

WALK-ON #1

Lee County Board Of County Commissioners
Agenda Item Summary

Blue Sheet No. 20060859

1. ACTION REQUESTED/PURPOSE: Approve award of formal quotation (RFP B&R 2661-M320A and 2661-M320B) and issuance of a purchase order to US Filter PWS, Inc., the low price proposer, meeting all specification requirements for a MF/RO Water Treatment system in an amount of \$620,657.00 plus an allowance of \$30,000.00 for options to determine after receipt of detailed submittals.

2. WHAT ACTION ACCOMPLISHES: Provides the necessary water treatment equipment for the Waste To Energy Expansion Project.

3. MANAGEMENT RECOMMENDATION: Staff recommends approval of the requested motion.

4. Departmental Category: 8

5. Meeting Date: 6/27/2006

6. Agenda:

- Consent
- Administrative
- Appeals
- Public
- Walk-On

7. Requirement/Purpose: (specify)

- Statute
- Ordinance
- Admin. Code 4-1
- Other

8. Request Initiated:

Commissioner _____
 Department Public Works
 Division Solid Waste
 By: Lindsey J. Sampson

Lindsey J. Sampson

9. Background: Sealed quotes were received by the County's design engineer, Burns & Roe, on behalf of the Solid Waste Division on or about June 9, 2006. On that date four (4) responses were received. After review, recommendation was made to award to the low-priced proposer meeting all specification requirements, US Filter PWS, Inc.

Records are available in account string: 200923 40131.506540

Attachments: Burns & Roe bid evaluation dated 6/20/2006
Covanta Comments on the B&R bid evaluation dated 6/20/2006

10. Review for Scheduling:

Department Director	Purchasing or Contracts	Human Resources	Other	County Attorney	Budget Services				County Manager/P.W. Director
					Analyst	Risk	Grants	Mgr.	
<i>J. S. [Signature]</i> 6-21-06	N/A per JS			<i>[Signature]</i> 6/21/06	<i>[Signature]</i> 6-20-06	<i>[Signature]</i> 6/21/06	<i>[Signature]</i> 6/21/06	<i>[Signature]</i> 6/21/06	<i>[Signature]</i> 6-21-06

11. Commission Action:

- Approved
- Deferred
- Denied
- Other

RECEIVED BY COUNTY ADMIN:
 6-21-06 3:30 pm
 COUNTY ADMIN FORWARDED TO:
 6/22/06
 4pm

Rec. by CoAtty
 Date: 6/21/06
 Time: 2:05pm
 Forwarded to:
 3:20pm
 6/21/06

BID EVALUATION - MF/UF AND RO SYSTEMS
LEE COUNTY RESOURCE RECOVERY FACILITY

PROPOSALS CONSIDERED IN THE EVALUATION

Four proposals were received in response to RFP 2661-M 320A and M320B as follows:

1. Anderson Water Systems, Inc. - Dundas, Ontario
2. Aquatech International Corp. - Canonsburg, PA
3. International Water Treatment, Inc. - Mulberry, FL
4. US Filter PWS, Inc. - Colorado Springs, CO

Anderson Water Systems stated on page 10 of their proposal that, without pilot work, no guarantee as to reliable operation was offered. For that reason, Anderson's proposal was not considered further even though their base price of \$501,450 for the two systems was the lowest.

International Water Treatment, Inc. stated in their proposal that the prices quoted are contingent on a (4) week pilot study. In addition, the prices quoted are \$638,000 for an ultrafiltration system and \$258,000 for a reverse osmosis system (\$896,000 total). Because this total is significantly higher than prices quoted in other proposals, and because a pilot study would be needed, this proposal was also not considered further.

Aquatech International Corp. (AIC) and US Filter PWS, Inc. (USF) each submitted a proposal for a system that will meet the with performance guarantees without a pilot study. USF's base price was \$519,045 and AIC's base price was \$432,600 for the ultrafiltration system and \$177,100 for the reverse osmosis system (\$609,700). Since these prices are less than 20% apart, both are considered in the following technical comparison:

REVERSE OSMOSIS SYSTEM COMPARISON

1. **Cleanup RO Permeate Tank and Demineralizer RO Feed Pump Skid**

Both USF and AIC proposed to furnish FRP cleanup RO permeate tanks as specified. Both propose to furnish two (2) demineralizer RO feed pumps manufactured by Grundfos or Goulds with stainless steel wetted parts and assembled onto a structural skid. AIC included stainless steel piping and high performance stainless steel butterfly valves as specified, but USF included PVC piping and valves. USF was asked to quote an extra price, and this is shown in the pricing summary below.

