



**Verified Carbon
Standard**

MONITORING REPORT #2024 FOR THE GREATER NEW BEDFORD LFG UTILIZATION PROJECT, DARTMOUTH, MA

CommonWealth
Resource Management Corporation

Document Prepared By: CommonWealth Resource Management Corporation
For its wholly owned subsidiary
CommonWealth New Bedford Energy, LLC

Project title	Greater New Bedford LFG Utilization Project
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Prepared by	Thomas Yeransian, Principal of CommonWealth Resource Management Corporation

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PROJECT DETAILS

1.1 Summary Description of the Implementation Status of the Project

The Project is a landfill methane (a.k.a., “landfill gas” or “LFG”) capture and utilization project located at a solid waste landfill (the “Landfill”) in Dartmouth, Massachusetts. The Landfill is owned by the Greater New Bedford Regional Refuse Management District (the “District”). The owner of the Project is Commonwealth New Bedford Energy, LLC (“CNBE”), a wholly-owned subsidiary of Commonwealth Resource Management Corporation (“CRMC”), a Massachusetts corporation based in Boston, Massachusetts, U.S.A. CNBE also owns the exclusive rights to all of the LFG at the Landfill, and all of the environmental attributes associated with the collection, destruction and use of all of the LFG at the Landfill.

The Project voluntarily captures and destroys LFG methane from the Crapo Hill Landfill located in Dartmouth, Massachusetts (latitude and longitude are 41° 43’ 28.12” N and 70° 59’ 04.82” W, respectively). The Project captures LFG from the expanded active collection system and destroys it either via four Caterpillar 3516 engine-generator sets or a back-up open flare (the Project Activity). The Project achieves emissions reductions through the destruction of LFG that would otherwise have been released to the atmosphere. The back-up flare did not operate for any significant period during the current verification period; therefore, emission reductions are not claimed from flaring.

The Project was implemented according to the description provided in the revalidated PD. The Project became operational in January 2002 with the expansion of an existing active LFG collection and destruction system. Emission reductions from the current verification period were claimed for LFG collected from the expanded active LFG collection system and destroyed in the Caterpillar 3516 engine-generator sets. The back-up flare had limited operation during the current verification period and no emission reductions are claimed from flaring. CRMC claims GHG emission reductions eligible under VCS program of **110,197 metric tons of CO₂e for the verification period 01-January-2024 through 31-December-2024.**

1.2 Audit History

Audit type	Period	Program	Validation/verification body name	Number of years
Validation	Validation 29-March-2016 to 28-March-2026	Energy industries (renewable/non-renewable sources)	GHD Limited	Validation for 10 years: 29-March-2016 to 28-March-2026

Audit type	Period	Program	Validation/verification body name	Number of years
Verification	29-March-2016 to 30-June-2016	Energy industries (renewable/non-renewable sources)	Ruby Canyon Engineering	0.25 years
Verification	1-July-2016 to 31-December-2016 and 1-January-2017 to 30-April-2017	Energy industries (renewable/non-renewable sources)	Ruby Canyon Engineering	0.83-year
Verification	1-May-2017 to 31-December-2017	Energy industries (renewable/non-renewable sources)	Ruby Canyon Engineering	0.67 year
Verification	1-January-2018 to 31-December-2018	Energy industries (renewable/non-renewable sources)	GHD Limited	1.0 year
Verification	1-January-2019 to 30-September-2019	Energy industries (renewable/non-renewable sources)	GHD Limited	0.75-year
Verification	1-October-2019 to 31-December 31-2019 1-January-2020 to 30-June-2020	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.75-year
Verification	1-July-2020 to 31-December-2021 1-January-2021 to 31-March-2021	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.75-year
Verification	1-April-2021 to 31-December-2021	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.75-year
Verification	1-January-2022 to 30-June-2022	Energy industries (renewable/non-renewable sources)	GHD Services, Inc	0.5 years

Audit type	Period	Program	Validation/verification body name	Number of years
Verification	1-July-2022 to 31-December-2022	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.5 years
Verification	1-Jan-2023 to -30-Sept-2023	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.75 years
Verification	1-Oct-2023 to -31-Dec-2023	Energy industries (renewable/non-renewable sources)	GHD Services, Inc.	0.25 years
Verification	1-Jan-2024 to -31-Dec-2024	Energy industries (renewable/non-renewable sources)	TÜV SÜD America Inc. C/O Ruby Canyon Environmental	1.0 year
Total	29-March-2016 to 31-Dec-2024	Energy industries (renewable/non-renewable sources)		8.75 years

1.3 Sectoral Scope and Project Type

Sectoral scope ¹	Renewable Energy
Project activity type	Landfill gas capture, utilization and methane destruction

Sectoral scope	Not Applicable
AFOLU project category ²	Not Applicable
Project activity type	Not Applicable

¹ Projects, activities, or methodologies may be developed under any of the 16 VCS sectoral scopes: <https://verra.org/programs/verified-carbon-standard/vcs-program-details/#sectoral-scopes>

² See Appendix 1 of the VCS Standard

1.4 Project Proponent

Organization name	CommonWealth New Bedford Energy, LLC
Contact person	Thomas Yeransian
Title	Principal of CRMC
Address	One Bornheimer Place, Scarborough, Maine 04074
Telephone	508-339-3074
Email	tyeransian@crmcx.com

1.5 Other Entities Involved in the Project

Organization name	CommonWealth Resource Management Corporation, sole owner of CommonWealth New Bedford Energy, LLC
Role in the project	Preparer of Monitoring Report
Contact person	Thomas Yeransian
Title	Principal of CRMC
Address	One Bornheimer Place, Scarborough, Maine 04074
Telephone	508-339-3074
Email	tyeransian@crmcx.com

1.6 Project Start Date

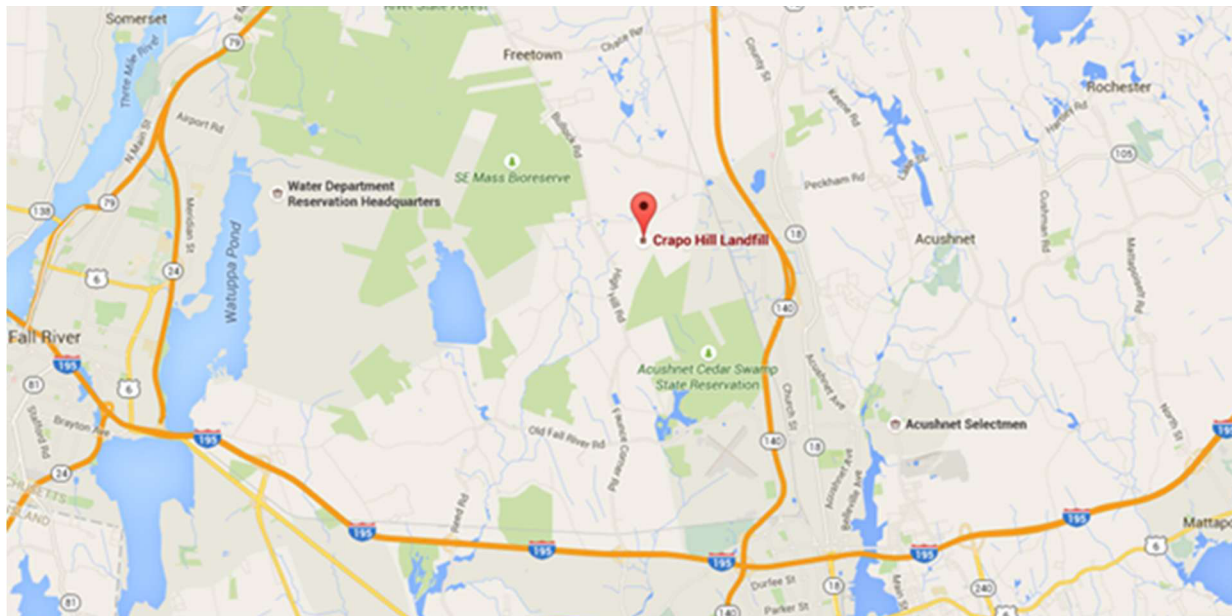
Project start date	01-January-2002
Justification	The Project began generating GHG emission reductions on the Project Start Date. The Project was validated by First Environment. First Environment performed a validation of the Project's approach as outlined in the PDD as part of the VCS 2007.1 validation process. First Environment used VCS 2007.1 and the UNFCCC's ACM0001 (Version 9.1) methodology as the basis for the validation. The VCS approved the validation and hence the Project Start Date.

1.7 Project Crediting Period

Crediting period	☐ Seven years, twice renewable ☒ Ten years, twice renewable ☐ Other (state the selected crediting period and justify how it conforms with the VCS Program requirements)
Start and end date of first or fixed crediting period	The first Project Credit Period was a 10-year period starting 28-March-2006 and ending 28-March-2016. The second Project Credit Period is a 10-year period starting 29-March-2016 and ending 28-March-2026.

1.8 Project Location

The Project is at the Crapo Hill Landfill located west of Samuel Barnet Boulevard in the northeast portion of the Town of Dartmouth, Massachusetts (latitude and longitude are 41° 43' 28.12" N and 70° 59' 04.82").



1.9 Title and Reference of Methodology

As outlined in the Project Description document, the VCS methodology applied to the Project was the approved consolidated baseline methodology UNFCCC's ACM0001, Version 16, "Large-scale Consolidated Methodology – Flaring or use of landfill gas".

Type (methodology, tool or module).	Reference ID, if applicable	Title	Version
Methodology	UNFCCC's ACM0001,	Large-scale Consolidated Methodology – Flaring or use of landfill gas".	16

1.10 Double Counting and Participation under Other GHG Programs

1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program?

☐ Yes ☒ No

1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☒ Yes ☐ No

The Project is registered at the American Carbon Registry – Project ID of ACR 113. The emission reductions verified for this monitoring period will not be claimed under or registered on the ACR or any other registry. The last year that credits from this Project were registered under the ACR were for the full year of 2008 vintage. The ACR crediting period ended December 31, 2008, the date of inactivity. See both "Exhibit 7 Attestation Statement" and separately submitted to VERRA "Issuance Deed of Representation", which attest that carbon credits verified hereunder will be registered on the VERRA Registry only.

1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions

1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the *VCS Program Definitions* for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the *VCS Program Definitions* for definition of GHG-related environmental credit system.

☐ Yes ☒ No

The Project generates renewable energy credits (RECs) in accordance with New England states' renewable portfolio programs (RPS). Each of the New England states' RPS programs are consistent in defining RECs as separate and distinct from carbon offset credits. Specifically, the RPS programs are not GHG-related environmental credit systems. The New England State's RPS programs were designed only to encourage the development and use of renewable energy in the production of electricity. The unit of measure for 1 REC is 1 MWhr of renewable electricity generated. The RECs include the attribute of electricity generated by an eligible renewable fuel. The RECs do not include title of, interest, rights and claim over all environmental attributes associated with the destruction, by the Project, of methane contained in the landfill gas. These environmental attributes are clearly shown in all RECs agreements to remain with CNBE and are not conveyed to buyers of RECs (see attached Exhibit 9, RECs Agreement).

1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, "Carbon credits may be issued through the Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities]."

☐ Yes ☒ No

If yes to all:

Provide evidence of the public statement. Evidence must be provided in this section or in an appendix.

1.12 Sustainable Development Contributions

The Project is a renewable energy project that supports sustainable development in the United States. The Project continues to add collection equipment to new areas of the active landfill to collect newly generated landfill gas. The Project continues to add automated monitoring and collection equipment to well heads to monitor and record real time data from new wellheads and control the flow of landfill gas through the wellheads to optimize the efficiency of the collection system to collect the maximum quantity of landfill gas.

The Project supports the United States Environmental Protection Agency Landfill Methane Outreach Program (LMOP), which is a voluntary program that works cooperatively with industry stakeholders and waste officials to reduce or avoid methane emissions from landfills. LMOP encourages the recovery and beneficial use of landfill gas generated from organic municipal solid waste. CRMC has been a member of LMOP since 1995. The project is listed on LMOP and CRMC reports annual performance of the project. The project helps LMOP to achieve its stated goals to reduce greenhouse gas emissions, reduce air pollution by offsetting the use of non-renewable resources, create health and safety benefits, and benefit the community and economy.

The Project supports several of the United Nations Sustainable Development Goals. The specific support of these goals is described in the table below.

Table 1: Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	7.0	Ensure access to Affordable, Reliable, Sustainable and Modern Energy	Implemented activities to increase production of reliable, low cost, base-load renewable energy to four local municipal utilities.	During last year of 2024, production of renewable electricity that was exported to the electric grid was 16,881 Megawatt hours, and 16,881 renewable energy credits (RECs),	The project has increased affordable, reliable, base-load renewable electricity in Massachusetts by 393,557 Megawatt hours since 2005, and 393,557 RECs.
2)	9.0	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	Implemented activities to increase the collection of landfill gas.	Installed additional landfill collectors and automated monitoring and control of landfill wells using LoCI Controls technology. The current contributions of these efforts increase collection of landfill gas by approximately 15% or 16,870 metric tons of CO2e for the monitoring period.	The project increased collection of landfill gas by expanding collection and increased the efficiency of the collection by adding automated collection and control system. Collected approximately 5.0 trillion Btus of landfill gas (methane) since 2005. The landfill gas was destroyed but first converted to renewable energy.
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented project activities to collect and destroy methane gas that would otherwise be emitted to the atmosphere.	By collecting and destroying landfill gas, the Project has reduced or avoided methane emissions of 110,197 metric tons of CO2 equivalents during the last year of 2024.	Reduced 1.9 million metric tons of CO2 equivalents since 2005.

1.13 Commercially Sensitive Information

None.

2 SAFEGUARDS AND STAKEHOLDER ENGAGEMENT

2.1 Stakeholder Engagement and Consultation

2.1.1 Stakeholder Identification

No change in the stakeholder make up has changed since validation.

Stakeholder Identification	No change in the stakeholder make up has changed since validation.
Legal or customary tenure/access rights	No change in the stakeholder make up has changed since validation.
Stakeholder diversity and changes over time	No change in the stakeholder make up has changed since validation.
Expected changes in well-being	No change in the stakeholder make up has changed since validation.
Location of stakeholders	No change in the stakeholder make up has changed since validation.

