



**NAPA-VALLEJO WASTE  
MANAGEMENT AUTHORITY**

Agenda Date: 8/6/2009

Agenda Placement: 8D

## Napa-Vallejo Waste Management Authority Board Agenda Letter

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**TO:** Board of Directors  
**FROM:** Cave, Trent - Manager  
Napa-Vallejo Waste Management Authority  
**REPORT BY:** Trent Cave, Manager - 7072534274  
**SUBJECT:** Microturbine Project

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### **RECOMMENDATION**

#### **MICROTURBINE PROJECT**

**DISCUSSION:** Authority Manager to present report on Microturbine Project.

### **EXECUTIVE SUMMARY**

The microturbine project is an innovative project that has been plagued with numerous setbacks and challenges. In May 2008 the system was up and running and P.G. & E. passed the installation giving permission to operate. Water soon entered the system and caused the compressor to fail. The compressor was rebuilt and water purged from the gas lines. The problem soon reoccurred. After several rebuilds of the compressor and related repairs, SCS Engineers have concluded that slugs of water are carried over from the inlet pipe resulting in the compressor being "watered in". SCS has recommended the following for correction of the problem:

1. a new front end compressor (\$13,000)
2. an additional coalescing filter after the separator (\$8,000)
3. slope the inlet gas line downhill (\$1,000).

The total cost is \$22,000 plus SCS time. SCS as providers of the compressor and related equipment have agreed to complete the additional work at no cost to the Authority with the following conditions:

1. the Authority issues final payment for the purchase of the microturbines and the landfill gas skid (\$45,658)
2. the Authority agrees that SCS has satisfied its obligations and to provide for a period of 12 months from the from date of delivery that the equipment will remain in good working order under normal use and service for

which it was intended.

Current expenditures for the project are \$860,550.19 and we have recieved a grant of from the Public Utilities Commission for \$273,000.

### **FISCAL IMPACT**

Is there a Fiscal Impact?                      No

### **ENVIRONMENTAL IMPACT**

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

### **BACKGROUND AND DISCUSSION**

The concept of utilizing microturbine technology to convert landfill gas at American Canyon Sanitary Landfill began in 2002. In order to have a source of revenue, a large P.G. & E. electrical customer was needed. The project would produce revenue by replacing retail power with a less expensive mircoturbine power resulting in an avoided cost for the customer. The City of American Canyon Waste Water Treatment Plant was a good candidate and the City was approached. The City embraced the concept and want to participate by creating a joint project which would result in joint ownership. The Authority warned that City would be sharing the risk with this new technology but the City still wanted a joint project and in May 2003 the Authority and the City entered in to an MOU.

Plans and specification were prepared and bids for construction were obtained. The bids were significantly higher than estimates expected. SCS Engineering, designers of the project, had provided a turnkey price but the decision was to bid the project. The high cost was a result of contractors lack of experience and understanding of the technology as applied to microturbines and landfill gas. There was still a desire from all parties to continue the project. The project was divided into three projects, a gas piping project, an electrical project, and a communications project. The first two were rebid and the new costs were lower that the orignial combined bid but still higher than the turnkey proposal of SCS. The decision was made to move forward and the bids were accepted in May of 2004.

The gas line from the landfill to the waste water treatment plant was completed in 2005 but the electrical work was not. P.G.& E. required additional changes to the design and SCS devepoled new specifications to comply with P.G.&E.'s requirements. The electrical work was rebid in 2006. Additional requirements of P.G.& E. required the installation of a grounding bank in 2007. The electrical work was completed in 2008.

In May 2008 the sytem was up and running. P.G.&E. passed the installation and gave permission to operate. Water had entered the system and cause the compressor to fail. The compressor was rebuilt and water purged from the gas lines. The problem soon reoccured . After several rebilts of the compressor and related repairs SCS Engineers have concluded that slugs of water are carried over from the inlet pipe resulting in the compressor being "watered in". SCS has recomended the following for correction of the problem:

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The total cost is \$22,000 plus SCS time. SCS as providers of the compressor and related equipment have agree to complete the addition at no cost to the Authority with the following conditions:

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2. the Authority agrees that SCS has satisfied its obligations to provide a for a period of 12 months from the from date of delivery that the equipment will remain in good working order under normal use and service for which it was intended.

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### **SUPPORTING DOCUMENTS**

A . PG&E Approval

Manager: Approve  
Reviewed By: Martha Burdick