



March 25, 2022

Mr. Himanshu Mehta, PE
Managing Director
Indian River County Solid Waste Disposal District
1325 74th Avenue SW
Vero Beach, Florida 32968

RE: Landfill Gas System Improvements
Comparison of Quotes for Blower and Flare Skid Equipment

Dear Mr. Mehta:

The Indian River County (County) Solid Waste Disposal District (SWDD) has recently undertaken a project to upgrade the landfill gas (LFG) skid equipment, including the flare and blower system, to replace aging infrastructure and accommodate the LFG needs of two ongoing projects. The leachate evaporation system (currently in design) will be constructed approximately ½ mile from the existing LFG skid and the renewable natural gas (RNG) project (also in design) will be located on the neighboring Indian River EcoDistrict property. Both projects will utilize LFG as a fuel source. Therefore, a new LFG pipeline will be constructed to serve each project and the LFG blower skid will be upsized to provide the necessary pressures to serve each facility.

Current market conditions and availability of materials have indicated that the lead time for delivery of the LFG skid components will exceed 30+ weeks. Kimley-Horn and Associates, Inc. (Kimley-Horn) has subcontracted the design of the LFG system improvements to BioGas Engineering (BGE). Quotes for the LFG skid equipment were obtained from three companies by BGE, with one of those being from BGE's own in-house fabrication group. Kimley-Horn was asked by SWDD to provide an independent review of the three quotes received. It is important to note that aside from utilizing BGE for the system design, Kimley-Horn has no business or investment interest in BGE as a firm.

BGE requested quotes from Perennial Energy, Inc. (PEI), LFG Specialties (an Aptim Company) and BGE's fabrication group. The requested quotes (base bids) were to be for skid-mounted systems meeting standard minimum specifications for each piece of equipment that included:

- Blowers (two, each with capacity of 1,500 standard cubic feet per minute)
- Aftercooler
- Control Panel
- Variable Frequency Drives
- Candlestick Flare
- Flow Meters (3)
- Programmable Logic Controller
- Knockout pots
- Miscellaneous piping

The quotes also included provisions for commissioning services, instrumentation and controls for integrating the evaporation system and RNG project controls, upgrade options for the flow meters and PLC, an installation allowance and freight (a lump sum allowance for all 3 bids).

Each of the three bids received included hard bids and model information for most base bid items. Exceptions or notable deviations area summarized as follows.

PEI

- Blower, aftercooler and VFD model details not provided, though the specifications for each meet or exceed the minimum requested level of service.

Aptim

- Initial bid was adjusted by Aptim to reflect 3 flow meters (initially included only two).
- The updated bid did not include the requested upgrade to stainless steel piping (initially included carbon steel) or the addition of the aftercooler to the skid (initial priced on slab). These line costs were adjusted (not by Aptim) to match the pricing of the other two bids.

BGE

- BGE is proposing to purchase primarily the same manufacturers/components as PEI and Aptim but fabricate the skid remotely for faster delivery time.

With all quotes adjusted to reflect similar flow meters, PLCs, skid mounted design, and stainless-steel piping, the comparison of the bids was completed and is summarized in **Table 1**.

Supplier	Quote	Delivery Time	County Procurement Time	Total Time
BGE	\$ 789,000	35	2*	37
PEI	\$ 758,054	38	8	46
Aptim	\$ 768,503	41	8	49

*BGE assumed faster delivery time due to ongoing work with the County. Other bidders assumed standard competitive bid process including 30-day advertisement.

Each of the three bids was within 2 percent of the high bid, with PEI being the low bidder; however, BGE noted the fastest total delivery time, including procurement time. As noted above, BGE assumed a 2-week County procurement time due to the potential to expedite a purchase order given the ongoing work with SWDD. The resulting 37-week delivery time would prioritize the BGE bid (which was a nominal \$30,946 above the low bid). Normalizing BGE's procurement time to 8 weeks would increase the total delivery time to 43 weeks, which is slightly more expedited than the low bidder's estimate.

It is Kimley-Horn's opinion that the adjusted bids are substantially similar and would provide for a comparable level of performance of the skid regardless of the provider. Both the quotes and the delivery total time to deliver the equipment (if normalized to 8 weeks of County procurement time) are tightly clustered. The County may opt to prioritize PEI's low bid (for a \$30,946 savings) or BGE's delivery time (for a 3-to-9-week time savings, depending on procurement time).