2.1.2 Stakeholder Consultation and Ongoing Communication

Ongoing consultation	The Project stakeholders are CNBE and the District. CNBE communicates daily during the work week with the District. CNBE meets with the District monthly after CNBE operations meetings.
Date(s) of stakeholder consultation	Monthly in-person meeting stakeholder consultations during the 2024-year Monitoring Period included January 8, February 8, March 14, April 11, May 2, June 5, July 12, August 8, September 10, October 9, November 14, and December 11. Telephone, email or text communications occur daily during the workweek from January 1 through December 31, 2024.
Communication of monitored results	Emails, telephone communications and in-person meetings.
Consultation records	CNBE prepares and submits to the District the Project's performance in "Statement for Purchase of Landfill Gas from the District" within the first week after each month.
Stakeholder input	The Project operations accommodate changes to the District operations as communicated and coordinated each week. No project design occurred during the monitoring period

2.1.3 Free, Prior, and Informed Consent

Consent	The Project does not affect Indigenous People, local communities, and customary rights holders, rights to land, territories and resources. CNBE has gone through all legal measures to develop the Project at the Landfill and implement the collection, use and destruction of landfill gas.
Outcome of FPIC	The Project has not encroached on land, relocated people, and forced physical or economic displacement.

2.1.4 Grievance Redress Procedure

Grievances received	Resolution and outcome
No grievances were received.	No resolution was required because no grievance was received during monitoring period. Grievances can be sent directly to CRMC by email or phone. CRMC has not received a grievance by the public during its years of operation. CommonWealth Resource Management Corporation (CRMC) maintains a website that contains the owners' emails and telephone numbers, which the public has easy access. The public also can send grievances to the Greater New Bedford Regional Refuse Management District (District), which has an odor hotline for public reports and a website with contacts email and phone. CRMC is in contact with the District each work day and during this monitoring period, no grievance from the District was communicated to CRMC. If CRMC receives a grievance directly or through the District, CNBE would work with the District to address the grievance by assessing the conditions of the grievance and take actions to cure or mitigate the cause of the grievance.

2.1.5 Public Comments

Summary of comments received	Actions taken
No comments were received.	No actions were required to be taken.

2.2 Risks to Stakeholders and the Environment

2.2.1 Management Experience

Since 1991, the three principals of CRMC have developed several landfill gas utilization projects itself and many other projects for companies as consultants. CRMC provides the technical, environmental and business expertise and experience to implement and operate

such projects and as necessary engage communities. Typically, these projects are supported by the public and during the development process and operations of the projects CRMC receives little if any public comment or public comments that are supportive of the projects.

Regarding the public that may be interested in the Project, CNBE provides tours of the Project to interested parties including school groups, college students, environmental advocacy groups, political leaders, etc. The Project has been typically used as an example by the State of Massachusetts Clean Energy Council and Department of Environmental Protection as an important environmental project that helps to achieve the environmental, renewable energy, GHG reduction and sustainability goals of Massachusetts. The Project was awarded the Silver Metal for Excellence in 2010 for landfill gas projects by the Solid Waste Association of North America (SWANA). Criteria used for this national award for excellence included Site Design & Construction, Environmental Controls, Regulatory Compliance, Planning, Operations & Financial Management, Utilization of Equipment/Systems and Technologies, Public Acceptance, Appearance and Aesthetics, and Innovation and Creativity.

The mechanisms for ongoing communication with the public include

1. Providing the general public with detailed descriptions of the Project through both the Commonwealth Resource Management Corporation (CRMC) website (www.crmcx.com) and the Greater New Bedford Regional Refuse Management District website (<https://gnbrmdistrict.org>).
2. Direct outreach from CNBE by providing presentations to industry groups, by responding to inquiries from the public and organizing public tours of the facility and providing annual data to the Massachusetts Department of Environmental Protection and other regulatory agencies.
3. Direct outreach from the Executive Director of the Greater New Bedford Regional Refuse Management District who responds to all public inquiries regarding all activities at the landfill including the Project. Public inquiries of the Project are typically relayed to CNBE and CNBE communicates with the interested public.
4. Members of the public have access to CNBE's owners and operators through direct email and telephone contact information listed on the CRMC website.

2.2.2 Risk assessment

	Risk identified	Mitigation or preventative measure(s) taken
Natural and human-induced risks to stakeholders' wellbeing	No risk identified.	None. The Project does not adversely impact stakeholders wellbeing. On the contrary, any potential stakeholders' risk are reduced by Project.
Risks to stakeholder participation	No risk identified.	Stakeholders do not have risk of participation.
Working conditions	Operations.	CNBE implemented a Safety Plan, Spill Prevention Control & Countermeasures Plan for Project operations, safety training, logs, and insurance.
Safety of women and girls	No risk identified.	No risks exist regarding the safety of women and girls due to the implementation of this Project.
Safety of minority and marginalized groups, including children	No risk identified.	No risks exist concerning the safety of minority and marginalized groups, including children due to the implementation of this Project.
Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Uncontrolled release of landfill gas from the Landfill.	The Project collects and controls landfill gas generated by the Landfill and thereby reduces uncontrolled releases of landfill gas to the environment and therefore has only beneficial impacts on the surrounding environment and residents that live in the area. The Project does not release hazardous materials and chemical pesticides and fertilizers to the environment. Noise generated by the Project meets State permit requirements and does not impact the public beyond the property boundaries owned by the District.

2.3 Respect for Human Rights and Equity

2.3.1 Labor and Work

	Risks identified ³	Mitigation or preventative measure(s) taken
Discrimination	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.
Sexual harassment	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.
Gender equity in labor and work	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.
Forced labor	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.
Child labor	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.
Human trafficking	No risk identified.	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.

2.3.2 Human Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified	Prohibited by CNBE in accordance with United States federal and Massachusetts State laws.

2.3.3 Indigenous Peoples and Cultural Heritage

Risks identified	Mitigation(s) or preventative measure taken
No risk identified	The Project does not affect the cultural heritage of the Indigenous People, local communities, and customary rights holders.

³ The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

2.3.4 Property Rights

Risks identified	Mitigation or preventative measure(s) taken
No risk identified.	The Project does not affect the property rights of Indigenous People, local communities, and customary rights holders.

2.3.5 Benefit Sharing

Summary of the benefit sharing plan	CNBE pays the District for the landfill gas utilized by the Project and provides the District with additional contingent payments based upon the sale of products produced by the Project. No change to the compensation to the District occurred during the monitoring period.
Benefit sharing during the monitoring period	The District is a Massachusetts legislated solid waste district that serves two host communities, the City of New Bedford and Town of Dartmouth. The benefits that CNBE pays the District also benefits the host communities by providing economic support of the District's solid waste management to its host communities.

2.4 Ecosystem Health

	Risk identified	Mitigation or preventative measure(s) taken during the monitoring period
Impacts on biodiversity and ecosystems	No risk identified	The Project has no impact on biodiversity and ecosystem health.
Soil degradation and soil erosion	No risk identified	The Project has no impact on soil degradation and soil erosion.
Water consumption and stress	No risk identified	The Project has no impact on water consumption and stress.

2.4.1 Rare, Threatened, and Endangered species

Species or habitat	The Project is not located in or adjacent to habitats for rare, threatened, or endangered species. When originally permitted, the Secretary of the Massachusetts Executive Office of Environmental Affairs approved the Project through the Massachusetts Environmental Policy Act regulations. As part of the approval, the Secretary found that the Project is sited on previously disturbed land that does not contain a habitat of rare species, vernal pools, priority sites of rare species or exemplary natural communities, and therefore, no alteration of designated significant habitat or taking of an endangered or threatened species will occur. No changes occurred during the monitoring period.
Areas needed for habitat connectivity	The Project is not located in or adjacent to habitats for rare, threatened, or endangered species.

	Risks identified	Mitigation or preventative measure(s) taken
Habitats for rare, threatened, and endangered species	No risk identified	The Project is not located in or adjacent to habitats for rare, threatened, or endangered species.
Areas for habitat connectivity	No risk identified	The Project is not located in or adjacent to habitats for rare, threatened, or endangered species.

2.4.2 Introduction of species

Species introduced	Classification	Justification for use	Adverse effects and mitigation
No species introduced.	No classification	Not applicable	Not applicable because no species were introduced. The Project is maintained as a fully developed industrial site.

Existing invasive species	Mitigation measures to prevent the spread or continued existence of invasive species
None	The Project site is maintained as an industrial site.

	Risks identified	Mitigation or preventative measure(s) taken
Invasive species	No Risk	The Project site is maintained as an industrial site.

2.4.3 Ecosystem conversion

	Risks identified	Mitigation or preventative measure(s) taken
Ecosystem conversion	No risk identified	The Project site has been maintained as an industrial site since 2005.

3 IMPLEMENTATION STATUS

3.1 Implementation Status of the Project Activity

The Project Activity was in service during the monitoring period. Note that the Project Activity no longer includes an operating anaerobic digester that had previously generated biogas to supplement the landfill gas. The anaerobic digester ceased operations July 2023. Consequently, all prior references and calculations pertaining to GHG emission reductions and monitoring associated with the anaerobic digester and biogas have been excluded from this Monitoring Report.

The Project Activity operated normally during the monitoring period. The four engines destroyed landfill gas during the period. The back-up flare had limited operation during the current verification period and no emission reductions are claimed from flaring.

Events that impacted operation during the monitoring period included

1. a 17-hour unplanned outage of the landfill gas-to-energy facility caused by the utility during a winter snowstorm, which occurred on January 7 through 8, 2024.
2. a 3-hour unplanned outage of the landfill gas-to-energy facility caused by the utility during a winter snowstorm, which occurred on February 13, 2024.

3. a 7-hour planned outage of the landfill gas-to-energy facility by the utility to replace communication equipment, which occurred on April 17, 2024.
4. an 8-hour planned outage of the landfill gas-to-energy facility by the utility, which occurred on July 24, 2024.
5. a 7-hour planned outage of the landfill gas-to-energy facility by the District to work on the landfill gas collection system, which occurred on July 31, 2024.
6. Two 11-hour planned outages of the landfill gas-to-energy facility by the utility to replace utility recloser equipment, which occurred on August 12, and 13, 2024.
7. a 104-hour planned outage of the landfill gas-to-energy facility by the utility to replace relays in substation, which occurred on October 21 through 25, 2024.
8. a 2-hour planned outage of the landfill gas-to-energy facility by the District to work on the landfill gas collection system, which occurred on December 10, 2024.

During these events, the back-up flare was used to destroy landfill gas. The data logs that document the events are provided in Exhibit 5.

No other changes to the project proponent or other entities were made during this monitoring period.

3.2 Deviations

3.2.1 Methodology Deviations

The following methodology deviations were previously validated and approved for the Project during the initial crediting period and again during the revalidation assessment in 2016:

- The SCADA system was programmed to calculate the methane gas flow in units of million British thermal units (MMBtu) using standardized gas flow (at 68°F and one atmosphere of pressure), methane concentration, the gross heat content (higher heating value) of methane, and the actual temperature and pressure. CNBE determined the volume of methane destroyed by converting the MMBtu values to total methane gas flow in standard cubic feet. This deviation from the monitoring methodology was previously approved by independent verifiers and had a conservative impact on the quantification of GHG emissions reductions during the verification period.
- The Project reference conditions are 20 degrees Centigrade and 1 atmosphere rather than ACM0001 reference conditions of 0 degrees Centigrade and 1 atmosphere.

The following methodology deviations were previously approved during the re-validation assessment in 2016.

1. A separate LFG meter is not present on each of the four combustion engines. A single meter is used immediately before the piping splits to each engine. This meter is continuously recording data. Operating data is tracked for each engine, so it is possible to calculate the flow destroyed by each engine and to ensure that LFG is destroyed. Flow controls are in place to ensure no LFG is sent to an engine that is not operating. This does not affect the conservativeness of the emissions reductions claimed.
2. Ex-ante emissions reductions calculations use historic Project specific data as the basis for projecting future emissions rather than the required CDM estimation tools. Using real data allows the estimations to be more accurate and reflect actual Project operating conditions. This does not affect the conservativeness of the emissions reductions claimed but increases the accuracy of the ex-ante projections ensuring the project is forecasting obtainable, appropriate emissions reductions.
3. There is no flow meter installed on the collection pipe from the District Initial System to separately monitor the contribution of the original baseline system. Given the collection system design and meter requirements, installing a meter at this location would not produce reliable, meaningful results. Instead, well-head flow measurements are collected manually. These results are used to calculate the relative contribution of the District Initial System to the overall flow of LFG destroyed by the engines. This portion of the total flow represents FCH₄,BL,y and will be calculated on a monthly basis and subtracted from the total flow to account for the amount of methane destroyed in the baseline scenario. This approach represents an accurate measurement of the flow because (a) the portion of the landfill that includes the District Initial System (Phase 1) is capped so no landfill gas can be passively emitted to the atmosphere, and (b) the remaining active wells from the District Initial System are located in such a way as to enable capture of all LFG generated within the sphere of influence of the District Initial System. This deviation decreases the conservativeness of the emissions reductions claimed but significantly increases the accuracy of the calculations as is allowable under VCS Standard v4.1, Section 3.17.1 and 2.
4. The Project uses the eGrid electricity emissions factor rather than the default emissions factor provided in the CDM tool as explained in the project emissions section. This deviation decreases the conservativeness of the emissions reductions claimed but significantly increases the accuracy of the calculations as is allowable under VCS Standard v4.1, Section 3.17.1 and 2.

These deviations only apply to the monitoring and measurement portions of the Project.

3.2.2 Project Description Deviations

The following two Project Description Deviations occurred during the Monitoring Period including the following:

1. Frequency of measurement and recording of methane content of LFG while the analyzer was out for service: The California Analytical Instrument was sent out for factory repair, service and calibration on May 14, 2024 and returned to service on July 26, 2024. During the period that the CA Analytical was out for service, the handheld instrument was used once per day to measure methane content in the landfill gas. The handheld instrument was calibrated once per week using a 50% methane span gas. The daily methane content was manually placed into the SCADA and was used in the daily MMBTU calculation. Specifically, the kSCF of LFG was multiplied by the methane content reading to obtain quantity of methane in the day and then converted to MMBTUs by further calculation.

Under 5.3.1 Data Collection, the PD contemplates the use of handheld meters. Specifically, the PD states that *"Each week or more frequently as necessary, CNBE calibrates methane concentration measured on an automated basis by a California Instruments NDIR Analyzer installed at the Project, and any hand-held instrument that may be used in addition to the NDIR Analyzer is calibrated prior to its use. CNBE has found that weekly calibrations are sufficient to provide accurate measurements because of the reliable performance of the instrument, and the stringent dependence of engine operations on the accuracy of the methane measurements."*

Therefore, a handheld instrument was contemplated to be used in addition to the CA Analytical when service or repair of the instrument is required. However, this is a deviation from typical normal operation. Given that methane content does not vary significantly during each day, the daily methane reading does not materially affect the accuracy of the results. Use of the daily methane reading ensures methodological compliance without affecting additionality or the appropriateness of the baseline scenario.

