



Memorandum

MONTEREY REGIONAL WASTE MANAGEMENT DISTRICT

Reviewed by Wmm Date 6-8-07
General Manager

DATE: June 8, 2007
TO: General Manager
FROM: Assistant General Manager
SUBJECT: Refurbish and Repair Landfill Gas (LFG) Skid Compression Equipment and Gas Filter System

RECOMMENDATION: That the Board of Directors approve the enclosed Scope of Work from Shaw LFG Specialties to refurbish and repair the LFG Skid Compression Equipment Delivery and Filter System. This unit is designed to provide back-up gas extraction and filtration capability in the event the main unit goes down. Funds to pay for the \$350,500 cost to refurbish and repair this equipment are included in the FY 2006/2007 Budget.

DISCUSSION

A main component of the Monterey Regional Waste Management District's (District) LFG System is the extraction and compression equipment that brings the landfill gas to the engines. The District's LFG Power Generation Facility currently does not provide back-up landfill gas extraction capacity in the event the main gas extraction unit goes down. There are both regulatory and contractual compliance obligations that necessitate a system capable of continuous operation for gas extraction and power generation. District staff recognized the need for back-up extraction and filtering capability and recommended a refurbishment of the former unit (which had been removed in 2001) in the 2006/2007 Budget. Funds totaling \$350,500 were approved for the refurbishment and delivery of this unit.

Staff was going to have the original skid manufacturer, Shaw LFG Specialties, perform the refurbishment and repair work. However, during the discussion of the necessary repairs, the District received a proposal from Shaw LFG Specialties for a new unit for the same price as the one that was refurbished. The new unit as well as the substantially refurbished unit, would include enhancements the currently operating gas extraction system (i.e., the primary unit) does not have. Finally, Shaw proposed a price for the new unit that was the same as the budgeted amount for basic refurbishment alone.

As a result, and in an effort to make certain that the District received the best possible service and equipment, staff requested the Board in April to authorize a Call for Bids for the purchase and installation of a new LFG Extraction and Filtration System, with upgrades to the system. Staff requested permission to develop a Call for Bids for a new gas extraction unit with a belief that there would be other manufacturers that would be able to provide such equipment that would be comparable to Shaw's proposal, and that would be in the best interest of the District.

Since the April Board meeting, staff has performed an aggressive search for comparable systems and vendors who would be able to meet the needs of the District besides Shaw LFG Specialties. After a thorough literature and web based search was performed, three companies were contacted that seemed to have the required expertise to provide the District with a comparable system. Those companies contacted were: Dresser-Rand (Houston), Quinn Power Systems CAT (Salinas), and SCFM Compression Systems (Oklahoma).

One vendor did not respond despite repeated attempts, one stated that they would use a third party manufacturer as they did not have the resources internally, and the last vendor estimated a delivery time frame of over 60 weeks. Staff has concluded these vendors are either not responsive to the needs of the District, or have too long a lead time to make their response reasonable in terms of the needs of the District. Staff concluded there was only one potential bidder, other than Shaw, for new equipment, and that potential bidder would require over a year to deliver the new equipment.

Following staff effort over the past several weeks, and upon further discussions between District staff and Shaw personnel it was determined that Shaw was actually proposing to substantially refurbish and repair the unit to include enhancements the currently operating gas extraction system (i.e., the primary unit) does not have and for a price that was originally quoted, plus freight.

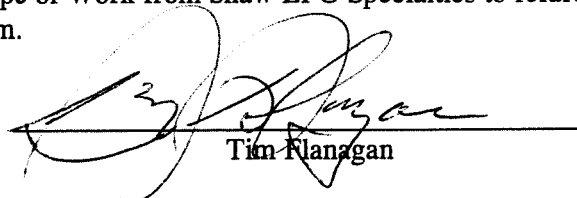
As a result of staff research on the matter, staff is recommending, and District Counsel concurs, that it is in the best interest of the District to accept the proposal from Shaw LFG Specialties to refurbish and repair the existing LFG skid and equipment at a cost of \$350,500 including tax and freight. Shaw LFG Specialties was the original system designer and is currently the District's Landfill Gas Field Engineering Consultant. Several significant enhancements to be included with the refurbishing and repair of the LFG skid are:

1. Landfill Gas Knock-Out Pot rated to hold 120 Gallons of condensate.
2. Landfill Gas Blower Compressor System rated to 2,000 standard cubic feet per minute (SCFM).
3. Landfill Gas-to-Air After Cooler System with variable frequency drive for automatic temperature control.
4. Landfill Gas Bypass System to maintain design pipeline delivery pressure.
5. Landfill Gas Filtration System allows the District's LFG recovery and collection system to have the necessary back-up it should have, and will increase system efficiency and performance by allowing staff to perform regular filter maintenance without shutting the entire system down.
6. Landfill Gas Re-Heater which removes moisture from the gas, allowing better system and engine performance, while reducing long term maintenance resulting from moisture in the LFG fuel supplied to the system equipment.

District staff recommends the refurbishment and repair of the gas skid and equipment, which will be cost-effective and allow for the necessary redundancy of the LFG Collection and Recovery System in order to ensure regulatory and contractual compliance. Shaw LFG Specialties will perform the work in accordance with their Scope of Work, which is attached.

SUMMARY

It is recommended that the Board approve the Scope of Work from Shaw LFG Specialties to refurbish and repair the back-up landfill gas extraction and filter system.



