

MEMO



Meeting Date: January 24, 2025

To: Board of Directors
From:
Approved by: General Manager, Felipe Melchor

Subject: Approve Implementation of Automated Control System from Loci Control, Inc. of Wareham, MA. for LFG Collection Wells not to exceed a cost of \$828,187 (includes 5% contingency)

RECOMMENDATION

That the Board authorize the General Manager to execute a Service Agreement with Loci Control, Inc. of Wareham, MA. for Automated Control of LFG Collection Wells not to exceed a cost of \$828,187 (includes 5% contingency) subject to District Legal Counsel's Concurrence to Form.

BACKGROUND AND DISCUSSION

ReGen Monterey began collecting landfill gas (LFG) in 1983 and has continuously expanded its collection system as the landfill has grown to its current size of approximately 163 acres of the 315-acre permitted Monterey Peninsula Landfill. The system now includes more than 100 LFG wells in the waste mass, with collected LFG being used to power four engine-generator sets producing about 5 megawatts of renewable energy and/or the enclosed LFG Flare.

In October 2023, the Board approved a limited-term pilot study to evaluate automated control of LFG collection wells using Loci Control's system. This pilot included the installation of automated monitoring and control equipment on twenty (20) collection wells.

The pilot study has demonstrated several significant benefits of automated LFG well control:

- 1. Increased Gas Collection Quality:** The system's ability to monitor and adjust well conditions multiple times per hour, compared to monthly manual adjustments, has resulted in improved gas collection efficiency. When expanded to the full site ReGen will be able to improve gas collection forecasts when evaluating new or expanded beneficial use projects.
- 2. Enhanced Gas Quality:** Real-time monitoring and automated adjustments have helped maintain optimal methane concentrations and minimize oxygen infiltration.
- 3. Improved System Visibility:** The automated system provides unprecedented visibility into landfill system chemistry through continuous data collection and monitoring.
- 4. Rapid Response Capability:** The system enables remote and automated parameter adjustments based on real-time data, allowing for optimal well performance under changing environmental conditions.

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Let's not waste this.

5. **Potential Carbon Credit Revenue:** Implementation of this system, which exceeds regulatory requirements for LFG collection and monitoring, may qualify ReGen Monterey for participation in the voluntary carbon credit market, creating a potential new revenue stream.
6. **Improved Performance of Gas Plant:** The improved gas quality is expected improve engine up time and decrease engine maintenance which will increase revenue and decrease expenses. In addition, it will move the plant closer to operating the gas conditioning system that produces vehicle fuel via a compressed natural gas system.

The system's ability to automatically adjust LFG collection wells several times per day to operator-managed "Control Set Points" represents a significant advancement in our LFG collection capabilities. This enhanced control helps optimize LFG collection and control system performance while reducing fugitive surface emissions from the landfill.

The California Air Resources Board (CARB) is evaluating modifications to the Landfill Methane Regulations and has signaled support for advanced monitoring systems such as automated wellhead tuning. They note landfills with the systems experience increased methane capture, reduced downtime and improved visibility of gas system disruptions.

FISCAL IMPACT

The total cost for full implementation includes:

- Monthly service fees for automated well control
- Equipment installation costs
- Shipping and installation support
- Contingency amount for incidental costs 5%

Total one-time implementation cost not to exceed: **\$828,187 (includes 5% contingency)**

Alternative financial models for renting the system were evaluated over a five-year timeline, but none proved financially advantageous compared to the proposed purchase option.

After the first year of operation, ReGen is initially considering contracting with LOCI to provide comprehensive service and "bumper to bumper" warranty coverage for the system at an approximate annual cost of \$85,000. While this arrangement would ensure continued optimal system performance and risk mitigation, ReGen maintains the flexibility to transition system management in-house should that become advantageous in the future.

Funds for the system implementation will be covered under this year's fiscal year budget. Funds remaining in the pilot study project have been credited back to ReGen in this proposal. The potential for carbon credit revenue could help offset these costs over time.

CONCLUSION

Based on the successful results of the pilot study and the demonstrated benefits of automated well control, staff recommends proceeding with full implementation of the Loci Control system. The enhanced monitoring capabilities, improved gas collection efficiency, improved gas quality and potential for carbon offset revenue meet ReGen Monterey's long-term operations and environmental goals.

Staff therefore recommends the Board authorize the General Manager to execute a Service Agreement with Loci Control, Inc. for implementation of their automated LFG well control system not to exceed a cost of **\$828,187 (includes 5% contingency)** subject to District Legal Counsel's Concurrence to Form

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