2. Calculation of LFG collected by the District Initial System. The initial wells that remain functioning are short vertical wells on side slopes of the Phase 1 area of the landfill that contain waste from at least 25 to 30 years ago. The wellheads are designed to have measurable operating ranges of 5 to 125 scfm of landfill gas. Each contains a pitot tube to measure flow. The pitot tube and manometer measure flow by differential pressure across the velocity and static pressures. At low flow rates, the velocity pressure becomes very small. The differential pressure that corresponds to 1 to 5 scfm flow rate is 0.001 to 0.005 inches of water gauge, which is so small that the resolution, noise and fluctuations in the system make the accuracy of the measurement unreliable. Near and below the low-end (e.g., <5 SCFM for 2" models), readings typically default to "no flow" or show instability.

The District's landfill technician provided data showing that all the initial wells are near or at 0 flow rate and have poor gas quality (e.g. <40% methane content). Due to these factors, a conservative approach was adopted: historical results were set to 5 scfm (the lower threshold for accurate measurement) of landfill gas at 50% methane content per well in the District Initial System. This method overestimates the amount of methane from the initial system. As a result, this deviation leads to an overstatement of methane quantities, which ultimately provides a conservative approach, reduces the emissions reduction claims, and ensures compliance with methodology without impacting additionality or the suitability of the baseline scenario.

3.3 Grouped Projects

The Project is not a grouped project.

3.4 Baseline Reassessment

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes

☒ No

4 DATA AND PARAMETERS

4.1 Data and Parameters Available at Validation

Data / Parameter	OXtop_layer
Data unit	Dimensionless
Description	Fraction of methane that would be oxidized in the top layer of the SWDS in the baseline
Source of data	Consistent with how oxidation is accounted for in the methodological tool "Emissions from solid waste disposal"
Value applied:	0.1
Justification of choice of data or description of measurement methods and procedures applied	In accordance with requirements of ACM0001
Purpose of Data	Calculation of baseline emissions
Comments	No comments

Data / Parameter	GWPOCH4
Data unit	T CO ₂ e / t CH ₄
Description	Global warming potential of methane
Source of data	IPCC – Fifth Assessment Report
Value applied:	28
Justification of choice of data or description of measurement methods and procedures applied	Updated from 25 to 28 pursuant to (1) the re-validation report dated May 16, 2016, and (2) the VCS approval (in its VCS Standard v.4.1 issued April 22, 2021 and VCS Standard v4.2 issued January 20, 2022) of updated global warming potentials provided in the IPCC's Fifth Assessment Report (Table 8.A.1) (2013). The Verified Carbon Standard Version 4.5 October 4, 2023, v4.5 states the GWP for methane at 28 (Table 2, Page 37). The Verified Carbon Standard Version 4.7 April 16, 2024, v4.7 also states the GWP for methane at 28 (Table 2, Page 37).
Purpose of Data	Calculation of baseline emissions
Comments	No comments

Data / Parameter	Regulatory requirements
Data unit	Not applicable
Description	Regulatory requirements applicable to the Project Activity
Source of data	Publicly available information on local, regional and national regulations
Value applied:	Not applicable
Justification of choice of data or description of measurement methods and procedures applied	Not applicable
Purpose of Data	To ensure continued compliance and regulatory additionality
Comments	This information is summarized in the PDD and will be monitored during the crediting period for any applicable changes.

Data / Parameter	Methane oxidation efficiency for electricity generation
Data unit	Percent

Data / Parameter	Methane oxidation efficiency for electricity generation
Description	Quantity of methane oxidized during combustion for electricity generation
Source of data	CDM Methodologies and Tools
Value applied:	100
Purpose of the data	Calculation of baseline and emissions reductions
Comments	None

Data Unit / Parameter:	Methane oxidation efficiency for flare
Data unit:	Percent
Description:	Quantity of methane oxidized during combustion using flare
Source of data:	ACM0001Flaring or use of landfill gas, version 16
Value applied:	50
Purpose of the data:	Baseline and emissions reductions
Any comment:	None

Data / Parameter	Fuel Use by the Emergency Generator
Data unit	Gallons/hour
Description	Average consumption of a 150kW generator operating at ¾ load to be used to calculate fuel consumed annually
Source of data	Diesel Service and Supply Company
Value applied:	8.4 gallons/hour
Justification of choice of data or description of measurement methods and procedures applied	Conservative for this piece of equipment given output needed vs total capacity
Purpose of the data	Calculation of project emissions
Comments	None

4.2 Data and Parameters Monitored

Data Unit / Parameter:	Methane content of landfill gas
Data unit:	Percent methane content of landfill gas
Description:	Methane content of landfill gas
Source of data:	SCADA System at Facility
Description of measurement methods and procedures to be applied:	Non-dispersive infrared
Frequency of monitoring/recording:	Continuous, hourly, daily
Value monitored:	Methane concentration, % Value varies. During the monitoring period methane value averaged 52% with daily range of 48% to 57%.
Monitoring equipment:	California Analytical 602P, Serial # S07002
QA/QC procedures to be applied:	Field calibrated once per week. A zero check and value check is performed by comparison with standard certified gas.
Purpose of the data	Calculate baseline and emissions reductions.
Calculation method:	Used in calculation to obtain heat value of landfill gas in Btu per scf of landfill gas
Any comment:	CO2 and O2 are also continuously monitored using the same instrument.

Data Unit / Parameter:	Volume of landfill gas to engines
Data unit:	Actual cubic feet per minute
Description:	Quantity of landfill gas used to fuel engines
Source of data:	SCADA System at Facility
Description of measurement methods and procedures to be applied:	Differential pressure measured across orifice plate

Data Unit / Parameter:	Volume of landfill gas to engines
Frequency of monitoring/recording:	Continuous, hourly, daily
Value monitored:	Differential pressure Value varies. During monitoring period differential pressure value ranged between 4 to 8 inches water gauge that is used to calculate actual cubic feet per minute flow average.
Monitoring equipment:	Oripac Model 5300-08-5.00-304-150-HT., Serial #30154
QA/QC procedures to be applied:	Field calibrated once per month.
Purpose of the data	Calculate baseline and emissions reductions.
Calculation method:	Fluid flow equation (Bernoulli) calculates actual cubic feet per minute of landfill gas.
Any comment:	None

Data Unit / Parameter:	Temperature of landfill gas to engines
Data unit:	Degrees Fahrenheit
Description:	Temperature of landfill gas
Source of data:	SCADA System at Facility
Description of measurement methods and procedures to be applied:	Thermocouple
Frequency of monitoring/recording:	Continuous
Value monitored:	Temperature Value varies. Typical range of temperatures is 109 to 120 degrees F.
Monitoring equipment:	Thermocouple, Applied Sensor Technologies (a division of United Electric Controls) Model # 617/923-6966, Style M194 589 UEC 2404, No serial # provided.
QA/QC procedures to be applied:	Field calibrated using thermometer.
Purpose of the data	Calculate baseline and emissions reductions.
Calculation method:	Used in fluid flow equation (Bernoulli) to calculate standard cubic feet per minute from actual cubic feet per minute of landfill gas.

Data Unit / Parameter:	Temperature of landfill gas to engines
Any comment:	None

Data Unit / Parameter:	Pressure of landfill gas to engines
Data unit:	PSIG
Description:	Pressure of landfill gas
Source of data:	SCADA System at Facility
Description of measurement methods and procedures to be applied:	Pressure transducer
Frequency of monitoring/recording:	Continuous
Value monitored:	Static pressure Value varies. The typical range of static pressure is 1.9 to 2.4 psig.
Monitoring equipment:	Pressure transducer, Ashcroft, Model K17M0242F215#, Serial #: 60803605
QA/QC procedures to be applied:	Field calibrated using pressure gauge.
Purpose of the data	Calculate baseline and emissions reductions.
Calculation method:	Used in fluid flow equation (Bernoulli) to calculate standard cubic feet per minute from actual cubic feet per minute of landfill gas.
Any comment:	None

Data Unit / Parameter:	Volume of LFG to the flare
Data unit:	Standard cubic feet per minute
Description:	Quantity of landfill gas combusted in flare
Source of data:	Flare station
Description of measurement methods and procedures to be applied:	Differential pressure measured across orifice plate
Frequency of monitoring/recording:	Continuous, hourly, daily
Value monitored:	Standard cubic feet per minute

Data Unit / Parameter:	Volume of LFG to the flare
	Varies periodically. Typically, 0 scfm. Few times that flare operates varies between 300 to 800 scfm.
Monitoring equipment:	Omega PDF65 sqrt, Serial #57493
QA/QC procedures to be applied:	Field calibrated as required when operating.
Purpose of the data	Calculate baseline and emissions reductions.
Calculation method:	Fluid flow equation (Bernoulli) calculates standard cubic feet per minute of LFG.
Any comment:	None

Data / Parameter	Fraction of total LFG collected attributable to District Initial System
Data unit	Percentage
Description	Amount of LFG collected from the District Initial System that would have been destroyed in the baseline scenario
Source of data	Well-head measurements
Description of measurement methods and procedures to be applied	Measurements at each well-head using a hand-held instrument
Frequency of monitoring/recording	Once per month
Value applied:	4.9% was used in the ex-ante calculation based on data January 1, 2024 through December 31, 2024. See Exhibit 4.
Monitoring equipment	Elkin Earthworks Model 1104M64-06
QA/QC procedures to be applied	Calibrations are conducted prior to each set of measurements and documented.
Purpose of data	Calculation of the baseline emissions
Calculation method	LFG flows from District Initial System/Total LFG flow from all wells
Comments	None

Data Unit / Parameter	EF EL,Grid,y
Data unit	tonnes CO2/MWh
Description	Emission factor for electricity generation in year y
Source of data	US EPA eGRID data 2023
Description of measurement methods and procedures to be applied	This value converted from the pounds CO2/MWh provided by the US EPA.
Frequency of monitoring/recording	The eGRID data will be reviewed each year to ensure that the most current value is used. See Exhibit 4
Value applied	0.25 tonnes CO2e/MWh
Monitoring equipment	None
QA/QC procedures to be applied	None
Purpose of data	Calculation of project emissions
Calculation method	539.3 lbs CO2e/MWh*0.454545455 kg/lbs*0.001 tonnes/kg = 0.25 tonnes CO2/eMWh
Any comment:	None

Data Unit / Parameter	TDL Grid,y
Data unit	--
Description	Average technical transmission and distribution losses for grid in year y
Source of data	U.S. Energy Information Administration (EIA) State Electricity Profiles. Table 10: Supply and Disposition of Electricity Data for 2023, Table 10. Supply and disposition of electricity United States, 1990 through 2023, November 6, 2024.
Description of measurement methods and procedures to be applied	None

Data Unit / Parameter	TDL Grid,y
Frequency of monitoring/recording	This data will be reviewed each year to ensure that the most current value is used.
Value applied	0.045
Monitoring equipment	None
QA/QC procedures to be applied	None
Purpose of data	Calculation of project emissions
Calculation method	None
Any comment	None

Data Unit / Parameter	EC Grid,y
Data unit	MWh
Description	Amount of grid electricity consumed by the project
Source of data	Bills as shown in Exhibit 5
Description of measurement methods and procedures to be applied	CNBE staff will compile the data.
Frequency of monitoring/recording	Data will be compiled annually.
Value applied	Ex Ante Calculation: 1.47 MWh/year based on January 1, 2024 through December 31, 2024 usage
Monitoring equipment	None
QA/QC procedures to be applied	None
Purpose of data	Calculation of project emissions
Calculation method	None
Any comment	None.

Data Unit / Parameter:	FCDiesel,y
Data unit:	Gallons/year
Description:	Amount of diesel consumed by the emergency generator
Source of data:	Run time log as shown in Exhibit 5
Description of measurement methods and procedures to be applied:	Plant operator will log the run time of the engine each time it is used
Frequency of monitoring/recording:	Data will be compiled annually.
Value applied:	Ex Ante Calculation: Based on January 1 – December 31, 2024 usage, the engine ran for 158 hours. Using a conservative assumption that the engine operated at $\frac{3}{4}$ load, it was assumed that the engine used 1,327.2 gallons of diesel per hour run. (Technical specifications provided to validator. See Parameter in Section 5.1 of PD)
Monitoring equipment:	None
QA/QC procedures to be applied:	None
Purpose of data:	Calculation of project emissions
Calculation method:	The total run time will be multiplied by 8.4 gallons/hour to determine the total amount of diesel consumed in the year.
Any comment:	None.

Data Unit / Parameter:	NCVdiesel
Data unit:	MMBtu/ gallon
Description:	Energy content of the diesel
Source of data:	Draft 2011 US Greenhouse Gas Inventory Report
Description of measurement methods and procedures to be applied:	This was converted from the MMBtu/barrel data provided by the USEPA. 5.809 MMBtu/barrel
Frequency of monitoring/recording:	Annual

Data Unit / Parameter:	NCVdiesel
Value applied:	0.13831 MMBtu/gallon See ExAnteEstimate or Annual Calculation Workbooks for conversion
Monitoring equipment:	None
QA/QC procedures to be applied:	None
Purpose of data:	Calculation of project emissions
Calculation method:	None
Any comment:	Values provided by the EPA will be reviewed annually to ensure this value is the most up to date value available. This value is higher than the range provided by the IPCC in its 2006 Guidelines for National Greenhouse Gas Inventories and is therefore conservative.

Data Unit / Parameter:	EF CO ₂ ,Diesel,y
Data unit:	t CO ₂ /MMBtu
Description:	CO ₂ emissions factor for diesel
Source of data:	Draft 2011 US Greenhouse Gas Inventory Report
Description of measurement methods and procedures to be applied:	This was converted from the Tg C/Qbtu data provided by the US EPA. See ExAnteEstimate or Annual Calculation Workbooks for conversion
Frequency of monitoring/recording:	Annual
Value applied:	0.073957 t CO ₂ /MMBtu
Monitoring equipment:	N/A
QA/QC procedures to be applied:	N/A
Purpose of data	Calculation of project emissions
Calculation method:	N/A

Data Unit / Parameter:	EF CO ₂ , Diesel, y
Any comment:	Values provided by the EPA will be reviewed annually to ensure this value is the most up to date value available.

The difference in monitoring equipment in the Monitoring Report from the PD document include eliminating references to biogas flow, methane, temperature and pressure measuring devices from the anaerobic digester because the AD biogas component ceased operations and data from these instruments are not applicable. Any other difference in monitoring equipment is a result of an update or replacement of the equipment.

4.3 Monitoring Plan

Critical for the accuracy and transparency of the calculation is that:

1. Measurements of gas flows are undertaken with reliable equipment that is regularly calibrated;
2. Sampling of Methane concentration in gas is undertaken with reliable equipment that is regularly calibrated;
3. Methane concentration in gas is measured once per minute and average concentrations are calculated for each hour and day. The average concentrations are statistically unbiased (i.e. they reflect the actual methane concentration of the gas);
4. Measurements of gas flows are undertaken at least on a monthly basis and are as frequent as necessary to apply statistically valid methane concentration factors (as described in (3), above);
5. Measurement and calibration equipment and processes and changes thereof are clearly described as part of the GHG emissions reporting process.