2. **Reverse Osmosis Feed Pumps and Cartridge Filters**

Both USF and AIC proposed to furnish one (1) Grundfos RO feed pump with stainless steel wetted parts on the RO skid. A difference is that AIC's feed pump includes a variable speed drive to automatically adjust the flow rate. This would eliminate some manual adjustment that would be required with USF's system.

USF included a shelf spare RO feed pump and AIC did not. AIC was asked to quote an extra price and this is shown on the attached pricing summary.

USF proposed to furnish two, and AIC proposed to furnish one, cartridge filter. Since this cartridge filter elements are expected to be changed very infrequently, AIC was not asked to include a second.

3. Reverse Osmosis Trains

USF proposes to furnish a 3 x 2 x 1 array with four (4) Dow Filmtec BW30-365 RO membranes in each of the six vessels. Total membrane area is therefore 8760 square feet and the flux rate at 60 gallons per minute product flow would be about 10 gallons per day per square foot. This is a very conservative value and acceptable.

AIC proposes to furnish a 2 x 1 array with six (6) Dow Filmtec BW30-400 RO membranes in each of the three vessels. Total membrane area is therefore 7200 square feet and the flux rate at 60 gallons per minute product flow would be about 12 gallons per day per square foot. This is also very conservative and acceptable.

USF and AIC both propose to furnish the reverse osmosis trains assembled onto a structural steel skid with stainless steel high pressure and PVC low pressure piping. The instrumentation proposed by USF and AIC is very similar. AIC included stainless steel pneumatic tubing as specified and USF included flexible nylon pneumatic tubing. USF was asked to quote an extra price and this is shown on the attached pricing summary.

4. Demineralizer RO Permeate Tank and Ion Exchange Feed Pump Skid

Both USF and AIC propose to furnish FRP demineralizer RO permeate tanks as specified. Both propose to furnish two (2) ion exchange feed pumps manufactured by Grundfos or Goulds with stainless steel wetted parts and assembled onto a structural skid. AIC included stainless steel piping and high performance stainless steel butterfly valves as specified, but USF included PVC piping and valves. USF was asked to quote an extra price, and this is shown in the attached pricing summary.

5. Control Panels

AIC's base prices include one NEMA 12 control panel with a single PLC for both the UF and RO systems. AIC was asked to include a separate NEMA 4X control panel for each of the two systems installed on a skid in each system. AIC quoted a price to include an additional control panel installed on the RO skid with an Allen Bradley Model SLC-5/05 as specified. AIC also quoted prices to include NEMA 4X control panels in each system.

AIC later quoted a lower price based on the use of Allen Bradley FlexLogix PLCs and Panelview 600 screens in the two control panels. The net result of these is included in the pricing summary below.

USF's base price included a NEMA 4X control panel and PLC for each system, but not Panel View screens. USF's quoted price to furnish these is included in the pricing summary below.

UF/MF SYSTEM COMPARISON

1. MF/UF Trains

USF proposes to furnish two (2) AXIM 18 microfiltration trains with (18) membrane modules per train. Each membrane module includes PVDF hollow fibers with a surface area of 300 square feet and the filtration flow is from the outside to the inside of the fibers. At a flow rate of 100 gallons per minute, the flux rate across the membrane would be 26.7 gallons per day per square foot, a conservative value.

Unlike many other suppliers, USF manufactures its own membranes. Service flow is from the outside to the inside of the fibers, and the system uses an air assisted backflush. In one backflush step, air scours the outside surface of the membrane fibers while water is carrying solids away. During another step, air flows from the inside to the outside of the fibers to remove solids collected on the outside surfaces.

USF has submitted descriptions of several reference installations where these membranes are being used to filter sewage treatment plant effluent. Some of these, such as Water Factory 21 in California, are large installations and demonstrate that the proposed membranes are capable of operating with the types of organics that are in Lee County RRF cooling water. At Water Factory 21, the proposed membranes are successfully treating effluent from a sewage treatment plant that has been lime softened. However, these references are not for exactly the same application as specified. Lee County RRF cooling water is effluent from a sewage treatment plant that has been concentrated approximately ten times due to evaporation and then lime/soda ash softened.

Aquatech proposes to furnish two (2) ultrafiltration trains with Hydranautics Hydracap, Norit X-Flow, or Inge Multibore membrane modules. If Inge Multibore membranes are used, each train would include ten (10) modules with a surface area of 485 square feet each, or a total of 4850 square feet per train. At a flow rate of 100 gallons per minute, the flux rate across the membranes would be 29.7 gallons per day per square foot, a conservative value.

Like other ultrafiltration membrane modules, service flow is from the inside to the outside of the hollow fibers. When a differential pressure endpoint is reached, the membrane modules are forward flushed with water out through the ends of the fibers, and then backflushed with water from the outside to the inside.

