

**Indian River County, Florida  
Solid Waste Disposal District  
Board Memorandum**

**Date:** December 9, 2022

**To:** Jason E. Brown, County Administrator

**From:** Sean C. Lieske, Director of Utility Services

**Prepared By:** Himanshu H. Mehta, PE, Managing Director, Solid Waste Disposal District

**Subject:** Amendment No. 3 to Landfill Gas Agreement with Nopetro Eco District, LLC

**Descriptions and Conditions:**

On February 5, 2019, the Indian River County (IRC) Solid Waste Disposal District (SWDD) Board directed staff to enter negotiations with the Indian River Eco District, LLC (IREDD) for their purchase of landfill gas (LFG) created at the County's landfill. The SWDD Board agreed that the landfill-generated gas, which is currently being flared off, posed a potential health and safety risk and that it could be better used for other purposes rather than flaring. On July 16, 2019, the SWDD Board approved the Landfill Gas Agreement with IREDD wherein they purchase the LFG for the production of electricity and/or conversion to Renewable Natural Gas (RNG).

On July 14, 2020, the Board approved Amendment No. 1 to the Landfill Gas Agreement confirming IREDD's desire to pursue an RNG project and extend the LFG commencement date to September 30, 2021, as well as to increase the landfill gas for a potential leachate project and to reduce the cure period from six months to three months for any further delay in the commencement date.

On May 18, 2021, the Board approved Amendment No. 2 to the Landfill Gas Agreement further clarifying the LFG commencement date and amended additional terms of the LFG agreement to include mutual targets to optimize the quantity and quality of the landfill gas to the financial benefit of both parties.

On October 12, 2021, a presentation was made to the Board by IREDD to introduce Nopetro RNG, LLC, with whom they have formed a joint venture in order to form Nopetro Eco District, LLC, which will design, finance, build and operate the RNG facility on the IREDD property. On December 7, 2021, the SWDD Board approved the Consent to Assignment of the Landfill Gas Agreement from the Indian River Eco District, LLC, to Nopetro Eco District, LLC (NED).

During the past year, NED has actively engaged with SWDD staff on a monthly basis participating in our landfill gas operation and maintenance meetings. NED has also performed various gas testing to optimize the design of their RNG system. In July 2022, NED provided a project update that their Front-End Engineering Design (FEED) study had been completed in June 2022, which resulted in 30% design completion. NED also indicated that they had started their selection process for an Engineering Procurement and Construction (EPC) contractor and NED has recently confirmed that they selected their EPC contractor in September 2022.

However, a key factor in NED proceeding with the financing of their project was to ensure that the landfill had achieved a minimum flow rate of 900 Standard Cubic Feet per Minute (SCFM) of Acceptable Landfill Gas, which meets the quality parameters for methane, nitrogen, oxygen and sulfur. In accordance with our landfill O&M contractor, the landfill achieved this in late August 2022. At the same time, NED made a significant design change, as some of the landfill gas parameters such as acetone was not compatible with their original membrane technology that they were planning to use. As a result, NED also needed additional time to finalize the design and procure the Pressure Swing Adsorption (PSA) equipment for the RNG project.

The initial term of the LFG agreement is for 20 years following the LFG commencement date and there are two consecutive 10-year renewal terms included in the agreement. Based on Amendment No. 2 to the Agreement, the LFG Commencement date is June 30, 2023. NED has requested this be changed to June 30, 2024. In addition, NED requested additional changes to the Agreement which are further discussed below.

Both parties have negotiated in good faith to present the attached Amendment No. 3 to the Landfill Gas Agreement for approval by the SWDD Board.

Also included in this agenda item is information related to a change order at the request of NED to our High-Pressure Skid System.

**Analysis:**

Amendment No. 3 to the Landfill Gas Agreement has been prepared with the acknowledgment that the overall success of the RNG project is contingent upon both SWDD and NED working together to ensure that the goals for the quantity and quality of landfill gas are optimized to the financial benefit of both parties. The request by NED for an extension of the LFG commencement date is supported by staff with the understanding that there were reasonable reasons on both sides to justify the extension.

The following summarizes the key elements of the Amendment No. 3 to the Landfill Gas Agreement:

**Definitions:** Certain definitions were clarified and others added to avoid future misinterpretation of the agreement.

**Term:** The initial term for this project is 20 years from the commencement date with two (2) optional ten-year renewal terms upon mutual agreement to extend the term. The commencement date is set for June 30, 2024 with a three-month cure period to September 30, 2024 to start otherwise the Agreement is terminated.

