

TO: Thomas Frutchey, City Manager
FROM: Dick McKinley, Public Works Director
SUBJECT: Landfill Gas Flare Control Panel Replacement
DATE: July 19, 2016

Needs: For the City Council to authorize the replacement of the control panel for the landfill gas flare system.

- Facts:
1. The City's landfill is mandated to collect landfill gases (primarily methane) and to dispose of those gases by use of a flare (burner) system. The system requires automated controls to meet the air pollution regulations. That system is currently not operating correctly and must be replaced (it can no longer be properly repaired).
 2. Jim Wyse, of Pacific Waste Services, Inc. (PWS) is the contracted landfill operator for the City. He has sought options and proposals for the work and has determined that the proposal from Blue Flame Crew is the best proposal for completing the work. Other vendors were either unable to perform the work requested, were unable to both provide the equipment and do the installation, or were only willing to do the work if it included replacing the entire flare system (which is not needed at this time). The full cost (with 15% contingency) for the Blue Flame Crew proposal is \$48,150.
 3. If the City Council authorizes this work and funding, Mr. Wyse will work to secure the necessary permit from the San Luis Obispo County Air Pollution Control Board. The costs of the permit are included in the cost listed above.

Analysis &
Conclusion:

The City's landfill must have an operating Landfill Gas Flare system in order to meet our permit requirements. The current control system is not working correctly and has problems with the programmable logic controllers (PLCs) which cannot be fixed or replaced in the outdated control system. The landfill contract operator, Pacific Waste Services, has secured quotes from available and able vendors and has determined that Blue Flame Crew is the most responsive and responsible proposal. Staff has reviewed the materials provided by PWS and agrees with their conclusions.

Policy

Reference: Council Goals for FY2016-2017 – to invest in City infrastructure (address deferred maintenance).

Fiscal

Impact: \$48,150 from landfill revenues in the General Fund Reserves.

- Options:
- A. Authorize replacement of the Landfill Gas Flare control system with accompanying permits in the amount of \$48,150 from General Fund Reserves; or

B. Amend, modify, or reject the above option.

Attachments:

1. Correspondence from PWS dated June 30, 2016
2. Blue Flame Crew proposal dated June 13, 2016



Pacific Waste Services, Inc.

12925 Alcosta Blvd. Suite 1
San Ramon, CA. 94583
Office: 925-244-0392
Fax: 925-244-0210

June 30, 2016
Project 120-3.1

Dick McKinley, Director
Public Works Department
City of El Paso de Robles
1000 Spring Street
Paso Robles, CA. 93446

Subject: Landfill Gas Flare Capital Improvements,
Paso Robles Landfill

Dear Mr. McKinley;

This letter requests the City issue a Purchase Order to Pacific Waste Services, Inc. to cover the costs for replacing the Flare Control Panel.

As background, the existing landfill gas flare and blower skid was installed in 1996 and has operated effectively for 20 years. Over the last couple of years, the flare system malfunctions, shuts down and sometimes doesn't want to restart. Some of these occurrences can be tracked to a specific cause, but others no specific identifiable cause found. The most recent flare system shutdown and not restarting occurred over the Memorial Day Holiday weekend. We were not able to determine the cause of the problem with on-site staff or management review. We were able to get Max McIntire, an expert in landfill gas system electrical components, to look at the flare on May 31. He ended up concluding there was a crack in one or more of the Control Panel PLC Controller cards. With heat variations and some shaking from the air compressor, the PLC Controller Card could react different than normal and cause the type of problem experienced Memorial Day Weekend and periodically over the last few years. Mr. McIntire was able to get the flare system restarted and it has operated with only a couple of shutdowns. We also changed the compressor system use to reduce the times the compressor would kick on and cause shaking.

We previously suspected that the Paso Robles Flare Control Panel PLC, a Toshiba, had issues and had communicated with several landfill gas contacts including Blue Flame Crew, Max McIntire, LFG&E, and Perennial Energy.

-LFG&E were the original flare skid manufacturer for the Paso Robles Landfill flare system but they declined to assist as the PLC made by Toshiba is no longer being manufactured or supported but offered to supply a new landfill.

