

MEMORANDUM

TO: REOI Recipients
FROM: Kitty McIlroy, Project Manager *KM*
DATE: March 22, 2024
SUBJECT: Addendum No. 3 to the Request for Expressions of Interest (“REOI”) for Design, Build and Operate Beneficial Use of Landfill Gas for Small, Closed and/or Rural Landfills: Utilizing Mobile Turbines or Engines, Compressed Natural Gas/Renewable Natural Gas Systems and/or Direct Landfill Gas to Energy Power Purchase Services dated October 12, 2023.

Please note, the REOI Response due date has been extended from Thursday, March 28, 2024, by 4:00 pm (local time) to Friday, May 31, 2024 by 4:00 p.m. (local time).

This Addendum No. 3 is to amend the REOI and answer Contractor questions that were submitted by Question Submittal Date on November 30, 2023, and to answer additional Contractor questions received after the Question Submittal Date. Answers issued by written addenda will be binding on the Authority and the Contractors, including the answers provided below.

Please note, the Authority has provided an amended and restated REOI document, attached with this Addendum No. 3, to replace the original REOI, issued October 12, 2023. The REOI is now titled: “Request for Expressions of Interest for Design, Build and Operate: Solar Installations on Municipal Solid Waste Property and Infrastructure AND/OR Systems for Beneficial Use of Landfill Gas for Mainly Small, Closed and/or Rural Landfills: Utilizing Standard or Mobile Turbines/Engines, Compressed Natural Gas/Renewable Natural Gas and/or Power Purchase Services,” dated March 22, 2024.

Any additional Contractor related questions to this REOI should be submitted prior to **4:00 p.m. (local time) on Friday, April 26, 2024. The Authority is not obligated to answer questions not submitted by the submittal deadline.** Questions shall be emailed to procurement@nmwda.org.

1. **Question:** Will the landfill Authority be interested in ownership of the projects? Or will the Authority prefer a proposer that will develop, design, finance, permit, build, own and operate the projects?

Answer: The Northeast Maryland Waste Disposal Authority (“Authority”) and its Member Jurisdictions (“Members”) are interested in either option, owning the projects or having Contractors that own the projects and handle the entire scope of the projects (per coordination with the Authority and its Members), including development, design, financing, permitting, building and operation. Each Member may have a different preference, per the responses received for each applicable Member site.

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Comprehensive Waste Management Through Recycling, Reuse, Resource Recovery and Landfill

MEMBERS:

Rhody R. Holthaus, Anne Arundel County / Vacant, Baltimore City / D’Andrea L. Walker, Baltimore County / Clifford J. Engle, Carroll County
Phillip S. Harris, Frederick County / Joseph J. Siemek, Harford County / Mark A. DeLuca, Howard County / Guillermo Wainer, Montgomery County
Charles Glass, Maryland Environmental Service / Andrew Kays, Executive Director



2. **Question:** Is the Authority seeking firm/binding proposals or indicative proposals? Is there any advantage to providing a firm proposal?

Answer: No, at this time the Authority is not seeking firm/binding proposals as it is too premature in the process for a complete proposal.

Per Section A of the REOI:

“Any specific requirements listed herein are open to consideration and amendment, in order to create the best working model and Service for all entities involved. As part of its response, the Contractor must describe how they would best manage this type of operation and detail the logistics required for each Member Jurisdiction.”

Per Section C of the REOI:

“The Contractor shall provide a response and describe the equipment and capital infrastructure needed and operational requirements of all Services per this Section C.”

“As part of the Contractor’s response to this REOI, the Contractor is encouraged to provide recommendations for the improvement of the potential work/Services described above that would increase the amounts of gas collected, processed and beneficially used and/or increase the cost effectiveness of the program.”

“The Price Proposal, which is not being requested at this time and should not be provided for purposes of this REOI, must include equipment and capital infrastructure (e.g., concrete pads), transportation of the Contractor’s staff to the Designated Landfills and Designated Municipal Solid Waste and Recycling Site, operation, monitoring and maintenance and any other incidental costs.”

All required items as listed in Section D. Submission Requirements of the REOI.

Per Section E of the REOI:

“This is a REOI only; it is not a procurement document. The information contained in this REOI is intended for information purposes only to assist the Authority and the Member Jurisdictions in assessing whether to proceed to a RFP process, directly negotiate a contract with one or more Contractors, or discontinue the REOI process.”