Unless otherwise specified through the GHG emissions reporting process, the following system is assumed to be in place.

4.3.1 Data Collection

At the Facility, the Supervisory Control and Data Acquisition (SCADA) system measures and records methane content and landfill gas volume to the engines and flare once per minute, and then calculates methane quantities each minute. The results are then accumulated to provide hourly and daily totals in units of million British thermal units on a higher heating value basis [MMBtu (HHV)] and thousand standard cubic feet (KSCF) of LFG.

Flow Measurements

The flow meters are located directly upstream of the destruction devices. flow meter serves as the unit for flow meter measurements to the four engines, and one unit for flow meter measurements to the flare. Each flow meter is equipped with a totalizer that indicates the cumulative actual cubic feet of gas that have passed through that flow meter.

The Project uses an orifice plate flow meter purchased directly from its manufacturer, Lambda Square Inc for the engine measurements. The orifice plate flow meter is an Oripac® Model 5300 that determines flow based on pressure differentials measured across a 5-inch diameter bore pressure differential plate installed in the Project's 8-inch diameter LFG pipe. The design data for the instrument specifies an accuracy of ± 0.6 percent of full scale and the capability of measuring flows from 0 to 1,600 actual cubic feet per minute. The performance of the instrument in the field is assured by the manufacturer based on bench scale testing in accordance with applicable design and methodologies prescribed by the International Standards Organization (ISO) and the American Society of Mechanical Engineers (ASME).

Methane Measurements

The methane content of the landfill gas, on a percent volume basis, is measured at a sampling port in the main header pipe near the flow meter with the use of a California Analytical Instrument Non-dispersive infrared (NDIR) analyzer. The readings are also logged by the SCADA system once per minute, hour and day.

Wellfield Measurements

The landfill gas collection system is balance in two ways including (1) high quantity LFG producing wells incorporate automated landfill gas collection technology and (2) low quantity LFG producing wells incorporate manual landfill gas collection technology.

The automated landfill gas collection was installed and is operated by LoCI Controls Inc. The LoCI system allows for near continuous gas collection well measurements and valve adjustments using cellular connections to cloud based computing and data storage systems to improve gas collection system efficiency. These automated systems deploy collection well mounted hardware that provides continuous gas collection system measurement, data storage, control, and optimization. Algorithms are used to automate the valve adjustments to maximize collection efficiency, and reduce GHG emissions, based on individual collection well measurements and operating thresholds, along with aggregate gas composition thresholds for the entire collection system. The LoCI automated technology transforms the high quantity LFG collection wells from periodic manual to continuous automated operation that increases landfill gas collection efficiency beyond regulatory requirements.

The manual technology requires a technician to monitor the landfill gas at each wellhead with a handheld gas analyzer and based on the data the technician adjusts a mechanical valve located on the wellhead above ground. The data is recorded by the technician and then moves on to the

next wellheads to perform this same task repeatedly until all collection wells are monitored and adjusted. The technician measures LFG pressures, LFG flow rate, methane, carbon dioxide, oxygen and balance gas content of the LFG and based on these measurements adjusts the mechanical valve to control vacuum and flow from the collection well. Opening of the manual valve will increase the vacuum applied to the collection well. Closing the valve, will reduce the vacuum applied to the collection well. These results are logged in an electronic file to document system performance as well as to determine the percent contribution of LFG from the District Initial System.

Meter Calibrations

On installation, CNBE performed initial calibrations of the instruments, under actual field conditions using the USEPA Protocols described below. As a back-up to the flowmeter measurements, actual quantities of LFG destroyed in the Project engine-generators can be accurately calculated based on (a) the known engine heat rate (the number of British Thermal Units (Btus) required to produce a kilowatt hour electric power, (b) the measured heat content of the LFG fuel, and the metered electric power output of the Project.

CNBE performs calibration of the orifice plate flow meter at least quarterly and often monthly. CNBE follows the USEPA-promulgated test methods (USEPA Protocols) for determining flow rates of gas through pipes at 40 CFR 60 Appendix A, including (a) Method 1a - sample and velocity traverses for stationary sources with small stacks or ducts, and (b) Method 2c - determination of gas velocity and volumetric flow rate in small stacks or ducts (standard pitot tube). The USEPA Protocols were established by the USEPA to accurately determine the volumetric flow rates of gases through pipes at industrial facilities to determine compliance with permit limitations on process and exhaust gases.

The calibration is performed by measuring the flow at a point near the orifice flow meters. A pitot tube attached to a manometer measures the flow. The pitot tube is inserted into the pipe and several points are measured across the full diameter of the pipe. The measurements taken by the pitot tube and manometer include velocity pressure and static pressure. Other measurements taken during calibration include gas temperature and barometric pressure.

Each week or more frequently as necessary, CNBE calibrates methane concentration measured on an automated basis by a California Instruments NDIR Analyzer installed at the Project, and any hand-held instrument that may be used in addition to the NDIR Analyzer is calibrated prior to its use. CNBE has found that weekly calibrations are sufficient to provide accurate measurements because of the reliable performance of the instrument, and the stringent dependence of engine operations on the accuracy of the methane measurements. CNBE typically experiences a weekly variance in the accuracy of methane content readings of one percent or less, which readings are measured by the California Instruments NDIR Analyzer and compared to readings from a certified standard gas containing a known methane concentration.

Another performance measure that is a further check and balance of methane content is the calculation of efficiency of the operating engine-generator sets, which is calculated daily and does not vary by more than approximately five percent during normal operations.

4.3.2 Organizational structure, responsibilities, and competencies

CNBE owns and manages the operations of the Facility and is responsible for oversight of operations and data collection, calculating emissions reductions and ensuring proper Project documentation. CNBE personnel have extensive experience in these areas. They have successfully implemented the Project over many years and have had no employee turnover.

CNBE contracts an operating company to conduct the operations and maintenance of the Facility. The operating company employs a full-time operator to conduct operations, maintenance, inspections, calibrations, monitoring and record-keeping at the facility. The operator receives training on the necessary tasks and has a task reminder calendar to ensure duties are performed at the appropriate time.

4.3.3 Recordkeeping

The SCADA system creates a Microsoft Excel file that contains the hourly and daily totals of landfill gas flow, landfill gas heat value, landfill gas methane content, operating hours of each engine, gross power output of each engine, gross and net power output of the facility. This file is created each day at mid-night for the prior 24-hour period. The file is automatically stored on the SCADA system computer. This file can be accessed remotely or at the facility. The file is manually copied from in its entirety and pasted into the monthly quantification excel spreadsheet. No individual pieces of data are manually entered. The files are backed up at the Facility and off-site.

Operator records including the Facility operation logs, maintenance logs and manually recorded data logs are maintained at the Facility. Operator records also include the log noting the run time of the emergency generator.

4.3.4 Internal Review

The Project uses several layers of review to ensure proper operations, data collection and quantification of emissions reductions.

The monthly quantification spreadsheet calculates several key performance parameters each day that are compared a few times per week to the expected performance range of each parameter. If the calculations show a significant deviation, corrective actions are taken. Corrective actions involve repairing equipment that is performing outside its normal range or correcting data that may have been reported in error. Equipment problems and corrective actions are noted in the "Service

Section” of the monthly reports. CNBE includes notes to fully explain the problem and corrective action to the extent necessary. This information also identifies any deviations from this monitoring plan which can then be recorded in the verified Monitoring Report.

CNBE has established monthly operations meetings at the Facility between CNBE’s contract operator and the owners of CNBE. During each monthly meeting CNBE and the operator review the prior month operations performance including the production reports, work order list, unscheduled repairs and maintenance, and routine maintenance; the current month’s additions to the work orders that would prevent and correct deficiencies discovered and make overall improvements in performance of the Facility; review reports including monthly outage report, methane calibration logs, exhaust gas oxygen logs, lubricating oil logs, spare parts inventory report and others that may be relevant. In addition, CNBE meets with the District and Loci Control Inc. to review the status of the LFG collection system performance and work required to prevent and correct deficiencies discovered and make overall improvements in performance of the system.

CNBE annually calculates the project emissions from electricity use and emergency generator use as outlined in the PD.

5 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

For Section 5.1 through 5.4 below and in accordance with the process for Periodic VCU Issuance described in section 4.5 of the document entitled "Registration and Issuance Process, v4.3" (issued 17 January 2023), Commonwealth Resource Management Corporation (the Project Proponent) will submit to Verra, via the Registry’s on-line document upload mechanism, an electronic Microsoft Excel spreadsheet file the contains all of the equations used in the Monitoring Report’s ERR calculations. This spreadsheet, which is also submitted to TÜV SÜD America Inc., C/O Ruby Canyon Environmental for verification, provides the Exhibits 1 through 4 that are included in the Appendix.

5.1 Baseline Emissions

UNFCCC CDM "Large scale Consolidated Methodology – Flaring or use of landfill gas", ACM0001, Version 16.0 dated 16 October 2015.

The calculation methodology was applied to the calculation of emissions from methane contained within LFG which is generated from the decomposition of solid waste from within the landfill and combusted during electricity generation or in a flare.

For this Project Activity the baseline emissions consist of those associated with the volume of LFG that is destroyed in the flare and the engines to generate electricity. Further, the emissions associated with the fraction of LFG related to the District Initial System, need to be subtracted as

this system was installed voluntarily as part of the baseline of the Project Activity. This subtraction of emissions is understood to occur in the baseline of the Project Activity. Note that carbon stock changes are not applicable as the emission reductions are permanent.

The Baseline Emissions also include quantification of the fraction of methane in the LFG that would be oxidized in the top layer of the landfill in the baseline. This is a dimensionless value (0.1) that was available at validation and is therefore defined in the VCS PD. The Baseline Emissions calculations are presented in Exhibits 1 and 2 and the equation is shown below:
Baseline emissions of methane from the Project Activity in year y are found as follows:

$$BE_{CH_4,y} = ((1 - OX_{top\_layer}) \times F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \times GWP_{CH_4} \text{ (Eq. 2)}$$

$$BE_{CH_4,y} = ((1 - 0.1) \times 4,496.9 - 111.1) \times 28 = 110,211$$

Where:

$BE_{CH_4,y}$ = Baseline emissions of methane from the SWDS in monitoring period y (tCO₂e/monitoring period)

OX_{top_layer} = Fraction of methane in the LFG that would be oxidized in the top layer of the SWDS in the baseline (dimensionless)

$F_{CH_4,PJ,y}$ = Amount of methane in the LFG which is flared and/or used in the project activity in monitoring period y (tCH₄/monitoring period)

$F_{CH_4,BL,y}$ = Amount of methane in the LFG that would be flared in the baseline in monitoring period y (tCH₄/monitoring period)

GWP_{CH_4} = Global warming potential of CH₄ (tCO₂e / tCH₄)

For this Project, $F_{CH_4,PJ,y}$ is the sum of the quantities of methane flared and used in power generation during the year. This term is calculated as follows according to Equation 3 from the methodology, modified to remove the heat generation and natural gas distribution terms, which are not applicable to this Project.

$$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y} \text{ (modified Eq. 3)}$$

$$F_{CH_4,PJ,y} = 0 + 4,496.9 = 4,496.9 \text{ tCH}_4/\text{monitoring period}$$

** Note that the back-up flare did not operate for significant periods during the current monitoring period; therefore, emission reductions are not claimed from flaring.*

Where:

$F_{CH_4,PJ,y}$ = Amount of methane in the LFG which is flared and/or used in the project activity in year y (tCH₄/monitoring period)

$F_{CH_4,flared,y}$ = Amount of methane in the LFG which is destroyed by flaring in monitoring period (tCH₄/monitoring period)

$F_{CH_4,EL,y}$ = Amount of methane in the LFG which is used for electricity generation in monitoring period (tCH₄/monitoring period)

5.2 Project Emissions

The following methodology and tool were used to quantify Project Emissions:

- UNFCCC CDM "Large scale Consolidated Methodology – Flaring or use of landfill gas", ACM0001, Version 16.0 dated 16 October 2015.

- UNFCCC CDM “Tool to calculate baseline, project and/or leakage emissions from electricity consumption” (Version 01) 16 March 2008.

Project emissions are defined by the following equation:

$$PE_y = PEEC_{j,y} + PEFC_{j,y} = 0.37 + 13.58 = 14.0 \text{ t CO}_2/\text{monitoring period}$$

Where:

$PEEC_{j,y}$ = Emissions from consumption of electricity due to the Project activity, in year y (t CO₂/monitoring period)

$PEFC_{j,y}$ = Emissions from consumption of fossil fuels due to the Project activity, for purpose other than electricity generation, in year y (t CO₂/monitoring period)

Note that emissions reductions from methane destruction from the flare are not included in this monitoring report.

The calculation methodology for the project emissions was applied to the calculation of emissions from the following sources:

- Fossil Fuel Emissions – CO₂ – Generated from the combustion of fossil fuels (diesel) in an emergency generator. The equations and calculations are presented in “Exhibit 4” under Supporting Information. The equations and calculations are repeated herein below.

Emergency Generator - Diesel Use			
Gallons of Diesel Consumed during			
Period: January 1, 2024 - December 31, 2024			
1,327.2	gallons	FC _{Diesel}	= Number of hours run * Gallons used/hour
COEF _{Diesel,Period} = NCV _{Diesel,Period} * EF _{CO2,Diesel,Period}			
COEF _{Diesel,Period}		0.010229	See inputs on USEPA Data Conversions Tab
tonnes CO2/gallon diesel			
PE _{FC,Period} = FC _{Diesel,Period} * COEF _{Diesel,Period}			
PE _{FC,Period}		13.58	tonnes CO2
Assumptions Used			
Generator runs at 3/4 load during testing and operation			
(This is conservative as the plant requires 75-90kW/hr to operate and the generator can produce up to 150kW/hr)			
The generator requires 8.4 gallons/hour running at 3/4 Load (see estimate fuel consumption)			
Period:		Run time from January 1 - December 31, 2024	
		158 hours* 8.4 gallons/hour	
		1,327.2 gallons	

- Electricity Consumption Emissions – CO₂ – Generated from the grid consumption of electricity within the Project Boundary. The equations and calculations are presented in “Exhibit 4” under Supporting Information. The equations and calculations are repeated herein below.

Electricity Consumption Project Emissions			
$PE_{EC,y} = EC_{PJ,Grid,y} * FE_{EL,Grid,y} * (1 + TDL_{Grid,y})$			
	0.37	tonnes CO2	
Variable	Value	Units	Data Source
EC _{PJ,Grid,y}	1.47	MWhr	See Eversource bill
FE _{EL,Grid,y}	0.24	tonnes CO2/MWh	USEPA Conversions tableGrid data
TDL _{Grid,y}	0.045	None	EIA Annual Energy Report 2023

5.3 Leakage Emissions

As per the applied methodology (ACM0001): “No leakage effects are accounted for under this methodology.”