-Perennial Energy is also a new flare manufacturer who would not consider only replacing the PLC Controller Card, and offered a new similar flare skid system for \$250,000.

-Used, mothballed flare systems in California were considered, but they were of similar age as Paso Robles Landfill's and had been off-line for several years and would not likely be a viable, reliable solution.

-Max McIntire is an electrical contractor and would assist with installation, but doesn't get involved with Control Panel, PLC Controllers or other components selection and ordering/purchasing.

-Blue Flame Crew had been approached by PWS to look at the Paso Robles Flare after they established a west coast presence. Blue Flame Crew had recently gained a presence with hiring of Randy Masukawa (a former PWS employee, who we keep in contact). They have been upgrading numerous flare systems throughout California similar to Paso Robles Landfill's for a couple of years.

Once we had the Memorial Day flare shutdown and difficulty of restarting and the confirmation by Max McIntire there was a crack in one or more of the PLC Controller Cards, we had Blue Flame Crew send staff to access the situation and prepare a proposal for repairs, replacements.

On June 13th, we received a written proposal from Blue Flame Crew for replacement of the Paso Robles Landfill PLC Controller and associated other suspected component problems. They also provided us two options for call-out notification when the flare system malfunctions or shuts down. After discussion with Blue Flame Crew and understanding how other landfills call-outs are set up, we agreed that Option 2 was the best for Paso Robles Landfill and Option 1 was out. The Blue Flame Crew total proposed cost is \$41,871 with several conditions put on the pricing. We suggest providing a 15% contingency and overhead allowance, this cost will be \$48,150 knowing there may be other matters needing attention while doing the replacement.

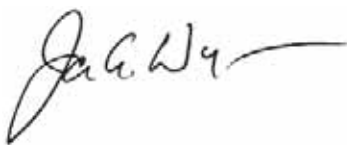
We have discussed this proposed change to the Paso Robles Landfill blower/flare operations with our San Luis Obispo County Air Pollution Control Board's (SLO APCD) contact and they advised the changes proposed required an Authority to Construct permit process and associated permit fees. PWS will utilize information from Blue Flame Crew on the replacement PLC Controller for preparation of the Authority to Construct. PWS will expedite the Authority to Construct process as much as possible where we communicate with SLO APCD including site and office meetings to accommodate a speedy approval for the Authority to Construct. The estimated maximum cost for the SLO APCD permit fees are \$1,500 and PWS' efforts will be provided at no cost.

Therefore, the total anticipated cost for this Landfill Gas Flare System capital improvement will be \$49,650.

As noted from Blue Flame Crew, approximately 5 to 6 weeks will be needed for manufacturing the PLC Controller and associated parts and 2 to 3 weeks for delivery, installation, and startup from the Purchase Order issuance. We anticipate that SLO APCD should issue the Authority to Construct in a consistent timeline so there are no delays in installation and startup of the new PLC Controller, Remote Monitoring System, and associated parts.

Your review and consideration of this proposal is requested.

Respectfully submitted,
Pacific Waste Services, Inc.

A handwritten signature in black ink, appearing to read "James A. Wyse", with a long horizontal flourish extending to the right.

James A. Wyse, P.E.
President

Enclosure

June 13th, 2016

Proposal #PR061316cl rev1

Mr. Scott Schmidt
Paso Robles Landfill

**Re: Flare Control Panel
Paso Robles Landfill**

Dear Mr. Schmidt:

Blue Flame Crew, LLC (Blue Flame) is pleased to submit the following cost estimate for an Enclosed Flare Control Panel upgrade for the City of Paso Robles at the Paso Robles landfill located in Paso Robles, California.

Please note that our cost estimate includes all labor, parts, and equipment necessary to complete our scope as noted below. Blue Flame's scope of work includes the following items:

Scope of Work

Flare Control Panel

- Supply and Install 1 Control Panel Sub Plate and Swing Plate to include:
- New Allen Bradley PLC Controller.
- New Touch Screen Interface Panel.
- New 3 Point Flare Digital Recorder.
- Flame Monitoring System.
- New interposing relays and components.
- New Temperature Controller.
- New Valve Controller.
- Supply Hard and Electronic PLC Program Ladder Logic.
- Supply Operations Manual.
- Onsite Training of Personnel.