“After the submission deadline, the Authority and the Member Jurisdictions will review the responses and decide whether clarification questions should be submitted to, or interviews should be conducted with, any or all of the Contractors to gain a clearer understanding of their capability. Upon conclusion of the review, the Authority will decide whether or not to follow-up with a RFP process or directly negotiate a contract with interested Contractor(s).”

3. **Question:** What utility tariff (\$/kW) is the landfill site located under today?

Answer: There is no information specific to the Member Jurisdictions that is available at this time in response to this question for landfill gas. However, Frederick County did note that for an existing solar array they pay Tesla \$0.0660/kwh of what they use from their output, and that feeds their scalehouse only. Everything else they buy from Potomac Edison. They only receive tax credits from Tesla, and Tesla keeps revenue from whatever they produce (2 megawatts).

4. **Question:** How much urgency does the landfill have for the new project to be completed?

Answer: The Authority and its Members would like to start the design, build and operation of these potential projects as soon as possible, with the intention of initiating contracts with Contractor(s) in calendar year 2024. Per the REOI, the Authority and Members are able to directly negotiate a contract with one or more Contractors, based on responses received to this REOI, if that is the desired outcome by the Members.

5. **Question:** For sites with an existing interconnection, can you share details around the offtake agreement for those sites? If no agreements are in place, can you share details around the specific nodes in PJM where revenue is being generated?

Answer: Please see the following information for Howard County's Alpha Ridge Landfill: It is an energy-only resource. PNODE: 135389787 WHITEROC34.5 KV ALPHARLF.

There is no additional information available at this time regarding the Member Jurisdiction sites with existing interconnection, if applicable. However, such information may be available at a later date, as needed by an awarded Contractor.

6. **Question:** Has any gas composition sampling been done recently at any of the sites? If so, are you able to share? i.e. siloxanes, H₂S, PFAS, etc.

Answer: The only available Member landfill gas data was attached with the REOI on its original issue date of October 12, 2023, as well as certain additional landfill gas data provided herein. Interested Contractors are able to coordinate with the Authority and Members to do additional landfill gas composition sampling, at their full expense, if approved by the Authority and applicable Member in writing, after review of Contractor responses to this REOI.

Howard County's Alpha Ridge Landfill ("ARL") can produce 200-300 SCFM with a methane concentration averaging 50% based upon the past six months of readings. The County does test its gas annually for multiple constituents at the Alpha Ridge Landfill. See attached 2023 sample results. Regarding potential improvements to the gas system, there may be improvements to the Alpha Ridge Landfill. Gas collection improvements may be necessary at ARL resulting in an increase of methane, although the County does not anticipate a large change, as a result of the recent adoption of COMAR 26.11.42.

7. **Question:** Would you prefer to have the developer manage leachate, or is this something the landfills will continue to monitor and manage?

Answer: The Members intend to continue the monitoring and management of the leachate at their respective landfills.

8. **Question:** Are there any issues with neighbors currently (noise, odor) that need to be addressed?

Answer: Outside of standard noise, odor or other common issues that neighbors tend to face from time to time over the lifespan of solid waste facility operation and maintenance activities, there are no noteworthy or special circumstance issues that would need to be addressed by the Contractors or specified herein as a cautionary notice.

Howard County notes that it has no neighbor issues such as noise or odor.

9. **Question:** Are there any other values that they will take into consideration like:
- a. noise level reduction
 - a. lower CO2 emissions
 - a. near zero NOX emissions
 - a. power generation resilience

Answer: A description of any and all potential benefits when implementing these Services, such as noise level reduction, lower CO2 emissions, near zero NOX emissions and power generation resilience will be favorably considered and valued by the Members and Authority in the response review process.

10. **Question:** This REOI states “Design, Build, and Operate”. Does NMWDA intend to finance and own these systems? Is this a request for a contractor partner to provide the engineering, construction, and operational expertise?

Or

Is this a request for an asset owner / independent power producer to provide a fully turnkey solution, including financing and legal ownership of the systems, in which NMWDA would simply be the energy offtaker of the Power Purchase Agreement?