5.4 GHG Emission Reductions and Carbon Dioxide Removals

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Reduction VCUs (tCO ₂ e)	Removal VCUs (tCO ₂ e)	Total VCUs (tCO ₂ e)
01-Jan-2024 to 31-Dec-2024	110,211	14	0	110,197	0	110,197
Total	110,211	14	0	110,197	0	110,197

The net GHG emission reductions are simply calculated by subtracting the project emissions and leakage emissions from the baseline emissions. The equation is as follows:

Net GHG emissions reduction = Baseline emissions - Project emissions – Leakage emissions.

Vintage period	Ex-ante estimated reductions/removals	Achieved reductions/removals	Percent difference	Explanation for the difference
01-Jan-2024 to 31-Dec-2024	88,437	110,197	25%	The difference is a result of (1) VERRA Standard updated the 100-year global warming potential (GWP) of methane from the IPCC Second Assessment value of 21 to IPCC Fifth Assessment Report value of 28, which represents a 33% increase coupled with less actual LFG quantities than estimated to calculate ex-ante estimated reductions, together account for the 25%. Validation allowed GWP of methane to change in accordance with changes in VERRA Standard.
Total	88,437	110,197	25%	

APPENDIX 1: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
<u>Appendix X, Exhibit 9</u>	RECs Agreements	Redacted because contract entities and pricing is confidential information and commercially sensitive. .

APPENDIX X:

SUPPORTING DOCUMENTATION

- Exhibit 1: The emission reductions credits in CO2 equivalent tons in accordance with Project Methodology from January 1, 2024 through December 31, 2024.
- Exhibit 2: Gas totalizer readings, and methane content readings for the period January 1, 2024 through December 31, 2024, and calculations using the verification protocols under the VCS to obtain emission reductions from methane oxidation during energy generation.
- Exhibit 3: LFG totalizer readings, and methane content readings for the periods from January 1, 2024 through December 31, 2024., and calculations using the verification protocols under the VCS to obtain emission reductions from methane oxidation during flaring.
- Exhibit 4: The key factors, equations, and calculation of VCUs in accordance with the approved consolidated baseline methodology ACM0001, Version 16.0 Large-scale Consolidated Methodology – Flaring or use of landfill gas" dated 16 October 2015 as promulgated by the United Nations Framework Convention of Climate Change (UNFCCC) under the Clean Development Mechanism (CDM).
- Exhibit 5: Compilation of the field data logs recording the total gas volumes and methane content readings for the identified reporting period. Comment section includes information on Planned and Unplanned Outages. Emergency Generator Operating Hours during period. Eversource Meter Photo and Data
- Exhibit 6: Calibration of the LFG, composition meter, other instrumentation for the periods.
- Exhibit 7: Attestation Statement
- Exhibit 8: Permits and Other Regulatory Documentation
1. Amended Final Air Quality Operation Permit (Renewal) Issued August 3, 2022.
 2. NMOC Emission Rate Report, October 22, 2024. The NMOC Emission Report demonstrates that the NMOCs emissions continue to be below the NSPS applicability threshold and therefore the Crapo Hill Landfill is not subject to the requirements of NSPS.
- Exhibit 9: RECs Agreements

Exhibit 1:

The emission reductions credits in CO2 equivalent tons in accordance with Project Methodology from January 1, 2024 through December 31, 2024.

EXHIBIT 1
CommonWealth New Bedford Energy LLC
Greater New Bedford LFG Utilization Project
Dartmouth, Massachusetts
Calculation of Verified Emission Reduction Credits in CO2 equivalent tons
in accordance with the Project Methodology

Key parameters used in calculations

Parameter	VCS
Methane oxidation efficiency electricity generation	100.0%
Methane oxidation efficiency LFG flaring	98.0%
Methane, molecular weight (lb/lb-mole)	16.04
Pounds per metric ton	2,204.62
Gas constant (scf per lb-mole)	385.32
Global Warming Potential (GWP) methane	28

Summary results

	Unit	
Electricity generation		
Start date		1-Jan-24
End date		31-Dec-24
Methane delivered	scf	238,121,162
Emission Reductions	metric tons CO2e	125,913
Flaring		
Start date		1-Jan-24
End date		31-Dec-24
Methane delivered	scf	-
Emission Reductions	metric tons CO2e	-
Subtotal		
Methane delivered	scf	238,121,162
Emission Reductions	metric tons CO2e	125,913
Deductions		
Oxidation potential	metric tons CO2e	12,591
District Initial System	metric tons CO2e	3,111
Project Emissions Utility electricity and diesel	metric tons CO2e	14
Total		
Emission Reductions eligible under VCS program (rounded down)	metric tons CO2e	110,197

Exhibit 2:

Gas totalizer readings, and methane content readings for the period January 1, 2024 through December 31, 2024, and calculations using the verification protocols under the VCS to obtain emission reductions from methane oxidation during energy generation.

EXHIBIT 2
CommonWealth New Bedford Energy LLC
Emission Reductions from methane oxidation during energy generation

Physical constants:			
Methane, molecular weight (lb per lb-mole)			16.04
Pounds to metric ton			2,204.62
Gas constant, scf per lb-mole			385.32

Methane, molecular weight (lb per lb-mole) Pounds to metric ton Gas constant, scf per lb-mole					Calculation of Verified Emission Reduction in CO2 equivalent tons per the following: Verification Process: UNFCCC's CDM methodology ACM0001 (Version 16) Standard of Verification: Verified Carbon Standard Version 4.7 April 16, 2024									
Begin period - date	End period - date	Totalizer reading end period	Totalizer reading start period	Total in period	Methane delivered to engines	Methane delivered cumulative	Methane delivered in the period	Methane delivered in the period cumulative	Methane oxidation efficiency	MD electricity, Mass methane destroyed in the period	MD electricity, Mass methane destroyed cumulative	Global warming potential methane tons CO2 equivalent per ton methane	Emission reduction metric tons	Emission reduction cumulative metric tons
mm/dd/yy	mm/dd/yy	MMBtu HHV	MMBtu HHV	MMBtu HHV	scf	scf	metric tons	metric tons	%	metric tons	metric tons	tons CO2 equivalent per ton methane	CO2 equivalent metric tons	CO2 equivalent metric tons
1-Jan-24	1-Jan-24	22,744	-	22,744	22,474,349	22,474,349	424	424	100.0%	424	424	28	11,884	11,884
1-Feb-24	29-Feb-24	44,479	22,744	21,735	21,476,787	43,951,135	406	830	100.0%	406	830	28	11,356	23,240
1-Mar-24	31-Mar-24	67,602	44,479	23,123	22,848,913	66,800,048	431	1,262	100.0%	431	1,262	28	12,082	35,322
1-Apr-24	30-Apr-24	89,569	67,602	21,967	21,706,660	88,506,708	410	1,671	100.0%	410	1,671	28	11,478	46,800
1-May-24	31-May-24	111,873	89,569	22,304	22,039,771	110,546,480	416	2,088	100.0%	416	2,088	28	11,654	58,455
1-Jun-24	30-Jun-24	133,194	111,873	21,321	21,068,352	131,614,832	398	2,486	100.0%	398	2,486	28	11,140	69,595
1-Jul-24	31-Jul-24	152,615	133,194	19,420	19,190,023	150,804,855	362	2,848	100.0%	362	2,848	28	10,147	79,742
1-Aug-24	31-Aug-24	171,720	152,615	19,106	18,879,078	169,683,933	357	3,204	100.0%	357	3,204	28	9,983	89,725
1-Sep-24	30-Sep-24	190,169	171,720	18,449	18,229,963	187,913,896	344	3,549	100.0%	344	3,549	28	9,640	99,365
1-Oct-24	31-Oct-24	206,109	190,169	15,940	15,751,148	203,665,045	297	3,846	100.0%	297	3,846	28	8,329	107,694
1-Nov-24	30-Nov-24	223,710	206,109	17,601	17,391,987	221,057,032	328	4,175	100.0%	328	4,175	28	9,196	116,890
1-Dec-24	31-Dec-24	240,979	223,710	17,269	17,064,130	238,121,162	322	4,497	100.0%	322	4,497	28	9,023	125,913

Exhibit 3:

LFG totalizer readings, and methane content readings for the periods from January 1, 2024 through December 31, 2024., and calculations using the verification protocols under the VCS to obtain emission reductions from methane oxidation during flaring.

EXHIBIT 3
CommonWealth New Bedford Energy LLC
Calculation of Verified Emission Reduction in CO2 equivalent tons per the Project Methodology
Emission Reductions from methane oxidation from **LFG flaring**

Physical Constants:									
Methane, molecular weight (lb per lb-mole)		16.04							
Pounds to metric ton		2,204.62							
Gas constant, scf per lb-mole		385.32							
Begin period - date	End period - date	Totalizer reading end period	Totalizer reading start period	Total in period	Methane delivered to flare	Methane delivered cumulative	Methane delivered in the period	Methane delivered cumulative	
mm/dd/yy	mm/dd/yy	MMBtu HHV	MMBtu HHV	MMBtu HHV	scf	scf	metric tons	metric tons	
1-Jan-24	1-Jan-24	-	-	-	-	-	-	-	
1-Feb-24	31-Jan-24	-	-	-	-	-	-	-	
1-Mar-24	29-Feb-24	-	-	-	-	-	-	-	
1-Apr-24	31-Mar-24	-	-	-	-	-	-	-	
1-May-24	30-Apr-24	-	-	-	-	-	-	-	
1-Jun-24	31-May-24	-	-	-	-	-	-	-	
1-Jul-24	30-Jun-24	-	-	-	-	-	-	-	
1-Aug-24	31-Jul-24	-	-	-	-	-	-	-	
1-Sep-24	30-Aug-24	-	-	-	-	-	-	-	
1-Oct-24	31-Sep-24	-	-	-	-	-	-	-	
1-Nov-24	30-Oct-24	-	-	-	-	-	-	-	
1-Dec-24	31-Nov-24	-	-	-	-	-	-	-	
Calculation of Verified Emission Reduction in CO2 equivalent tons per the following: Verification Process: UNFCCC's CDM methodology ACM0001 (Version 16) Standard of Verification: Verified Carbon Standard Version 4.7 April 16, 2024									
Methane oxidation efficiency	MD flare, Mass methane destroyed in the period	MD flare, Mass methane destroyed cumulative	Global warming potential methane	Emission reduction	Emission reduction cumulative	PE flare, Project emissions (uncontrolled emissions to atmosphere from flare)	PE flare, Project emissions (uncontrolled emissions to atmosphere from flare)	PE flare, Project emissions cumulative (uncontrolled emissions to atmosphere from flare)	
%	metric tons	metric tons	tons CO2 equivalent per ton methane	CO2 equivalent metric tons	CO2 equivalent metric tons	CO2 equivalent metric tons	CO2 equivalent metric tons	CO2 equivalent metric tons	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	
50%	-	-	28	-	-	-	-	-	

Exhibit 4:

The key factors, equations, and calculation of VCUs in accordance with the approved consolidated baseline methodology ACM0001, Version 16.0 Large-scale Consolidated Methodology – Flaring or use of landfill gas" dated 16 October 2015 as promulgated by the United Nations Framework Convention of Climate Change (UNFCCC) under the Clean Development Mechanism (CDM).

EXHIBIT 4
EX Ante Estimates of Annual Emissions Reductions

$ER_y = BE_y - PE_y$					
110,197	BE_y	see below	tCO ₂ e/period		
	PE_y	13.94	tCO ₂ e/period		See Electricity Tab + Emergency Generator Tab
$BE_y = BE_{CH_4,y}$					
110,211	$BE_{CH_4,y}$	see below	tCO ₂ e/period		
$BE_{CH_4,y} = ((1 - OX_{top\_layer}) \times F_{CH_4,PJ,y} - F_{CH_4,BL,y}) \times GWP_{CH_4}$					
110,211	OX_{top_layer}	0.1			ACM0001 Methodology value
	GWP_{CH_4}	28	tCO ₂ e / tCH ₄		IPCC Value - 5th assessment report (2013)
	$F_{CH_4,PJ,y}$	see below	t CH ₄ /period		
	$F_{CH_4,BL,y}$	see below	t CH ₄ /period		
$F_{CH_4,PJ,y} = F_{CH_4,flared,y} + F_{CH_4,EL,y}$					
4,496.9	$F_{CH_4,flared,y}$	0	t CH ₄ /period		See Exhibit 3 tab
	$F_{CH_4,EL,y}$	4,496.9	t CH ₄ /period		See Exhibit 2 tab
$F_{CH_4,BL,y} = F_{CH_4,BL,sys,y}$					
$F_{CH_4,BL,sys,y} = \%DistrictInitialSystem \times F_{CH_4,PJ,y}$					
111.1	$\%DistrictInitialSystem$	4.9			See DistrictInitialSystemTab
	$F_{CH_4,PJ,y}$	see above	t CH ₄ /period		
		50%	Methane oxidation efficiency for flare (ACM0001 value)		

Electricity Consumption Project Emissions

$$PE_{EC,y} = EC_{PJ,Grid,y} * FE_{EL,Grid,y} * (1 + TDL_{Grid,y})$$

0.38 tonnes CO2

Variable	Value	Units	Data Source
ECPJ,Grid,y	1.47	MWhr	See Eversource bill
FEEL,Grid,y	0.25	tonnes CO2/MWh	USEPA Conversions tableGrid data
TDLGrid,y	0.045	None	EIA Annual Energy Report 2023

Supporting Information for Exhibit 4

Fossil Fuel Project Emissions

Emergency Generator - Diesel Use

Gallons of Diesel Consumed during

Period: January 1, 2024 - December 31, 2024

$$1,327.2 \text{ gallons} \quad FC_{\text{Diesel}} = \text{Number of hours run} * \text{Gallons used/hour}$$

$$COEF_{\text{Diesel,Period}} = NCV_{\text{Diesel,Period}} * EF_{\text{CO}_2, \text{Diesel,Period}}$$

COEF_{Diesel,Period} 0.010229 See inputs on USEPA Data Conversions Tab
tonnes CO₂/gallon diesel

$$PE_{\text{FC,Period}} = FC_{\text{Diesel,Period}} * COEF_{\text{Diesel,Period}}$$

PE_{FC, Period} 13.58 tonnes CO₂

Assumptions Used

Generator runs at 3/4 load during testing and operation

(This is conservative as the plant requires 75-90kW/hr to operate
and the generator can produce up to 150kW/hr)

The generator requires 8.4 gallons/hour running at 3/4 Load (see estimate fuel consumption)

Period: Run time from January 1 - December 31, 2024
 158 hours* 8.4 gallons/hour
 1,327.2 gallons

Supporting Information for Exhibit 4

Gas extraction from District Initial System versus Phase 1 Area and District Total System

Month	Days	See Note #1 LFG flow rate from District Initial System contained in Phase 1 area		See Note #2 LFG flow rate from District Total System, District Initial System/Total	
		cfm @50% methane		cfm @50% methane	
Jan-24	30	45		1,057	4.3%
Feb-24	31	45		966	4.7%
Mar-24	30	45		1,058	4.3%
Apr-24	31	45		978	4.6%
May-24	31	45		987	4.6%
Jun-24	30	45		975	4.6%
Jul-24	31	45		870	5.2%
Aug-24	30	45		897	5.0%
Sep-24	31	45		817	5.5%
Oct-24	31	45		875	5.1%
Nov-24	30	45		805	5.6%
Dec-24	31	45		765	5.9%
Weighted Average based on days					
Weighted Average based on LFG flow					
Average		45		921	4.9%

Note 1: During January 1, 2024 through December 31, 2024, the Initial District System consists of 9 remaining active wells measuring less than 5 cfm at 50% methane lower detection limit of each well. Each of the 9 wells is assumed to collect 5 cfm for a total of 45 cfm, which overestimates that quantity of landfill gas being collected by the District Initial System.