Tim Flanagan

Attachment



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Main: (419)424-4999
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LANDFILL GAS DELIVERY SYSTEM

**LFG SPECIALTIES SERVICES AGREEMENT
NO. 030745**

Date: June 7, 2007

**PRESENTED TO:
Monterey regional Solid Waste Management
Monterey, CA
(831) 384-5313**

**PRESENTED BY:
Louis Kalani – Product Manager
LFG Specialties, LLC
16406 US Route 224 E
Findlay, OH 45840
(419)425-6299**

**PROJECT REFERENCE:
Monterey regional Solid Waste Landfill
Landfill Gas Delivery Skid Upgrade & Repair Services**

SYSTEM REFURBISHMENT AND UPGRADE SERVICE AGREEMENT

This Services agreement "Agreement" which includes the Equipment Specification and Terms and Conditions of Sale below is entered into on the undersigned date, by and between the service provider, LFG Specialties, L.L.C. "LFG Specialties", a Louisiana corporation, and purchaser, The Monterey Regional Solid Waste Management (hereinafter "Purchaser").

- A. LFG Specialties is the manufacturer of certain specialty "Equipment" more fully described in paragraph 1. below, "Equipment Quote".
- B. Purchaser wishes to purchase from LFG Specialties the services per the terms and conditions set forth herein.

Therefore, in consideration of the covenants contained herein and for other good and valuable consideration, the legal sufficiency of which is acknowledged, the parties wishing to be legally bound agree as follows:

I. SERVICE WORK SCOPE:

Purchaser hereby agrees to purchase from LFG Specialties such Services as described in this Agreement per the following and subject to the standard "Terms and Conditions of Sales" herein:

A. Work Description:

LFG Specialties will perform the refurbishments and upgrades needed to improve the capacity of the gas delivery skid package provided by LFG Specialties to Monterey Regional back in 1993. The system capacity will need to be improved in order to meet the present engine plant capacity requirement. A new larger gas compressor will be used along with larger and more efficient gas after cooler and piping trains. A gas re-heater will be added to dry the gas and prevent condensation build up in the gas manifold to the engines. System controls and instrumentations will be evaluated and upgraded as deemed necessary to match the presently operating system and to allow for a functional and reliable gas delivery operation. The gas coalescing filtration system will be upgraded with redundant units to allow for the servicing and replacement of the filter elements without shutting down the plant.

System performance will be increased in order to meet the following conditions:

Design flow range	<u>0 to 2000 SCFM</u>
Inlet temperature	<u>80 to 90 °F</u>
Ambient temperature	<u>40 to 85 °F</u>
Inlet vacuum	<u>-40 in. w.c.</u>
Inlet relative humidity	<u>100 %</u>
Skid discharge pressure	<u>3.5 to 4.0 psig</u>
Discharge temperature	<u>100 to 115 °F</u>
Discharge Gas RH	<u>80 %</u>
Site elevation	<u>50 ft (ASL)</u>

Expected gas composition is: 50% CH₄; 30-40% CO₂; Balance air and saturated.

B. Price Schedule:

LFG Specialties will provide the equipments refurbishments and upgrades services to the gas delivery skid including repair and/or replacement of skid components in order to meet the new

performance requirement. The refurbished system will meet the LFG Specialties quality standards and our standard warranty for new equipments. 3 new sets of operation and maintenance manuals will be provided as well as 5 man-days of start-up and commissioning assistance including travel and living expenses

Lump Sum Price, FOB Findlay, OH, excluding tax, is \$ 338,500.00

Estimated shipping and handling from LFG Specialties shop to site (shipping to be charged at actual cost plus 15% handling fee) \$ 12,000.00

ALL PRICING IS FOB — FINDLAY, OHIO

C. Shipment Terms:

Shipment terms are F.O.B. LFG Specialties' facilities, Findlay, Ohio. LFG Specialties Service Agreement calls for the Purchaser to pay all installation costs, freight from our facility to the project site all applicable taxes and necessary freight insurance.

D. Shipment Schedule:

LFG Specialties makes every effort to meet our Customers delivery requests and special requirements. Delivery for the landfill gas delivery system outlined in this Agreement is:

Submittal Drawings: 4 weeks after receipt of order for submittal drawings
Equipment Shipment: 14 to 16 weeks from receipt of approval for submittal drawings.
(Actual delivery to be determined at time of submittal approval)

E. Payment Terms:

Terms of payment are 100% net due 30 days from date of invoice. Invoices will be issued on a progress basis according to the following schedule:

<u>Milestone</u>	<u>Amount</u>
Project Award	50% (Invoiced at project award. Unit will not be shipped until payment has been received.)
Equipment Delivery	40% (Invoiced 4 weeks prior to shipment. Start up will not be scheduled until 40% payment has been received.)
Start up Completion	10% (Invoiced after successful completion of the start up.)

Prices are quoted firm for prompt acceptance and shipment per delivery schedule. Proposals are valid for 45 days from date of issue.

Prices do not include any taxes, duties or assessments.

F. Field Service Rates and Availability:

LFG Specialties can furnish an on site advisor during any aspect of the installation and erection or startup of our equipment deemed necessary by our customers in accordance with our standard "Terms and Conditions of Sales". Service personnel should be scheduled two weeks in advance for standard installation, erection, start-up or service work. The Customer Installation Checklist must be signed and returned prior to these services being performed.

Additional on site field service time will be charged \$1,000.00 per day, plus travel expenses. Travel expenses to be charged at \$1.50/mile.

Service personnel are available for 48 hour emergency service for \$1,200.00/day plus \$1.50/mile.

G. Equipment Warranty:

LFG Specialties guarantees the Equipment as outlined and specified in this Agreement for the period of twelve (12) months from date of shipment.

Along with standard Material, Workmanship and Performance Warranties outlined in the standard "Terms and Conditions of Sales" herein, LFG Specialties guarantees the equipment to meet present E.P.A. emission standards when installed and operated in accordance with specified design conditions.