Answer: Similar to the Answer provided to Question #1 above, the Authority and its Members are interested in either option, financing and owning the projects or having Contractors that own the projects and handle the entire scope of the projects (per coordination with the Authority and its Members), including development, design, financing, permitting, building and operation of each Service. Each Member may have a different preference, per the responses received for each applicable Member site.

11. **Question:** [RESERVED].

12. **Question:** Quarantine Road Landfill

- **Question:** Why is the county interested in considering new opportunities for the current LFGTE project? Has the county had pain points with the current LFGTE project they wish to avoid in the future?

Answer: Baltimore City is interested in all options related to the future of the beneficial use of landfill gas at its Quarantine Road Landfill, however, requesting responses from interested Contractors on this specific Designated Landfill does guarantee that the City will discontinue its existing contract for services. There are no particular issues with the existing service and the City is simply interested in reviewing responses on other potential options.

- **Question:** What is the flow currently used for the LFGTE project?

Answer: Flow typically ranges between 250 SCFM and 500 SCFM.

- **Question:** Are there potential infrastructure improvements considered by the county to increase gas collection? If so, what improvements are being considered? Is there an anticipated gas collection flow rate after the potential improvements?

Answer: There may be certain potential improvements to the Quarantine Road Landfill gas infrastructure, possibly even to increase gas collection, during its expansion project, which will expand into Millennium Landfill located across the street at the following address: 5901 Quarantine Rd, Baltimore, MD 21226. More specifically, there is potential to expand the existing well-field in the current landfill footprint and a concept plan to add 13 landfill gas wells has been prepared by SCS Engineers.

- **Question:** Can you provide us with additional gas quality data?

Answer: The system routinely operates between 55% to 60% methane.

- **Question:** What is the landfill's current leachate management system?

Answer: The leachate management system includes a network of pump stations that collects gravity-drained leachate from the waste cells and delivers leachate to two leachate lagoons on-site. The leachate lagoons are pumped to a nearby City-owned wastewater treatment facility.

- **Question:** What is the development area available for an LFGTE project?

Answer: There looks to be about a 5,000 square foot area to the south of the existing United States Coast Guard/existing landfill gas to energy operator pad that could be used for a new/replacement pad for a new system. A Contractor could also use the same pad if the current system is deconstructed, about ~5,000 square feet.

13. **Question:** Northern Landfill

- **Question:** Are there potential infrastructure improvements considered by the county to increase gas collection? If so, what improvements are being considered? Is there an anticipated gas collection flow rate after the potential improvements?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- **Question:** What is the modeled/anticipated gas curve for this site? Are gas flows increasing, decreasing, or remaining the same? Can you share modeled gas curve data or annual waste acceptance?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- **Question:** What is the landfill's current leachate management system?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- **Question:** What is the development area available for an LFGTE project?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

14. **Question:** Hoods Mill Landfill

- a. **Question:** What is the modeled/anticipated gas curve for this site? We understand gas flows are declining and would like more information on the gas curve. Can you share modeled gas curve data or annual waste acceptance?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- b. **Question:** Can you provide us with additional gas quality data?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- c. **Question:** Is the flow to the flare relatively constant and flaring throughout all the day?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- d. **Question:** What is the landfill's current leachate management system?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

- e. **Question:** What is the development area available for an LFGTE project?

Answer: There is no information available at this time regarding this specific question; however, such information may be provided at a later date, as needed by an awarded Contractor.

15. **Question:** Reich's Ford Road Landfill

- a. **Question:** What is the history of the previous LFGTE project and why is the project no longer active? Has the county had pain points with the current LFGTE project they wish to avoid in the future?

Answer: The previous landfill gas to energy facility is no longer active because it was no longer financially sustainable, e.g., operation and maintenance costs overtook project revenues, so the County discontinued the project. The contract for the operation of the landfill gas to energy facility was terminated June 30, 2018.

- b. **Question:** Are there potential infrastructure improvements considered by the county to increase gas collection? If so, what improvements are being considered? Is there an anticipated gas collection flow rate after the potential improvements?

Answer: As the County put mechanisms in place to comply with the Maryland Department of the Environment's new landfill gas regulations, it is anticipated that the County will see potentially a small increase in gas flow approaching 50 s.c.f.m.

- c. **Question:** What is the modeled/anticipated gas curve for this site? Are gas flows increasing, decreasing, or remaining the same? Can you share modeled gas curve data or annual waste acceptance?

