

MEMO



Meeting Date: January 24, 2025

To: Board of Directors
From: David Ramirez, Director of Engineering and Compliance
Approved by: General Manager, Felipe Melchor

Subject: Approve the Purchase of H₂S Media from Unison Solutions, Inc. of Dubuque, Iowa and storage container from Aztec Container of Vista, California in the Amount Not-to-Exceed \$110,000.

RECOMMENDATION

That the Board of Directors approve the Purchase of H₂S Media from Unison Solutions, Inc. of Dubuque, Iowa and a 40-ft storage container from Aztec Container of Vista, California in the Amount Not-to-Exceed \$110,000.

BACKGROUND AND DISCUSSION

On August 23, 2021 the District started operating the permanent hydrogen sulfide (H₂S) Treatment system for pre-treatment of the landfill gas (LFG) before it is distributed to the Gas Plant, LFG Flare, or Biogas-to-rCNG Conditioning System. The H₂S Treatment system consists of four (4) storage tanks filled with a proprietary filter media that removes most of the H₂S from the LFG when the LFG is passed through the tank. Two (2) of the four (4) tanks are used 'in parallel' as the operating scenario; the other two (2) tanks remain on standby for use once the media in the first two (2) tanks has become saturated with H₂S. Photos of the four storage tanks are presented below.



Physical Address

14201 Del Monte Blvd.
Salinas, CA 93908

Mailing Address

P.O. Box 1670
Marina, CA 93933

Phone / Fax

831-384-5313 PHONE
831-384-3567 FAX

Web / Social

ReGenMonterey.org
@ReGenMonterey

Let's not waste this.

The Unison Solutions media has demonstrated that it is effective in stripping H₂S from the LFG. H₂S concentrations in untreated LFG range from 500 to 700 parts per million (ppm), and the media can initially treat the LFG to H₂S concentrations of 10 ppm. As the media becomes saturated with H₂S, the efficacy decreases. The Air Permit for the permanent treatment system specifies the allowable saturation of the media occurs when the LFG has H₂S concentrations of 110 ppm, and that after saturation, the 'spent' media must be removed and replaced, referred to as a 'change-out,' within a 45-day period.

The media is a proprietary product currently specified in the Air Permit as the material required for use with the treatment system. Due to the regulatory media change-out window and unknown factors that affect the supply chain, media is ordered and stored on site in advance of the point of saturation.

Media has historically been stored, on pallets, in tarped bags, outside the LFG facility. ReGen staff makes efforts to protect the stored media from the elements, but believes that an enclosed storage option may increase the efficacy of the media. Staff is recommending the purchase of a 40-foot metal shipping container which would provide adequate space to store the media and keep it protected from the elements. This container could have a permanent location at the LFG facility with its sole purpose being H₂S treatment media storage.

The last change-out of media for two (2) of the H₂S treatment tanks occurred on September 11, 2024. ReGen has an interest in securing the additional media and retaining it on site, as it will eventually be necessary to switch over to the two (2) standby tanks, shut down the first two (2) operating tanks, and replace the 'spent' media with new media.

FISCAL IMPACT

The media purchase is budgeted in the 2024/2025 fiscal year operating budget.

CONCLUSION

As the filter media provided by Unison Solutions has demonstrated its effectiveness to remove H₂S from the LFG and is a proprietary material that is currently specified in the Air Permit for the treatment system (a non-discretionary item), and as the 40-foot container with roll-up doors provided by Aztec Container would allow the protected storage of the media, staff requests that the Board of Directors approve the purchase of H₂S media from Unison Solutions, Inc. of Dubuque, Iowa and the purchase of a 40-foot storage container from Aztec Container of Vista, California in the Amount Not-to-Exceed \$110,000. This expense will be incorporated into the current fiscal year budget as previously approved by the Board of Directors and additional media expenses will occur periodically on the monthly expense register, from time to time, as the cycle of media replacement continues to occur on an estimated four-to-six-month replacement cycle.

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