Note 2: Actual average monthly landfill gas flow rate corrected to 50% methane as measured. Data extracted from Exhibit 5 Monthly data reports

Month	Total LFG quantity, scf	Monthly Average Methane Content	Total LFG quantity, scfm
January	44,027,200	51.8%	1,057
February	41,388,980	52.1%	966
March	43,334,700	52.7%	1,058
April	41,631,300	52.4%	978
May	41,793,400	52.7%	987
June	40,730,400	51.7%	975
July	38,560,111	50.4%	870
August	37,380,377	51.8%	897
September	34,789,565	52.4%	817
October	34,744,336	56.2%	875
November	33,810,312	51.4%	805
December	31,629,200	54.0%	765

Fossil Fuel Consumption

NCV Conversion										NCV Comparison to IPCC Values									
5.809	mmBtu/barrel	42	gallons/barrel	0.1383095	mmBtu/gallon					0.13831	1,000,000	Btu/MMBtu	GJ/Btu	1.05506E-06	0.001	0.26417	1.176471	1,000,000	= 45.35
																			TJ/Gg
Emissions Factor																			
20.17	Tg C/Qbtu	1E-15	1000000	3.666667	1E+12	0.000001	0.073957	Tonnes CO2/Mmbtu		IPCC Values state 41.4-43.3 TJ/Gg This value is higher and therefore conservative.									
Data obtained from the Draft 2011 US Greenhouse Gas Report: US EPA Inventory of US Greenhouse Gas Emissions and Sinks to provide a national factor. Results were compared to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories																			

Electricity Consumption

eGRID Emissions Factor										eGRID Factor taken from NEWE region of eGRID2023 data									
539.3	lbs CO2/MWh	0.454545455	0.001	0.25	tonnes CO2/MWh														
		kg/lbs																	

Exhibit 5:

Compilation of the field data logs recording the total gas volumes and methane content readings for the identified reporting period. Comment section includes information on Planned and Unplanned Outages. Emergency Generator Operating Hours during period. Eversource Meter Photo and Data

	Monday 1/1/2024	Tuesday 1/2/2024	Wednesday 1/3/2024	Thursday 1/4/2024	Friday 1/5/2024	Saturday 1/6/2024	Sunday 1/7/2024	Monday 1/8/2024	Tuesday 1/9/2024	Wednesday 1/10/2024	Thursday 1/11/2024	Friday 1/12/2024	Saturday 1/13/2024	Sunday 1/14/2024	Monday 1/15/2024	Tuesday 1/16/2024
Cumulative by Facility in month																
Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
Actual cumulative engine run hours	72	144	216	288	360	432	476	523	595	667	739	811	883	955	1,027	1,099
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	70.8%	68.1%	68.9%	69.5%	70.0%	70.4%	70.8%	71.1%	71.3%	71.5%
Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	475,500	557,700	636,900	716,100	795,300	874,500	953,700	1,032,900	1,112,100	1,191,300	1,270,500
Actual cumulative gross output, kWhr	56,879	114,021	170,850	228,423	284,434	340,865	375,518	413,454	470,150	526,507	582,938	637,667	694,508	750,849	805,709	862,119
Cumulative Capacity Factor	71.8%	72.0%	71.9%	72.1%	71.8%	71.2%	67.3%	64.9%	65.7%	66.2%	66.7%	66.9%	67.2%	67.5%	67.6%	67.9%
Cumulative fuel input, MMBtu HHV	765	1,528	2,293	3,065	3,817	4,565	5,027	5,533	6,288	7,060	7,809	8,542	9,308	10,053	10,788	11,553
Cumulative gross output, kWhr	56879	114,021	170,850	228,423	284,434	340,865	375,518	413,454	470,150	526,507	582,938	637,667	694,508	750,849	805,709	862,119
Heat Rate																
Daily heat rate, Btu/kWh gross LHV	12,107	12,015	12,116	12,074	12,096	11,924	12,000	12,000	12,000	12,318	11,951	12,053	12,145	11,894	12,056	12,211
Daily heat rate, Btu/kWh gross HHV	13,450	13,347	13,460	13,413	13,437	13,246	13,330	13,330	13,330	13,684	13,276	13,390	13,492	13,212	13,392	13,565
Cumulative heat rate, Btu/kWh gross LHV	12,107	12,061	12,080	12,078	12,082	12,056	12,050	12,046	12,040	12,070	12,059	12,058	12,065	12,052	12,053	12,063
Cumulative heat rate, Btu/kWh gross HHV	13,450	13,398	13,419	13,417	13,421	13,392	13,386	13,381	13,375	13,408	13,395	13,395	13,403	13,389	13,389	13,400
Cumulative by Facility starting Calendar Year																
Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
Actual cumulative engine run hours	72	144	216	288	360	432	476	523	595	667	739	811	883	955	1,027	1,099
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	70.8%	68.1%	68.9%	69.5%	70.0%	70.4%	70.8%	71.1%	71.3%	71.5%
Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	475,500	557,700	636,900	716,100	795,300	874,500	953,700	1,032,900	1,112,100	1,191,300	1,270,500
Actual cumulative gross output, kWhr	56,879	114,021	170,850	228,423	284,434	340,865	375,518	413,454	470,150	526,507	582,938	637,667	694,508	750,849	805,709	862,119
Cumulative Capacity Factor	71.8%	72.0%	71.9%	72.1%	71.8%	71.2%	67.3%	64.9%	65.7%	66.2%	66.7%	66.9%	67.2%	67.5%	67.6%	67.9%
Cumulative fuel input, MMBtu HHV	765	1,528	2,293	3,065	3,817	4,565	5,027	5,533	6,288	7,060	7,809	8,542	9,308	10,053	10,788	11,553
Cumulative gross output, kWhr	56,879	114,021	170,850	228,423	284,434	340,865	375,518	413,454	470,150	526,507	582,938	637,667	694,508	750,849	805,709	862,119
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve inspection and adjustment																
INSTANT Power Reports																
Date	Monday 1/1/2024	Tuesday 1/2/2024	Wednesday 1/3/2024	Thursday 1/4/2024	Friday 1/5/2024	Saturday 1/6/2024	Sunday 1/7/2024	Monday 1/8/2024	Tuesday 1/9/2024	Wednesday 1/10/2024	Thursday 1/11/2024	Friday 1/12/2024	Saturday 1/13/2024	Sunday 1/14/2024	Monday 1/15/2024	Tuesday 1/16/2024
Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2,298	2,298	2,359	2,345	2,293	2,265	2,317	-	2,264	2,319	2,357	2,217	2,267	2,315	2,219	2,219
2	2,298	2,298	2,359	2,345	2,294	2,266	2,317	-	2,263	2,320	2,357	2,217	2,268	2,313	2,219	2,219
3	2,298	2,298	2,359	2,345	2,294	2,265	2,317	-	2,262	2,320	2,313	2,217	2,268	2,313	2,219	2,220
4	2,300	2,298	2,359	2,345	2,257	2,263	2,317	-	2,263	2,321	2,295	2,216	2,270	2,272	2,219	2,220
5	2,299	2,299	2,358	2,345	2,233	2,265	2,317	-	2,263	2,321	2,295	2,217	2,271	2,264	2,219	2,220
6	2,299	2,299	2,334	2,346	2,233	2,265	2,317	-	2,264	2,321	2,296	2,216	2,272	2,265	2,218	2,221
7	2,299	2,298	2,297	2,346	2,234	2,265	2,317	-	2,264	2,321	2,296	2,216	2,272	2,265	2,218	2,221
8	2,298	2,298	2,294	2,344	2,231	2,266	2,317	1	2,263	2,319	2,292	2,213	2,273	2,266	2,214	2,229
9	2,299	2,292	2,285	2,342	2,229	2,267	2,318	1,935	2,263	2,318	2,288	2,178	2,274	2,266	2,188	2,264
10	2,299	2,291	1,687	2,342	2,227	2,267	2,318	2,358	2,263	2,358	2,254	2,164	2,273	2,266	2,167	2,264
11	2,299	2,292	1,677	2,344	2,227	2,267	2,319	2,355	2,263	2,357	2,228	2,056	2,300	2,266	2,168	2,263
12	2,299	2,293	2,346	2,291	2,214	2,267	2,319	2,354	2,263	2,355	2,229	1,549	2,320	2,268	2,171	2,271
13	2,298	2,293	2,345	2,293	2,216	2,267	2,318	2,353	2,261	2,354	2,228	2,067	2,320	2,268	2,217	2,311
14	2,297	2,292	2,344	2,293	2,264	2,267	2,319	2,351	2,305	2,354	2,248	2,310	2,320	2,269	2,220	2,312
15	2,296	2,293	2,345	2,295	2,315	2,267	2,319	2,351	2,309	2,351	2,261	2,268	2,319	2,309	2,220	2,315
16	2,295	2,300	2,349	2,300	2,362	2,267	1,180	2,312	2,315	2,359	2,266	2,268	2,320	2,316	2,221	2,318
17	2,297	2,298	2,347	2,297	2,360	2,267	-	2,311	2,315	2,362	2,266	2,267	2,320	2,314	2,219	2,319
18	2,296	2,297	2,346	2,297	2,264	2,266	-	2,311	2,316	2,361	2,266	2,267	2,320	2,314	2,220	2,319
19	2,296	2,298	2,348	2,296	2,263	2,262	-	2,311	2,317	2,360	2,264	2,265	2,318	2,268	2,219	2,318
20	2,295	2,298	2,345	2,295	2,264	2,314	-	2,310	2,317	2,359	2,284	2,265	2,318	2,264	2,220	2,317
21	2,298	2,347	2,345	2,284	2,264	2,314	-	2,299	2,316	2,357	2,284	2,266	2,317	2,294	2,219	2,317
22	2,297	2,359	2,345	2,293	2,265	2,316	-	2,282	2,316	2,358	2,284	2,266	2,316	2,216	2,219	2,318
23	2,297	2,359	2,345	2,292	2,265	2,316	-	2,262	2,316	2,357	2,284	2,267	2,314	2,217	2,219	2,317
24	2,298	2,359	2,345	2,292	2,266	2,317	-	2,263	2,316	2,357	2,239	2,267	2,314	2,217	2,219	2,317
TOTAL	55,145	55,347	54,860	55,617	54,187	54,668	33,627	36,659	54,888	54,543	54,594	52,919	55,144	54,547	53,071	54,629
Cumulative Output Sold, kWhr	55,145	110,492	165,352	220,969	275,156	329,814	383,441	400,100	454,988	509,531	564,225	617,144	672,688	726,835	779,906	834,535
Transformer and line efficiency	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.7%	99.7%	99.7%	99.7%	99.8%	99.8%	99.7%
Hourly average	2,298	2,306	2,286	2,317	2,258	2,277	1,401	1,527	2,287	2,277	2,275	2,205	2,298	2,273	2,211	2,276

