



# County of El Dorado

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## Legislation Text

File #: 09-1309, Version: 1

Chief Administrative Office, Procurement and Contracts Division, and the Environmental Management Department recommending the Board:

- 1) Award request for proposal (RFP) 09-961-119 for the development of a landfill gas utilization project at the Union Mine Landfill to STI Engineering of Silverado, California; and,
- 2) Authorize the Director of Environmental Management, or her designee, upon County Counsel and Risk Management approval, to execute a contract for same; said contract will include onsite electricity generation, usage and revenue sharing agreements.

**FUNDING:** No County/CSA No. 10 funding will be required to obtain, install and operate the landfill gas to electricity system. This is a revenue generating project.

BUDGET SUMMARY:		
Total Estimated Cost		\$0.00
Funding		
Budgeted	\$	
New Funding	\$	
Savings	\$	
Other	\$	
Total Funding Available	\$	
Change To Net County Cost		\$0.00

Fiscal Impact/Change to Net County Cost: No Change in Net County Cost

Background: At the request of the Environmental Management Department, the Procurement and Contracts Division issued a Request for Proposals (Attachment A) for landfill gas to energy services during the summer of 2009. These services are necessary for conversion of unused methane to electricity at the Union Mine landfill. The production of electricity is critically important at this time as the County is experiencing a reduction in revenue. Electricity used onsite and potential royalties from the sale of excess electricity will help offset costs associated with operating the landfill and waste water treatment plant.

Reason for Recommendation: Currently, less than 30% of the Union Mine landfill generated methane gas is converted to electricity. The remainder is combusted in the onsite flare without any energy recovery. The waste water treatment plant electricity usage far exceeds electricity produced by microturbines onsite. Converting all gas to electricity can significantly reduce the County's cost to operate the waste water treatment plant. Additionally, new gas generation technology proposed by the potential contractor can significantly increase the quantity of gas produced. The proposal suggests injecting steam into small sections of the landfill to enhance the conversion of cellulose to

methane and reduce landfill volume.

The contractor has proposed to fund the entire permitting, installation and operation costs of the system. The contractor anticipates realizing a profit on the sale of electricity and in return providing an economic benefit to the County. It is anticipated the County may realize the following economic benefits by contracting for landfill gas to energy services:

- Supplying all electricity for the operation of the Union Mine Waste Water Treatment plant. Electricity usage is approximately \$250,000 annually.
- Maintenance of Union Mine landfill gas collection system and landfill cover. Current annual gas collection and cover maintenance cost is approximately \$20,000 to \$100,000.
- Revenue generation equal to a 10% royalty on the sale of methane gas to an electricity utility company (I.e. PG&E, SMUD, or other). Utilizing existing gas production levels to produce 2 Megawatts of power would result in an annual royalty of approximately \$122,000 (based on a purchase price of \$0.10/kw/hr). If steam injection produces higher levels of gas that is also converted to electricity, higher royalties may be realized.

There are potentially additional sources of revenue. Exhaust gas carbon dioxide could be converted to dry ice and marketed. Exhaust gas methane can be converted to compressed natural gas and used to fuel vehicles. The steam injection technology could be applied to incoming municipal solid waste, should the landfill be reopened. Carbon credits from the conversion of landfill gas to electricity could be marketed. Should any of these or additional revenue sources be realized, the County would receive a 10% royalty.

In addition to posting the RFP on the Procurement and Contracts Division's website, firms were proactively notified of the open solicitation. Two (2) proposal responses were received; none from local vendors. Responses were received from the following firms:

Janecheck & Associates - Costa Mesa, CA (Attachment B)  
STI Engineering - Silverado, CA (Attachment C)

Proposal responses were evaluated by a team of personnel from the Environmental Management Department and the Solid Waste Management Plan Alternative Technology subcommittee. The evaluation criteria consisted of proposal content and presentation; compliance with administrative requirements; experience, qualifications, and work plan; and total cost. Environmental Management personnel solicited and received input from knowledgeable State Water Resources Control Board personnel, landfill operators, and the Local Enforcement Agent. All contractor provided references were contacted and additional information was acquired. STI Engineering was the firm selected whose proposal response best meets the needs of the County.

#### Attachment D: STI Engineering Presentation

Action to be taken following Board approval: Following Board approval, and upon approval by County Counsel and Risk Management, the Director of Environmental Management Department, or her designee, will execute the subject contract and will proceed with obtaining, installing and operating the system. The contract will include onsite electricity usage and revenue sharing agreements.

Contact: Greg Stanton, Deputy Director, Environmental Management Department

Concurrences: Environmental Management Department, Purchasing and Contracts Division