Aquatech previously submitted a description of a reference installation at the Palomar Power station in California. At this installation, Inge single bore ultrafiltration modules are used to filter effluent from a sewage treatment plant. Aquatech also submitted a description of a pilot study done at a power plant in Puerto Rico demonstrating that Inge Multibore membranes worked well on an almost identical application.

2. UF/MF Permeate Tank and Cleanup RO Feed Pump Skid

Both USF and AIC propose to furnish FRP cleanup RO permeate tanks. Both propose to furnish two (2) cleanup RO feed pumps manufactured by Grundfos or Goulds with stainless steel wetted parts and assembled onto a structural skid. AIC included stainless steel piping and high performance stainless steel butterfly valves as specified, but USF included PVC piping and valves. USF was asked to quote an extra price, and this is shown in the attached pricing summary.

3. Backflush Pump Skid

AIC proposes to furnish two (2) ultrafiltration backflush pumps manufactured by Grundfos or Goulds with stainless steel wetted parts and assembled onto a structural skid. AIC included stainless steel piping and high performance stainless steel butterfly valves as specified.

USF stated in their proposal that the specified backflush pumps are not needed.

Both proposals include all required pumps and are acceptable.

4. Performance Guarantee

Both USF and AIC clarified the specified performance requirements and stated that the effluent silt density index (SDI) would be between 1 and 3.

PRICE COMPARISON

AQUATECH PRICE SUMMARY	
Base Prices, ex works - Canonsburg, PA	
UF system	\$428,000
RO system	\$174,000
Optional Prices for Required Equipment	
CIP common for UF & RO	\$30,200
Ferric chloride dosing system	\$10,200
Inline 100 micron strainer	\$3,000
PLC (Allen Bradley FlexLogix)/Panelview 600 for RO skid	\$23,500
Quoted Extra Prices for Required Equipment	

NEMA 4X control panel for UF	\$7,000
NEMA 4X control panel for RO	\$5,500
Shelf spare RO booster pump	\$14,600
PVC schedule 80 conduit	\$3,900
XLP or EPR cable	\$3,000
Allowance for start up spare parts	\$7,700
Allowance for field service engineer (15 days)	\$20,250
Freight to jobsite	\$15,000
Discount	<\$25,000>
Not to exceed value to be used at Owner's option	\$12,000
Total evaluated price	\$732,850

US FILTER PRICE SUMMARY	
Base Price, ex works, - Colorado Springs, CO	
MF and RO systems	\$519,045
Quoted Extra Prices for Required Equipment	
Sodium bisulfite feed system with ORP meter and PVC static mixer	\$8,500
Air receiver (240 gallon)	\$2,500
Stainless steel piping on all outdoor skids	\$16,000
High performance butterfly valves on all outdoor skids	\$12,000
Stainless steel pneumatic tubing (on RO skid)	\$1,200
Stainless steel pneumatic tubing (on MF skid)	\$3,000
Panelview 1000 screens on RO skid control panel instead of pushbuttons and lights	\$16,000
Panelview 1000 screens on MF skid control panel instead of pushbuttons and lights	\$9,000
(12) copies of operation and maintenance manuals	\$3,000
XLPE wire outside of enclosures (RO system)	\$2,500
XLPE wire outside of enclosures (MF system)	\$2,500
SIS wire inside of enclosures	\$6,500
100 micron strainer upstream of MF system	\$2,500
Allowance for start up spare parts	\$7,700
MF system field service engineer (10 days)	included
Allowance for RO system field service engineer (5 days)	\$8,500
Discount	<\$25,788>
Freight to jobsite	\$14,000
Not to exceed value to be used at Owner's option	\$12,000
Total evaluated price	\$620,657

DISCUSSION

The total evaluated prices shown above indicate that the MF and RO systems proposed by USF would cost approximately \$112,000 less than the UF and RO systems proposed by AIC.

The RO systems proposed by USF and AIC are considered technically equal.

The UF system proposed by AIC has the following technical advantages over the MF system proposed by USF:

- The MF membranes proposed by USF have a pore size of approximately 0.1 microns, and the UF membranes proposed by AIC have a pore size of approximately 10 nanometers or 0.01 microns. Therefore, effluent quality from the UF membranes proposed by AIC is expected to be better than from the MF membranes proposed by USF, and the cleaning frequency of downstream reverse osmosis membranes is expected to be less. However, how much less cannot be quantified.
- The MF membranes proposed by USF have been used on similar, but not identical applications. The UF membranes proposed by AIC have been used on similar applications and have been pilot tested on an essentially identical application. However, the performance is guaranteed by both USF and AIC.

RECOMMENDATION

Burns and Roe recommends that a purchase order be placed with US Filter for the proposed MF and RO systems. The additional cost of the UF and RO systems proposed by AIC is not justified by the technical advantages.