	Wednesday 1/17/2024	Thursday 1/18/2024	Friday 1/19/2024	Saturday 1/20/2024	Sunday 1/21/2024	Monday 1/22/2024	Tuesday 1/23/2024	Wednesday 1/24/2024	Thursday 1/25/2024	Friday 1/26/2024	Saturday 1/27/2024	Sunday 1/28/2024	Monday 1/29/2024	Tuesday 1/30/2024	Wednesday 1/31/2024	TOTAL
Cumulative by Facility in month																
Max cumulative available engine run time	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	2,976	
Actual cumulative engine run time	1,171	1,243	1,315	1,387	1,459	1,531	1,603	1,675	1,747	1,819	1,891	1,963	2,035	2,107	2,179	
Cumulative Availability, %	71.8%	71.9%	72.1%	72.2%	72.4%	72.5%	72.6%	72.7%	72.8%	72.9%	73.0%	73.0%	73.1%	73.2%	73.2%	
Max cumulative gross output, kWh	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	2,458,500	
Actual cumulative gross output, kWh	918,636	973,277	1,029,660	1,085,311	1,137,824	1,190,475	1,244,335	1,298,183	1,353,304	1,408,143	1,463,656	1,519,009	1,575,131	1,630,298	1,686,335	
Cumulative Capacity Factor	68.1%	68.1%	68.3%	68.4%	68.3%	68.2%	68.2%	68.2%	68.2%	68.3%	68.3%	68.4%	68.5%	68.5%	68.6%	
Cumulative fuel input, MMBtu	12,292	13,034	13,787	14,548	15,270	15,996	16,733	17,474	18,237	18,996	19,743	20,499	21,251	21,994	22,744	
Cumulative gross output, kWh	918,636	973,277	1,029,660	1,085,311	1,137,824	1,190,475	1,244,335	1,298,183	1,353,304	1,408,143	1,463,656	1,519,009	1,575,131	1,630,298	1,686,335	
Heat Rate																
Daily heat rate, Btu/kWh gross	11,772	12,219	12,037	12,300	12,375	12,421	12,316	12,381	12,466	12,466	12,107	12,295	12,056	12,134	12,045	
Daily heat rate, Btu/kWh net	13,077	13,574	13,371	13,684	13,747	13,798	13,682	13,754	13,848	13,848	13,449	13,658	13,392	13,479	13,380	
Cumulative heat rate, Btu/kWh gross	12,045	12,055	12,054	12,067	12,081	12,096	12,105	12,117	12,131	12,144	12,143	12,148	12,145	12,145	12,141	
Cumulative heat rate, Btu/kWh net	13,381	13,391	13,390	13,404	13,420	13,437	13,447	13,460	13,476	13,490	13,489	13,495	13,491	13,491	13,487	
Cumulative by Facility starting C																
Max cumulative available engine run time	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	2,976	
Actual cumulative engine run time	1,171	1,243	1,315	1,387	1,459	1,531	1,603	1,675	1,747	1,819	1,891	1,963	2,035	2,107	2,179	
Cumulative Availability, %	71.8%	71.9%	72.1%	72.2%	72.4%	72.5%	72.6%	72.7%	72.8%	72.9%	73.0%	73.0%	73.1%	73.2%	73.2%	
Max cumulative gross output, kWh	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	2,458,500	
Actual cumulative gross output, kWh	918,636	973,277	1,029,660	1,085,311	1,137,824	1,190,475	1,244,335	1,298,183	1,353,304	1,408,143	1,463,656	1,519,009	1,575,131	1,630,298	1,686,335	
Cumulative Capacity Factor	68.1%	68.1%	68.3%	68.4%	68.3%	68.2%	68.2%	68.2%	68.2%	68.3%	68.3%	68.4%	68.5%	68.5%	68.6%	
Cumulative fuel input, MMBtu	12,292	13,034	13,787	14,548	15,270	15,996	16,733	17,474	18,237	18,996	19,743	20,499	21,251	21,994	22,744	
Cumulative gross output, kWh	918,636	973,277	1,029,660	1,085,311	1,137,824	1,190,475	1,244,335	1,298,183	1,353,304	1,408,143	1,463,656	1,519,009	1,575,131	1,630,298	1,686,335	
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve insp																
INSTAR Power Reports																
Respiration	Wednesday 1/17/2024	Thursday 1/18/2024	Friday 1/19/2024	Saturday 1/20/2024	Sunday 1/21/2024	Monday 1/22/2024	Tuesday 1/23/2024	Wednesday 1/24/2024	Thursday 1/25/2024	Friday 1/26/2024	Saturday 1/27/2024	Sunday 1/28/2024	Monday 1/29/2024	Tuesday 1/30/2024	Wednesday 1/31/2024	
Date																
Hour	1	2,172	2,219	2,315	2,197	2,073	2,172	2,169	2,173	2,274	2,315	2,219	2,268	2,265	2,218	
2	2,316	2,171	2,220	2,315	2,165	2,073	2,171	2,170	2,175	2,273	2,315	2,219	2,267	2,265	2,219	
3	2,315	2,171	2,220	2,315	2,165	2,073	2,171	2,170	2,175	2,273	2,315	2,219	2,267	2,265	2,219	
4	2,315	2,171	2,221	2,314	2,122	2,073	2,172	2,171	2,175	2,273	2,315	2,219	2,267	2,265	2,219	
5	2,316	2,172	2,221	2,309	2,122	2,073	2,171	2,171	2,175	2,274	2,315	2,219	2,268	2,266	2,241	
6	2,315	2,171	2,221	2,266	2,121	2,073	2,171	2,170	2,175	2,275	2,315	2,219	2,268	2,266	2,266	
7	2,315	2,171	2,222	2,266	2,122	2,074	2,172	2,171	2,176	2,287	2,315	2,219	2,268	2,267	2,267	
8	2,309	2,174	2,257	2,266	2,122	2,069	2,171	2,168	2,255	2,319	2,265	2,222	2,265	2,214	2,266	
9	2,310	2,215	2,264	2,242	2,122	2,069	2,171	2,166	2,313	2,318	2,265	2,222	2,264	2,212	2,263	
10	2,304	2,214	2,264	2,220	2,087	2,070	2,168	2,167	2,028	2,318	2,234	2,223	2,262	2,213	2,262	
11	2,281	2,215	2,261	2,221	2,028	2,071	2,168	2,165	1,814	1,734	2,220	2,223	2,262	2,213	2,263	
12	2,281	2,214	2,262	2,221	2,041	2,106	2,167	2,165	2,305	1,154	2,220	2,059	2,262	2,213	2,263	
13	2,262	2,215	2,284	2,221	2,102	2,120	2,167	2,165	2,252	1,911	2,220	2,272	2,260	2,213	2,262	
14	2,265	2,214	2,315	2,220	2,125	2,164	2,166	2,166	2,252	1,911	2,221	2,272	2,261	2,214	2,262	
15	2,268	2,215	2,318	2,220	2,124	2,170	2,169	2,169	2,165	2,318	2,221	2,272	2,264	2,215	2,263	
16	2,268	2,221	2,318	2,220	2,124	2,174	2,171	2,172	2,319	2,318	2,220	2,270	2,268	2,219	2,267	
17	2,267	2,220	2,317	2,219	2,122	2,172	2,170	2,172	2,325	2,317	2,220	2,270	2,268	2,218	2,266	
18	2,266	2,219	2,317	2,219	2,122	2,170	2,170	2,172	2,325	2,315	2,220	2,269	2,268	2,219	2,265	
19	2,266	2,218	2,316	2,218	2,122	2,171	2,169	2,172	2,323	2,315	2,220	2,269	2,267	2,218	2,265	
20	2,266	2,218	2,316	2,218	2,121	2,170	2,169	2,173	2,322	2,314	2,220	2,268	2,266	2,219	2,265	
21	2,265	2,219	2,315	2,217	2,121	2,171	2,169	2,173	2,321	2,313	2,220	2,268	2,265	2,218	2,265	
22	2,261	2,220	2,314	2,217	2,120	2,170	2,168	2,173	2,304	2,313	2,220	2,266	2,265	2,218	2,265	
23	2,217	2,219	2,317	2,218	2,120	2,171	2,168	2,173	2,304	2,313	2,220	2,267	2,265	2,218	2,265	
24	2,213	2,219	2,317	2,218	2,105	2,170	2,169	2,174	2,274	2,315	2,220	2,267	2,265	2,218	2,265	
TOTAL	54,697	52,849	54,616	53,895	50,799	50,880	52,071	52,076	53,396	53,152	53,841	53,724	54,370	53,408	54,280	
Cumulative Output Sold, kWh	889,232	942,081	996,697	1,050,592	1,101,391	1,152,281	1,204,352	1,256,428	1,309,824	1,362,976	1,416,817	1,470,541	1,524,917	1,578,317	1,632,577	
Transformer and line efficient	99.8%	99.8%	99.8%	99.8%	99.8%	99.7%	99.7%	99.7%	99.8%	99.8%	99.9%	99.8%	99.8%	99.8%	99.7%	
Hourly average	2,279	2,202	2,276	2,246	2,117	2,120	2,170	2,170	2,225	2,215	2,243	2,239	2,265	2,225	2,261	

FEBRUARY 2024																							
	Thursday 2/1/2024	Friday 2/2/2024	Saturday 2/3/2024	Sunday 2/4/2024	Monday 2/5/2024	Tuesday 2/6/2024	Wednesday 2/7/2024	Thursday 2/8/2024	Friday 2/9/2024	Saturday 2/10/2024	Sunday 2/11/2024	Monday 2/12/2024	Tuesday 2/13/2024	Wednesday 2/14/2024	Thursday 2/15/2024	Friday 2/16/2024							
LFG and Biogas Flow to the Engines (KSCF)	1,439.9	1,424.5	1,452.6	1,431.9	1,448.5	1,400.2	1,441.0	1,408.8	1,413.1	1,397.1	1,417.2	1,385.1	1,173.1	1,431.2	1,410.7	1,425.9							
LFG and Biogas Flow to the Engines (MMBTU HHV)	747.5	750.5	747.9	742.3	748.2	729.6	741.3	729.4	746.7	746.7	754.5	736.7	638.7	752.5	752.5	771.9							
LFG and Biogas Flow to the Flare (KSCF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
LFG and Biogas Flow to the Flare (MMBTU HHV)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
LFG and Biogas Total Flow (KSCF)	1,439.9	1,424.5	1,452.6	1,431.9	1,448.5	1,400.2	1,441.0	1,406.8	1,413.1	1,397.1	1,417.2	1,385.1	1,173.1	1,431.2	1,410.7	1,425.9							
LFG and Biogas Total Flow (MMBTU HHV)	751.3	750.5	747.9	742.3	748.2	729.6	741.3	729.4	746.7	746.7	754.5	736.7	638.7	752.5	752.5	771.9							
Average Methane Content (%)	51.3	52.1	50.9	51.2	51.0	51.5	50.8	51.2	52.2	52.8	52.6	52.2	53.8	52.0	52.7	53.5							
Engine 1 Hours	-	-	-	-	-	-	-	-	-	-	-	-	8	24	24	24							
Engine 2 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	22	24	24							
Engine 3 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24							
Engine 4 Hours	24	24	24	24	24	24	24	24	24	24	24	24	21	24	24	24							
Generator 1 Power Output (kW/hr)	19,136	18,216	19,136	19,132	19,132	17,732	17,972	17,968	17,972	17,972	17,964	17,972	5,272	17,960	17,260	17,900							
Generator 2 Power Output (kW/hr)	17,772	17,504	16,756	16,752	16,752	16,752	16,752	16,752	17,760	17,944	17,936	17,456	9,552	18,344	17,956	18,152							
Generator 3 Power Output (kW/hr)	19,088	18,600	19,088	19,084	18,520	17,168	17,936	17,932	17,932	17,932	17,932	17,936	15,712	17,936	17,940	18,116							
Gross Power Output (kW/hr)	55,963	54,282	54,955	54,966	54,419	51,671	52,684	52,676	53,693	53,689	53,282	53,420	46,745	54,406	53,313	54,305							
Net Power Output (kW/hr)	54,312	52,688	53,328	53,340	52,776	50,966	51,084	51,080	52,112	52,320	51,724	51,836	45,384	52,840	51,788	52,800							
Power Sold as metered by NSIstar, (kW/hr)	54,168	52,555	53,205	53,247	52,655	49,968	50,957	50,947	51,371	52,186	51,622	51,696	45,282	52,712	51,666	52,686							
Offgrid REC's (kW/hr)	1,651	1,614	1,627	1,626	1,643	1,643	1,600	1,596	1,581	1,549	1,568	1,584	1,361	1,566	1,525	1,505							
Calculated Performance Results																							
Daily																							
Power output (kW average when running)																							
Generator 1	-	-	-	-	-	-	-	-	-	-	-	-	659	748	719	746							
Generator 2	759	759	797	797	797	739	749	749	749	749	749	727	671	834	748	756							
Generator 3	741	729	698	698	698	698	698	740	748	748	722	727	796	-	-	-							
Generator 4	795	775	795	795	772	715	747	748	747	747	747	747	748	747	748	755							
Power output (kW average over 24-hrs)																							
Facility Gross	2,332	2,262	2,290	2,290	2,267	2,153	2,195	2,195	2,237	2,245	2,220	2,226	1,948	2,267	2,221	2,263							
Facility Net	2,263	2,195	2,222	2,223	2,199	2,087	2,129	2,128	2,171	2,180	2,155	2,160	1,891	2,202	2,158	2,200							
In-plant load	69	67	68	68	68	66	67	67	66	65	65	66	57	65	64	63							
Daily availability factor																							
Facility	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	68%	73%	75%	75%							
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%							
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%							
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	0%	0%	0%							
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	88%	100%	100%	100%							
Daily capacity factor																							
Facility	71%	69%	69%	69%	69%	65%	67%	67%	68%	68%	67%	67%	59%	69%	67%	69%							
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%							
Engine 2	97%	92%	97%	97%	97%	90%	91%	91%	91%	91%	91%	91%	81%	101%	91%	92%							
Engine 3	98%	88%	85%	85%	85%	85%	85%	85%	85%	85%	88%	88%	96%	0%	0%	0%							
Engine 4	96%	94%	96%	96%	94%	87%	91%	91%	91%	91%	91%	91%	91%	91%	91%	91%							
Cumulative by engine																							
Engine operating run hours in the month																							
Max Cumulative Available, hours																							
Engine 1	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384							
Engine 2	0	0	0	0	0	0	0	0	0	0	0	0	8	32	56	80							
Engine 3	24	48	72	96	120	144	168	192	216	240	264	288	312	334	358	382							
Engine 4	24	48	72	96	120	144	168	192	216	240	264	288	300	300	300	300							
Engine operating run hours total from 0 hours																							
Engine 1	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,710	135,718	135,742	135,766	135,790							
Engine 2	126,172	126,196	126,220	126,244	126,268	126,292	126,316	126,340	126,364	126,388	126,412	126,436	126,460	126,482	126,506	126,530							
Engine 3	139,265	139,289	139,313	139,337	139,361	139,385	139,409	139,433	139,457	139,481	139,505	139,529	139,541	139,541	139,541	139,541							
Engine 4	134,288	134,346	134,370	134,394	134,418	134,442	134,466	134,490	134,514	134,538	134,562	134,586	134,607	134,631	134,655	134,679							
Cumulative availability, %																							
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	10%	16%	21%							
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%							
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%							
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99%	99%	99%	99%							
Engine cumulative gross output, kW/hr																							
Max cumulative capacity one engine																							
Engine 1	825	1,650	2,475	3,300	4,125	4,950	5,775	6,600	7,425	8,250	9,075	9,900	10,725	11,550	12,375	13,200							
Engine 2	-	-	-	-	-	-	-	-	-	-	-	-	659	1,407	2,127	2,872							
Engine 3	797	1,556	2,354	3,151	3,948	4,687	5,436	6,184	6,933	7,682	8,431	9,179	9,850	10,684	11,432	12,189							
Engine 4	741	1,470	2,168	2,864	3,564	4,262	4,960	5,658	6,356	7,054	7,752	8,450	9,148	9,846	10,544	11,242							
Cumulative capacity factor, %																							
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	12%	17%	22%							
Engine 2	97%	94%	95%	95%	96%	95%	94%	94%	93%	93%	93%	93%	92%	92%	92%	92%							
Engine 3	90%	89%	87%	86%	86%	86%	86%	86%	87%	87%	87%	87%	86%	86%	86%	86%							
Engine 4	96%	95%	96%	96%	95%	94%	93%	93%	93%	93%	93%	92%	92%	92%	92%	92%							