**Milestones:** NED has agreed to the following milestones and the associated penalties if such milestones are not met:

Milestone	Due Date	Penalty
1. Contracts for the purchase of the PSA System to include the gas conditioning system and nitrogen rejection unit.	June 30, 2023	\$15,000 per month
2. Air Permit, Site Plan, and Building Permit Applications Submittal to Regulatory reviewers.	December 31, 2023	\$15,000 per month
3. Groundbreaking of foundations.	December 31, 2023	\$15,000 per month
4. Commencement	June 30, 2024	\$15,000 per month

**Landfill Gas Quality:** Amendment No. 3 has adjusted the quality parameters of what would be considered Acceptable LFG or Unacceptable LFG. Specifically, the hydrogen sulfide limit has increased in SWDD’s favor from 2,000 parts per million by volume (PPMV) to 2,300 PPMV based on actual laboratory data. In addition, the nitrogen limit has increased in SWDD’s favor from less than 8% to less than 12%.

**Payment:** Due to the RNG project being more susceptible to the quality of the landfill gas and the potential that SWDD would not achieve maximum royalty payments if the SWDD provided unacceptable LFG, the royalty payments generated by the RNG project for the sale of renewable natural gas were modified to incentivize SWDD and NED.

Royalty Payment: NED shall pay SWDD a royalty payment as follows based on certain quantity and quality criteria:

Average Gas Flow Target Per Month	% of RNG Gross Receipts (Acceptable LFG)	% of RNG Gross Receipts (Unacceptable LFG)
≥ 1,150 scfm	12%	10%
Between 800 and 1,150 scfm	10%	8%
< than 800 scfm	8%	6%

At the request of NED, this Agreement includes a subordination provision. Specifically, SWDD is agreeing that royalty payments will only be subordinate to any debt service payments between Company and its financing party for the RNG Facility if the prior months’ transacted RINS price as listed on RIN Trades and Price Information | US EPA (<https://www.epa.gov/fuels-registration-reporting-and-compliance-help/rin-trades-and-price-information>) is less than \$1.25 per RIN. If subordination occurs, the Company is still obligated to accrue any royalty payments due and will begin making payments within 30 days. On day 31, interest will accrue on the unpaid balance at a 6% annualized interest rate until paid.

**Financial Analysis:** Staff has estimated that the 20-year average annual payment of royalties from the RNG project to SWDD could range from \$340,000 to \$910,000 per year. Over a 20-year period, this could total \$6.8 million to \$18.2 million.

**High Pressure Skid System:** On April 5, 2022, the SWDD Board approved the agreement with Biogas Engineering (BGE) to fabricate the HPS system for a cost of \$789,000. On May 10, 2022, the SWDD Board approved Change Order No. 1 to BGE for \$292,570 to add a Chiller to the HPS system to provide dry gas. On September 20, 2022, the SWDD Board approved Change Order No. 2 to BGE for \$112,980 to add a Gas Chromatograph to allow SWDD to monitor the quality of the LFG. The total authorization to BGE for the fabrication of the HPS system is currently \$1,194,550.

NED has agreed to pay SWDD 50% of Change Order No. 1 or \$146,285 within 30 days of approval of Amendment No. 3 to the LFG Agreement.

Recently NED also requested that due to the change of their design to use the PSA system that they no longer need to install hydrogen sulfide vessels on our site. However, in order to protect the Chiller that they have partially invested in, NED requested that SWDD / BGE upgrade some of the design piping to be constructed from 304 Stainless Steel (SS) to 316SS. NED has agreed to pay 100% for this change

order to BGE and staff is including this letter as an attachment in this agenda item with approval for SWDD staff to co-sign the letter.

**Funding:**

No funding is requested in this agenda item, as this is a potential revenue project. However, to date, the SWDD Board has approved funding in support of this agreement for infrastructure upgrades such as the fabrication of the High-Pressure Skid and Chiller at a cost of \$1,194,550. There will be additional cost for installation, which are estimated to be between \$800,000 to \$1 million. Future landfill gas quality issues may require additional equipment. Finally, operation and maintenance costs will increase to our LFG system to ensure reliable production and delivery of LFG to NED.

**Recommendation:**

Staff recommends that its Board:

1. Approve Amendment No. 3 to Landfill Gas Agreement with Nopetro Eco District, LLC (NED) and;
2. Authorize the Chairman to execute the agreement after review and approval by the County Attorney as to form and legal sufficiency.
3. Authorize Solid Waste Disposal District staff to co-sign the letter of agreement for a change order to Biogas Engineering to be funded by NED.

**Attachment:**

- 1) Amendment No. 3 to Landfill Gas Agreement with IRED LLC
- 2) Biogas Engineering Letter of Agreement