The new control system will require the following points to be field wired and terminated in the control panel:

Main Flare Thermocouples

FCV Closed Limit Switch

FCV Open Limit Switch

Pilot Gas and FCV Solenoid

Pilot (Ignition) Transformer

Blower Controls

Additional Work

- Supply and Install 3 New Thermocouples.
- Supply and Install New Thermocouple Wires.

Auto-Dialer / Monitoring Panel

We have listed two options below for consideration for alarming on failures or shutdowns at the flare station.

The first option will be a call out system (auto-dialer) using a standard phone line, that will monitor up to four system alarm points. These point are typically used for flare shutdown, blower failure, valve failure and flame failure, however the four point can be used to alarm any discrete (on/off) function.

The second option is a remote monitoring system, a more complete unit as far as analog points are monitored and will be used to monitor flow and temperature signals. Also the system status is monitored with discrete inputs. As in the first option the discrete inputs can be used for multiple configurations.

Option 1

- Supply and Install one Call Out system in control enclosure.
- Supply and Install Equipment and Control Devices to alarm and monitor the following Points:
 1. Flare Shutdown
 2. Blower Failure
 3. Valve Failure
 4. Flame Failure

Option 2

- Supply and Install one Remote Monitoring system in site weatherproof enclosure.
- Supply and Install Equipment and Control Devices to alarm and monitor the following Points:
 1. System Temperature
 2. System Flow
 3. High and Low Temperature Alarm
 4. Overall System Alarm
 5. High and Low System Flow Alarm
 6. Flare Shutdown
 7. Power Failure

The remote monitoring system will provide tracking of the above listed points and record these points as well as alarm via email and / or SMS text for conditions outside the normal operating range and shutdown conditions. The recordings will be visible via the internet in graphical and numerical form. A downloadable (Xcel spreadsheet) and viewable file in numerical format will also be available. This system will give access to reporting and downloading of points to any person(s) selected. It also includes one year monitoring cost.

Exemptions and Clarifications

1. Blue Flame has not included any cost allotment for delays on production, start-up or installation time. Any additional time required to complete the above project that is out of Blue Flame's control will be invoiced per our standard rate sheet, this is to include but not limited to weather, onsite construction delays by others and requested stoppage of work.
2. All warranties of supplied or existing equipment are a pass through type of warranty from the original manufacturer and are not a warranty provided by Blue Flame.
3. Blue Flame has not included any cost for existing parts replacement other than those listed above.

4. Lead time for panel manufacturing is 3 weeks following receipt of the purchase order.
5. A lead time of 2 weeks' notice is required for field start-up and installation to be scheduled.
6. Blue Flame has not included any engineering services for any phase of project work.
7. All electrical and construction work (i.e. conduit, wires, piping and fittings) will be performed by others with exception of the above listed items.
8. Blue Flame assumes level D PPE is suitable for all work. If conditions arise where a change in PPE is required, additional cost may apply.
9. Blue flame will have site access during normal and after business hours during installation and start-up.
10. Site will provide disposal for construction generated waste and provide a roll off container for use at project site if required and final clean-up of construction debris.

Cost Estimate

Flare Control Panel	\$ 33,796.00	✓
Additional Work (Thermocouples)	\$ 3,307.00	✓
Option 1 Call-Out System	\$ 5,112.00	
Option 2 Remote Monitoring System	\$ 4,768.00	✓
	\$ 41,871	✓

Please do not hesitate to contact me at (816) 510-9521 or Randy Masukawa at (925) 549-0805 if you have additional questions or require further information.

Sincerely,
Blue Flame Crew, LLC

Charles Laub

Charles Laub
National Projects Director
Blue Flame Crew, LLC

Randy Masukawa

Randy Masukawa
West Coast Projects
Blue Flame Crew West, LLC