented in the vendor's proposal and to a specific equipment delivery.

ATTACHMENT: AECom Evaluations

P:\pubworks\General\Council\Pre-Selection of Electric Blowers.doc

Manufacturer		Neuros		HSI		Piller
Design Criteria						
Operation (day/yr)		365		365		365
Equipment						
Blower No. 1	$	223,700	$	148,900	$	257,533
Blower No. 2	$	223,700	$	148,900	$	257,533
Standby	$	223,700	$	148,900	$	257,533
Total	$	**671,100**	$	**446,699**	$	**772,599**
Operations Requirements						
No. of Operators per Day (no/day)		1		1		1
Hours/Day		4		4		4
Hours/Year		1040		1040		1040
Labor Rate		79.86		79.86		79.86
Labor Cost	$	**83,054**	$	**83,054**	$	**83,054**
Power Requirements						
Electricity Cost ($/kWh)	$	0.11	$	0.11	$	0.11
Electrical Demand (kWh/year)		1,890,700		2,071,813		1,789,829
Total Electrical	$	**207,977**	$	**227,899**	$	**196,881**
Maintenance Requirements						
Hours/Year		2		1		7
Maintenance Rate ($/hr)	$	79.86	$	79.86	$	79.86
Maintenance Cost	$	**160**	$	**80**	$	**559**
Electrician Requirements						
Hours/Year		0		0		0
Electrician Rate ($/hr)	$	**79.08**	$	**79.08**	$	**79.08**
Electrician Cost		**0**		**0**		**0**
Replacement Parts						
Annual Replacement Cost ($/yr)	$	360	$	900	$	450
Total Annual O&M Costs	$	291,551	$	311,934	$	280,945
20-Year PV Factor		16.67		16.67		16.67
Total	$	**5,531,257**	$	**5,646,634**	$	**5,455,945**

Ratio of Active to Total Polymer *0.45*

Manufacturer		FKC		Huber		PW Tech
Design Criteria						
Solids Loading (lb/hr)		673		673		673
Operation (hr/yr)		3640		3640		3640
Equipment						
Equipment Cost	**$**	**341,830**	**$**	**390,000**	**$**	**298,000**
Polymer Requirements						
Active (lb/dry ton)		30		20		10
Total (lbs/dry ton)		66.7		44.4		22.2
Cost Factor ($/lb)	$	1.50	$	1.50	$	1.50
Polymer Cost	**$**	**122,486**	**$**	**81,657**	**$**	**40,829**
Operations Requirements						
No. of Operators per Day (no/day)		1		1		1
Hours/Day		4		4		4
Hours/Year		1040		1040		1040
Labor Rate		79.86		79.86		79.86
Labor Cost	**$**	**83,054**	**$**	**83,054**	**$**	**83,054**
Power Requirements						
Electricity Cost ($/kWh)	$	0.11	$	0.11	$	0.11
Electrical Demand (kWh/day)		40		52.5		19.6
Total Electrical	**$**	**667**	**$**	**876**	**$**	**327**
Maintenance Requirements						
Hours/Year		10		80		26
Maintenance Rate ($/hr)		79.86		79.86		79.86
Maintenance Cost	**$**	**799**	**$**	**6,389**	**$**	**2,076**
Electrician Requirements						
Hours/Year		0		10		0
Electrician Rate ($/hr)	**$**	**79**	**$**	**79**	**$**	**79**
Electrician Cost	**$**	**-**	**$**	**791**	**$**	**-**
Replacement Parts						
Annual Replacement Cost ($/yr)	$	75	$	2,000	$	4,500
Total Annual O&M Costs	$	207,081	$	174,767	$	130,786
20-Year PV Factor		16.67		16.67		16.67
20-Year O&M PV	$	3,452,046	$	2,913,369	$	2,180,210
Total	**$**	**3,793,876**	**$**	**3,303,369**	**$**	**2,478,210**

Analysis w/o Polymer

Total Annual O&M Costs	$	84,595	$	93,110	$	89,958
20-Year PV Factor		16.67		16.67		16.67
20-Year O&M PV	$	1,410,204	$	1,552,142	$	1,499,596
Total	$	1,752,034	$	1,942,142	$	1,797,596