Answer: Gas flows are gradually decreasing as the County takes in 8,000 to 9,000 tons per year.

- d. **Question:** Can you provide us with additional gas quality data?

Answer: Please see the attached spreadsheet.

- e. **Question:** Is the flow to the flare relatively constant and flaring throughout all the day?

Answer: The flow to the flare is relatively constant.

- f. **Question:** What is the landfill's current leachate management system?

Answer: The landfill's current leachate management system is a storage tank attenuation flowing into County sewer infrastructure for treatment at County POTW.

- g. **Question:** What is the development area available for an LFGTE project?

Answer: The pad size is approximately 500 square feet where a previous beneficial use project was located.

16. **Question:** Alpha Ridge Landfill

- a. **Question:** Has the county had pain points with the current LFGTE project they wish to avoid in the future?

Answer: The County has not noted any pain points with the current LFGTE project that they wish to avoid in the future.

- b. **Question:** What are the current end uses of the current LFGTE project?

Answer: As noted in the REOI, "this is an active LFGTE facility, but the County is looking to decommission the generator within the next 6-12 months." The landfill gas is currently utilized for electricity sold to the grid.

- c. **Question:** Is there an existing interconnection to export electricity to the grid from the site?

Answer: Please see the Answer to Question #5, above, restated here: "Please see the following information for Howard County's Alpha Ridge Landfill: It is an energy-only resource. PNODE: 135389787 WHITEROC34.5 KV ALPHARLF."

- d. **Question:** If yes, is there an agreement with the utility to export power to the grid?

Answer: Yes, there is an agreement with PJM.

- e. **Question:** If yes, can you share the agreement or the export power tariff prices?

Answer: As this site is decommissioning, the Authority and County will not be sharing this agreement at this time, however, it may be provided at a later point in time, if needed by an awarded Contractor.

- f. **Question:** Can you provide us with additional gas quality data?

Answer: Please see the Answer to Question #6 above, restated here:

"Howard County's Alpha Ridge Landfill ("ARL") can produce 200-300 SCFM with a methane concentration averaging 50% based upon the past six months of readings. The County does test its gas annually for multiple constituents at the Alpha Ridge Landfill. See attached 2023 sample results. Regarding potential improvements to the gas system, there may be improvements to the Alpha Ridge Landfill. Gas collection improvements may be necessary at ARL resulting in an increase of methane, although the County does not anticipate a large change, as a result of the recent adoption of COMAR 26.11.42."

- g. **Question:** What is the landfill's current leachate management system?

Answer: There is no information available at this time regarding the leachate management system. However, such information may be provided at a later date, as needed by an awarded Contractor.

- h. **Question:** What is the development area available for an LFGTE project?

Answer: There is no information available at this time regarding the development area available for a LFGTE project; however, such information may be provided at a later date, as needed by an awarded Contractor.

17. **Question:** Oaks Landfill

- a. **Question:** Can you confirm the gas quality data provided? Can you provide us with additional gas quality data?

Answer: Please see the attached quarterly reports for 2023.

- b. **Question:** Is the flow to the flare relatively constant and flaring throughout all the day?

Answer: Yes. Please see the attached quarterly reports for 2023.

- c. **Question:** What is the landfill's current leachate management system?

Answer: The leachate management system consists of gravity-fed collection system with a pre-treatment facility for treatment and processing for disposal.

- d. **Question:** What is the development area available for an LFGTE project?

Answer: The development area is approximately ½ acre next to the LFG flare station.

18. **Question:** Gude Landfill

- a. **Question:** What is the modeled/anticipated gas curve for this site? Are gas flows increasing, decreasing, or remaining the same? Can you share modeled gas curve data or annual waste acceptance?

Answer: The gas flows are decreasing. Please note that this site is currently being capped so the most recent gas curve was created during the design process. Please see attached quarterly reports and gas curve information for more information.

- b. **Question:** Can you provide us with additional gas quality data?

Answer: Yes. Please see attached quarterly reports.

- c. **Question:** Is the flow to the flare relatively constant and flaring throughout all the day?

Answer: Yes. Please see attached quarterly reports.

- d. **Question:** What is the landfill's current leachate management system?

Answer: The leachate is collected in low point sumps and a huge sump at the flare station. The leachate collected at Gude Landfill is pumped from the sumps and transported to Oaks Landfill for treatment and processing for disposal.