Please contact me should you have any questions or require additional information.

Sincerely,



Jill Grimaldi, BCES
Project Manager

cc: Ron Jones, SWDD

Date: 18-Feb-22, Revised 25-Mar-22
Client: Indian River County
Location: IRC Landfill, Vero Beach Florida
Bid Comparison: Bid Comparisons of Blower and Flare Skid

	Equipment Comparison Provided in Vendor Quote										
Vendor	Blower Type	Aftercooler	Max H2S Concentration	Control Panel	VFD	Flare	Flow Meter Type	PLC	Skid	Inlet & Outlet Knockouts	Piping
Perennial (PEI)	model details not provided	model details not provided	1500 ppmv	NEMA 4	Included (2 for blower and 1 for aftercooler) -Brand unknown	12" Candlestick	Veris Annubar (2 meters)	Allen Bradley CompactLogix	Yes	Yes	-SS sch 10 -Recirc Line for higher turndown
Aptim	Lone Star model LS8-9	Smithco model 1 F010-090-1, 304 SS or equal -mounted on dedicated slab	1000 ppm	details not provided	Includes 2 VFD for blowers and 1 for aftercooler (Square D Altivar)	Model CFT1242110	Kurz thermal dispersion flow meter (2 meters)	GE VersaMax PLC with Yogogawa model FX1006	Yes, but aftercooler is on concrete pad	No, only inlet	-All carbon steel -Recirc Line for higher turndown
Biogas Engineering (BGE)	Lone Star model LS8-9 or equal	AXH Model 938ZF or equal	1500 ppmv	NEMA 4 with AC	Yaskawa (requested by County) (2 blowers and 1 for aftercooler)	12" Candlestick	Rosemont Compact Conditioning Orifice (3 units - Flare, Heartland and RNG)	Allen Bradley CompactLogix	Yes	Yes	-SS Piping sch 10 -Recirc Line for higher turndown
Abutek	quote requested but not provided										
John Zink	quote requested but not provided										

	Cost Comparison										Schedule Comparison		
	Costs Provided in Vendor Quote			Adders (color coded to equip description)									
Vendor	Quote as provided by vendor	Commissioning (\$ day)	Controls for HL and RNG Integration	A Rosemount Flow Meter (3 required)	B PLC Upgrade to Allen Bradley	C Additional Install & Construction Cost	D Inlet & Outlet KO Requirement	E SS Piping	F Freight	Total Cost	Delivery Est	IRC Procurement Cycle	Comments
Perennial (PEI)	\$ 719,954	\$ 3,600	\$ 16,500	included	included	included	included	included	\$ 18,000	\$ 758,054	38	8	-includes 3 days of field tech, extra days are \$1800 -blower deduct of \$94,615 -CSF of \$97,050 included -8 weeks for submittals + 28 weeks for delivery = 36 weeks
Aptim	\$ 662,290	\$ 21,713	\$ 16,500	included	included	\$ 20,000	included	\$ 30,000	\$ 18,000	\$ 768,503	41	8	-5 weeks for drawings + 34 weeks for ready to ship = 41 -42' flare, 12" diameter included
Biogas Engineering (BGE)	\$ 771,000	included	included	included	included	included	included	included	\$ 18,000	\$ 789,000	35	2	-long lead items is after cooler which is 30 weeks, adding 4 weeks to schedule for install -including 2 weeks for procurement cycle, may be able to reduce

Adders	
A	Based on requirement of 3 Rosemont Compact Conditioning Orifice Plate Flowmeters to measure flow to flare, RNG facility and Heartland facility. Adder cost of \$7k to upgrade to Rosemount and \$12k for additional meter.
B	Based on upgrading PLC panel to Allen Bradely CompactLogix
C	Based on extra cost to install equipment that will be installed on concrete pad. Incremental cost for crane, piping, shipping and electrical at the site.
D	Based on requirement to have a knockout/demister at inlet and outlet of skid. Include \$18k for each if not included in bid.
E	Based on all skid piping to be constructed with stainless steel instead of carbon steel.

Excludes freight charges

Excludes taxes

Commissioning estimate based on 5 days.

REV2 version includes updated pricing received from Perennial on Feb 28th - includes price for Rosemont Compact flowmeters and control valve.