Burns and Roe also recommends, based on our technical review, that US Filter's clarification of the warranty in the commercial terms and conditions should be changed. It now states that US Filter is not responsible for the effect of chemical action or abrasion of the MF membranes. Burns and Roe recommends that this be changed to state that US Filter is not responsible for membrane damage due to chemical action or abrasion from constituents other than those normally present in the water described in the technical specifications, and other than those normally present in membrane cleaning chemicals recommended by US Filter.

Kantor, Brigitte

From: Young, Peter [pyoung@CovantaEnergy.com]
Sent: Tuesday, June 20, 2006 5:12 PM
To: Sampson, Lindsey J.; D'Amico, Don
Cc: dcastro@hdrinc.com; Anacker, Dennis; Howard, Jody; jkelly1119@verizon.net
Subject: FW: Lee County Water Treatment Tech Bid Eval

Attachments: Tech Bid Eval rev4 6-20-06.doc; FW: Lee County - USF answers to questions with marked up T&C's



Tech Bid Eval rev4 6-20-06.doc...
FW: Lee County - USF answers L...

Gentlemen,

Based on B&R's Water Treatment Equipment Technical Bid Evaluation, dated June 20, 2006, attached, Covanta concurs with B&R's selection and recommendation to purchase the subject package from US Filter PWS, Inc.

The following comments are for your consideration and guidance:

1. Commercial Terms & Conditions - BREI to complete their negotiations with US Filter based on Covanta's attached recommended edits to the Terms and Conditions offered by US Filter. Covanta feels that pending changes yet to be agreed should not present any "deal breakers", however the County still needs to review the proposed changes and determine if acceptable to the County.
2. Price: Covanta concurs with B&R's recommended adjustments and overall award Price of \$620,657 which includes approximately \$28K in allowances.
3. Project Estimate: \$751,122. This estimate amount does NOT include the \$557,079 additional contingency set aside for water treatment equipment in the Project Budget.
4. Bond: Excluded. This is an equipment delivery only order, therefore County does not require a bond and is not included in the recommended award.
5. Payment Terms: BREI to complete the negotiation on payment terms - this typically is not an issue.
6. Schedule: It is Covanta's understanding that US Filter is committing to deliver the equipment in 20 weeks from receipt of an order on the condition that BREI waives drawing approval of the Microfilter skid system. Covanta does not object to this waiver although BREI will need to work with the resulting interface points and arrangement. A 20 week schedule gets the equipment delivered by mid-November 2006 which provides the opportunity to complete the installation by February 2007. However, BREI needs to confirm its BOP design schedule for Covanta to determine if the procurement of the erector of the Water Treatment system will also support this schedule. BREI needs to negotiate early but sound drawing delivery dates, and then advise of its BOP design schedule for Covanta's use in re-evaluating the forecasted plan.

B&R should proceed immediately with the following:

- 1) Issue its final commercial evaluation that addresses the final negotiated terms per the items noted above;
- 2) Issue the County a purchase order term sheet that reflects the final agreements and understandings to be incorporated into the purchase order; and
- 2) Issue a clean version of the T&C's with ABB's requested 90 day warranty limitation on field services,

3) Issue the conformed specification, with all data sheet data filled-in, for inclusion in the purchase order.

County to expedite this for BOCC approval on June 27, 2006 in order to avoid the BOCC's summer breaker through July - this is critical to the Project's Schedule.

Peter

-----Original Message-----

From: Don D'Amico [mailto:ddamico@roe.com]
Sent: Tuesday, June 20, 2006 3:33 PM
To: Young, Peter
Cc: Glenn Fontana
Subject: Lee County Water Treatment Tech Bid Eval

Pete,

Attached is the updated Tech evaluation for Wtr Treatment. Upon completing the commercial evaluation, documents will be posted.



Lee County
SOUTHWEST FLORIDA

**INTEROFFICE MEMORANDUM
FROM
SOLID WASTE DIVISION
Phone: (941) 338-3302 Fax: (941) 338-3304**

Date: June 21, 2006

TO: Shirley Carney
Public Resources

From: Brigitte Kantor
Solid Waste Coordinator

SUBJECT: Blue Sheet # 20060859 -- Walk On Agenda Item For 6/26/2006 BOCC meeting

Dear Shirley,

I kindly request your assistance scheduling the above blue sheet as a Walk-On item for the June 26th, 2006 Commission meeting agenda. **This item is time critical as it pertains to a significant construction component of the WTE Expansion project.** With the BOCC not meeting in July, a delay in presenting this item to the Board would greatly impact the ongoing, current construction activities.

Thank you.

Cc: Jim Lavender
Lindsey Sampson