- e. **Question:** What is the development area available for an LFGTE project?

Answer: The development area is approximately ½ acre next to the LFG flare station.

19. **Question:** The document doesn't specifically ask for pricing. Would you like that at this stage?

Answer: No, the Authority is not seeking price proposals at this stage as it is too premature in the process for a price proposal. Please see the Answer to Question #2 above.

20. **Question:** The document asks for a brief discussion of economics. Our offering is onsite leachate disposal fueled with biogas. To provide the economic return, we would need the current cost of disposal and volumes at each location. If that's difficult to obtain, we can provide just the cost of operation for the platforms we offer. The selection of the platform can follow in subsequent discussions.

Answer: In response to this REOI, please provide a detailed description of contractor operations that use onsite leachate disposal fueled by biogas and how such operations could work for applicable Member landfills, including a brief discussion of the economics of the different platforms behind it. After the Authority and Members have reviewed the initial responses, price proposals will be requested by the Authority if/when the applicable Members are interested in this Service.

21. **Question:** It is unclear from this information provided what you are looking for exactly. Will you entertain a development proposal?

Answer: After reviewing initial responses from interested Contractors that describe and summarize available Services for Member sites, the Authority will request pricing on applicable Services as described by the Contractor, if the Authority proceeds with a procurement, either through a Request for Proposals ("RFP") or through negotiating with a Contractor directly, on behalf of its Members. This could include requesting pricing on development proposals.

22. **Question:** Of the operating landfills noted in the REOI, have landfill studies been conducted and are they available for review?

Answer: No landfill studies have been conducted, other than the available data already provided with the original REOI issued, as well as the data attached to this Addendum No. 3.

23. **Question:** Are there gas analysis reports available for the selected sites? (Specifically, the information requested is the biogas pressure, gas flow (scfm/mcf), composition of methane and other volatiles, and the content of sulphuric (H₂S) and moisture content.)

Answer: No additional landfill gas analysis reports are available, other than the data already provided with the original REOI issued, as well as the data attached to this Addendum No. 3.

24. **Question:** Is there a “data room” with this information that can be accessed by the public for further review and study?

Answer: All available data, including the information provided by this REOI and the Addenda, is located on the Authority’s website under [procurement opportunities - Northeast Maryland Waste Disposal Authority \(nmwda.org\)](https://www.nmwda.org)

25. **Question:** Of the landfills noted in the REOI that are productive, are there existing off-takers in place?

Answer: Please see the Answer to Question #5 above.

26. **Question:** Are there any incentives or grants available in support of landfill gas generation?

Answer: The Maryland Clean Energy Center may be able to offer incentives or grants as the Climate Solutions Now Act ([Legislation - SB0528 \(maryland.gov\)](https://www.maryland.gov)) has a specific section focused on reducing landfill gas (through collection), so there may be opportunity there. Please also see: [Finance – Maryland Clean Energy Center \(mdcleanenergy.org\)](https://www.mdcleanenergy.org).

27. **Question:** Who is obligated to buy/sell under this REOI ?

Answer: Please see the Answer to Question #2 above. At this point, the Authority is looking for responses that provide interest and detail on possible Service models from Contractors per the REOI description, not binding proposals from Contractors. Thus, the Authority, its Member Jurisdictions nor Contractors are obligated to buy or sell Services under the REOI scope written to date. Based on responses received, the Authority and its Member Jurisdictions will determine what is in their best interest, per each Member Jurisdiction, and determine if they would like to pursue a buy, sell or cost neutral Service model, per applicable site.

28. **Question:** Is the expected deliverable for one site, several sites or all sites?

Answer: Each site would be considered a separate project and require separate deliverables. Per the REOI “The Contractor may inspect and reject any Designated Landfill Services and Designated Municipal Solid Waste and Recycling Site Services during preliminary inspections, during the course of being selected under this REOI or shortly thereafter, if a Designated Landfill or Designated Municipal Solid Waste and Recycling Site does not meet the needs of the Services to be performed (e.g., not enough gas present, not ideal for solar, etc.).”

29. **Question:** Could a “pilot project” for one site be considered?

Answer: Yes. Contractors may provide in their responses, proposed Service options as pilot projects for one or more sites; however, there is no guarantee that any of the Member Jurisdictions will desire a pilot project over a full-scale project, per applicable site.