		Thursday 2/1/2024	Friday 2/2/2024	Saturday 2/3/2024	Sunday 2/4/2024	Monday 2/5/2024	Tuesday 2/6/2024	Wednesday 2/7/2024	Thursday 2/8/2024	Friday 2/9/2024	Saturday 2/10/2024	Sunday 2/11/2024	Monday 2/12/2024	Tuesday 2/13/2024	Wednesday 2/14/2024	Thursday 2/15/2024	Friday 2/16/2024
Cumulative by Facility in month																	
	Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
	Actual cumulative engine run hours	72	144	216	288	360	432	504	576	648	720	792	864	936	1,008	1,071	1,143
	Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	74.4%	74.3%	74.4%	74.4%
	Max cumulative gross output, kWhr	79,204	158,400	237,600	316,800	396,000	475,200	557,700	636,900	716,100	795,300	874,500	953,700	1,032,900	1,112,100	1,191,300	1,270,500
	Actual cumulative gross output, kWhr	55,963	110,245	165,200	220,166	274,585	328,256	378,940	431,616	485,309	539,178	592,460	645,880	692,625	747,031	800,344	854,649
	Cumulative Capacity Factor	70.7%	69.6%	69.5%	69.5%	69.3%	68.2%	67.9%	67.8%	67.8%	67.8%	67.7%	67.7%	67.1%	67.2%	67.2%	67.3%
	Cumulative fuel input, MMBtu HHV	747.5	1,498	2,246	2,988	3,736	4,466	5,207	5,937	6,683	7,430	8,185	8,921	9,660	10,313	11,065	11,837
	Cumulative gross output, kWhr	55963	110,245	165,200	220,166	274,585	328,256	378,940	431,616	485,309	539,178	592,460	645,880	692,625	747,031	800,344	854,649
Heat Rate																	
	Daily heat rate, Btu/kWh gross LHV	12,024	12,446	12,251	12,157	12,377	12,711	12,666	12,465	12,519	12,478	12,747	12,414	12,300	12,451	12,706	12,796
	Daily heat rate, Btu/kWh gross HHV	13,357	13,826	13,609	13,505	13,749	14,120	14,071	13,847	13,907	13,861	14,161	13,791	13,664	13,831	14,115	14,214
	Cumulative heat rate, Btu/kWh gross LHV	12,024	12,232	12,238	12,218	12,249	12,322	12,370	12,382	12,397	12,405	12,436	12,436	12,425	12,427	12,446	12,468
	Cumulative heat rate, Btu/kWh gross HHV	13,357	13,588	13,595	13,572	13,607	13,689	13,742	13,755	13,771	13,780	13,815	13,813	13,803	13,805	13,825	13,850
Cumulative by Facility starting Calendar Year																	
	Max cumulative available engine run hours	3,072	3,168	3,264	3,360	3,456	3,552	3,648	3,744	3,840	3,936	4,032	4,128	4,224	4,320	4,416	4,512
	Actual cumulative engine run hours	2,251	2,323	2,395	2,467	2,539	2,611	2,683	2,755	2,827	2,899	2,971	3,043	3,108	3,178	3,250	3,322
	Cumulative Availability, %	73.3%	73.3%	73.4%	73.4%	73.5%	73.5%	73.5%	73.6%	73.6%	73.7%	73.7%	73.7%	73.6%	73.6%	73.6%	73.6%
	Max cumulative gross output, kWhr	2,537,700	2,616,900	2,696,100	2,775,300	2,854,500	2,937,000	3,016,200	3,095,400	3,174,600	3,253,800	3,333,000	3,412,200	3,491,400	3,570,600	3,649,800	3,729,000
	Actual cumulative gross output, kWhr	1,742,298	1,796,580	1,851,535	1,906,501	1,960,920	2,012,591	2,065,275	2,117,951	2,171,644	2,225,513	2,278,795	2,332,215	2,378,960	2,433,366	2,486,679	2,540,984
	Cumulative Capacity Factor	68.7%	68.7%	68.7%	68.7%	68.7%	68.5%	68.5%	68.4%	68.4%	68.4%	68.4%	68.3%	68.1%	68.2%	68.1%	68.1%
	Cumulative fuel input, MMBtu HHV	23,492	24,242	24,990	25,732	26,480	27,210	27,951	28,681	29,427	30,174	30,929	31,665	32,304	33,057	33,809	34,581
	Cumulative gross output, kWhr	1,742,298	1,796,580	1,851,535	1,906,501	1,960,920	2,012,591	2,065,275	2,117,951	2,171,644	2,225,513	2,278,795	2,332,215	2,378,960	2,433,366	2,486,679	2,540,984
	Cumulative heat rate, Btu/kWh gross LHV	12,137	12,147	12,150	12,150	12,156	12,171	12,183	12,190	12,198	12,205	12,218	12,222	12,224	12,229	12,239	12,251
	Cumulative heat rate, Btu/kWh gross HHV	13,483	13,493	13,497	13,497	13,504	13,520	13,534	13,542	13,551	13,558	13,572	13,577	13,579	13,585	13,596	13,609
Service																	
	Engine 1																
	Engine 2																
	Engine 3																
	Engine 4																
	Oil - oil and filter change																
	Service - plugs, air filter, valve inspection and adjustment																
	Precipitation																
	INSTAR Power Reports																
	Date	Thursday 2/1/2024	Friday 2/2/2024	Saturday 2/3/2024	Sunday 2/4/2024	Monday 2/5/2024	Tuesday 2/6/2024	Wednesday 2/7/2024	Thursday 2/8/2024	Friday 2/9/2024	Saturday 2/10/2024	Sunday 2/11/2024	Monday 2/12/2024	Tuesday 2/13/2024	Wednesday 2/14/2024	Thursday 2/15/2024	Friday 2/16/2024
	Hour	1	2,265	2,217	2,216	2,219	2,170	2,124	2,125	2,125	2,174	2,174	2,175	2,175	2,231	2,181	2,188
	2	2,265	2,265	2,217	2,217	2,219	2,170	2,124	2,124	2,125	2,174	2,174	2,175	2,175	2,231	2,181	2,188
	3	2,265	2,265	2,217	2,217	2,218	2,170	2,124	2,123	2,125	2,175	2,173	2,175	2,176	2,230	2,180	2,188
	4	2,265	2,266	2,217	2,218	2,218	2,171	2,124	2,123	2,138	2,174	2,175	2,175	2,176	2,230	2,180	2,188
	5	2,266	2,266	2,217	2,218	2,218	2,171	2,124	2,123	2,173	2,175	2,174	2,175	2,176	2,229	2,139	2,188
	6	2,265	2,266	2,217	2,218	2,217	2,170	2,125	2,124	2,173	2,175	2,174	2,175	2,176	2,230	2,133	2,185
	7	2,265	2,267	2,218	2,219	2,217	2,142	2,125	2,124	2,173	2,175	2,176	2,175	2,177	2,229	2,134	2,183
	8	2,262	2,262	2,216	2,219	2,214	2,115	2,120	2,119	2,170	2,175	2,176	2,152	2,173	2,222	2,131	2,314
	9	2,259	2,262	2,216	2,219	2,213	2,072	2,120	2,119	2,170	2,174	2,176	2,123	2,173	2,178	2,130	2,364
	10	2,260	1,807	2,217	2,221	2,214	1,087	2,119	2,119	2,170	2,174	2,176	2,123	2,174	2,177	2,130	1,610
	11	2,260	952	2,217	2,220	2,214	1,388	2,119	2,119	2,170	2,174	2,150	2,122	2,174	2,177	2,131	1,054
	12	2,215	2,268	2,217	2,220	2,214	2,176	2,119	2,118	2,169	2,174	2,128	2,123	2,175	2,176	1,886	2,328
	13	2,213	2,265	2,217	2,221	2,217	2,172	2,120	2,118	2,172	2,174	2,128	2,122	2,172	2,176	2,112	2,325
	14	2,212	2,265	2,218	2,220	2,168	2,171	2,120	2,118	2,175	2,175	2,129	2,124	-	2,178	2,179	2,327
	15	2,242	2,268	2,218	2,220	2,172	2,173	2,120	2,125	2,175	2,175	2,129	2,128	-	2,183	2,182	2,326
	16	2,267	2,268	2,218	2,219	2,173	2,175	2,126	2,125	2,173	2,176	2,129	2,128	347	2,183	2,186	2,328
	17	2,266	2,265	2,217	2,219	2,173	2,174	2,127	2,127	2,174	2,175	2,127	2,129	1,484	2,182	2,184	2,326
	18	2,266	2,265	2,217	2,219	2,173	2,174	2,126	2,126	2,174	2,175	2,127	2,129	2,235	2,182	2,183	2,326
	19	2,265	2,265	2,216	2,219	2,173	2,172	2,125	2,125	2,174	2,174	2,126	2,126	2,235	2,182	2,182	2,324
	20	2,265	2,265	2,217	2,218	2,172	2,172	2,125	2,125	2,174	2,173	2,126	2,126	2,234	2,182	2,182	2,322
	21	2,265	2,264	2,216	2,217	2,172	2,172	2,126	2,125	2,174	2,173	2,126	2,126	2,233	2,181	2,182	2,325
	22	2,265	2,264	2,216	2,218	2,171	2,164	2,125	2,125	2,175	2,173	2,126	2,126	2,232	2,181	2,184	2,276
	23	2,265	2,264	2,216	2,218	2,171	2,164	2,125	2,125	2,175	2,173	2,126	2,126	2,231	2,181	2,187	2,275
	24	2,265	2,225	2,216	2,218	2,171	2,174	2,125	2,125	2,174	2,175	2,126	2,126	2,231	2,181	2,187	2,276
	TOTAL	54,168	52,555	53,205	53,247	52,655	49,968	50,957	50,947	51,971	52,186	51,022	51,686	45,282	52,712	51,666	52,666
	Cumulative Output Sold, kWhr	54,168	106,723	159,928	213,175	265,830	315,798	366,755	417,702	469,673	521,559	573,481	625,171	670,459	723,171	774,837	827,533
	Transformer and line efficiency	99.7%	99.8%	99.8%	99.8%	99.8%	99.7%	99.8%	99.7%	99.7%	99.7%	99.8%	99.7%	99.8%	99.8%	99.8%	99.8%
	Hourly average	2,257	2,190	2,217	2,219	2,194	2,082	2,123	2,123	2,165	2,174	2,151	2,154	1,887	2,196	2,153	2,195

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	Saturday 2/17/2024	Sunday 2/18/2024	Monday 2/19/2024	Tuesday 2/20/2024	Wednesday 2/21/2024	Thursday 2/22/2024	Friday 2/23/2024	Saturday 2/24/2024	Sunday 2/25/2024	Monday 2/26/2024	Tuesday 2/27/2024	Wednesday 2/28/2024	Thursday 2/29/2024	TOTAL
LFG and Biogas Flow to the Engine	1,456.2	1,459.1	1,445.2	1,442.4	1,446.8	1,442.2	1,442.2	1,447.6	1,436.9	1,443.1	1,428.9	1,397.2	1,431.4	41,229.0
LFG and Biogas Flow to the Engine	776.1	770.2	758.2	750.4	762.6	773.5	781.2	771.4	746.8	757.7	748.4	757.7	743.4	21,734.5
LFG and Biogas Flow to the Flare	-	-	-	-	-	-	-	-	-	-	-	-	-	160.0
LFG and BiogasFlow to the Flare (KSCF)	1,456.2	1,459.1	1,445.2	1,442.4	1,446.8	1,442.2	1,442.2	1,447.6	1,436.9	1,443.1	1,428.9	1,397.2	1,431.4	41,389.0
LFG and Biogas Total Flow (KSCF)	776.1	770.2	758.2	750.4	762.6	773.5	781.2	771.4	746.8	757.7	748.4	757.7	743.4	21,821.6
LFG and Biogas Total Flow (MMB'	52.7	52.2	51.8	51.4	52.1	53.0	53.5	52.7	51.4	51.9	51.8	53.6	51.3	52.1
Average Methane Content, (%)	24	24	24	24	12	12	24	-	-	-	-	-	-	212
Engine 1 Hours	24	24	24	24	12	12	24	24	24	24	24	24	24	670
Engine 2 Hours	24	24	24	24	13	24	24	24	24	24	24	24	24	505
Engine 3 Hours	-	-	-	-	24	24	24	24	24	24	24	24	24	693
Engine 4 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	154,360
Generator 1 Power Output (kW/hr)	17,924	16,768	16,784	17,332	17,968	9,172	17,972	17,972	17,968	17,972	17,976	17,680	17,724	507,616
Generator 2 Power Output (kW/hr)	19,124	19,120	18,292	17,876	8,416	8,684	17,972	18,616	17,016	17,392	17,216	18,192	17,712	388,992
Generator 3 Power Output (kW/hr)	19,082	19,084	17,940	17,680	18,744	18,744	19,128	18,616	17,936	17,932	17,932	18,684	17,436	525,340
Generator 4 Power Output (kW/hr)	56,295	55,134	53,192	53,031	53,575	55,303	56,171	55,460	52,921	53,294	53,120	52,720	52,863	1,557,734
Gross Power Output (kW/hr)	54,736	53,584	51,684	51,684	52,028	54,564	54,564	53,848	51,356	51,688	51,340	51,152	51,260	1,512,152
Net Power Output (kW/hr)	54,623	53,491	51,527	51,368	51,907	53,627	54,424	53,732	51,246	51,564	51,398	51,017	51,131	1,508,578
Power Sold as metered by NSIstar, (l	1,559	1,550	1,528	1,547	1,547	1,543	1,607	1,616	1,565	1,606	1,582	1,568	1,603	45,650
Offgrid REC's (kW/hr)														
Calculated Performance Results														
Daily														
Power output (kW average whe														
Generator 1	747	700	699	722	749	764	-	-	-	-	-	-	-	-
Generator 2	797	797	762	745	701	722	749	749	749	749	749	737	739	739
Generator 3	-	-	-	-	703	781	797	776	709	725	717	758	738	738
Generator 4	796	795	748	736	748	779	795	787	747	747	747	703	727	727
Power output (kW average ove														
Facility Gross	2,346	2,297	2,216	2,210	2,232	2,304	2,340	2,311	2,205	2,221	2,213	2,197	2,203	2,203
Facility Net	2,281	2,233	2,153	2,145	2,168	2,240	2,274	2,244	2,140	2,154	2,148	2,131	2,136	2,136
In-plant load	65	64	64	64	64	64	67	67	65	67	66	66	67	67
Daily availability factor														
Facility	75%	75%	75%	75%	76%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Engine 1	100%	100%	100%	100%	100%	50%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	100%	100%	100%	100%	50%	50%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 3	0%	0%	0%	0%	54%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Daily capacity factor														
Facility	71%	70%	67%	67%	68%	70%	71%	70%	67%	67%	67%	67%	67%	67%
Engine 1	91%	85%	85%	88%	91%	93%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	97%	97%	92%	90%	88%	88%	91%	91%	91%	91%	91%	89%	90%	90%
Engine 3	0%	0%	0%	0%	85%	97%	96%	94%	86%	88%	87%	92%	89%	89%
Engine 4	96%	96%	91%	89%	91%	94%	96%	95%	91%	91%	91%	85%	88%	88%
Cumulative by engine														
Engine operating run hours in tl														
Max Cumulative Available,	408	432	456	480	504	528	552	576	600	624	648	672	696	696
Engine 1	104	128	152	176	200	212	212	212	212	212	212	212	212	212
Engine 2	406	430	454	478	490	502	526	550	574	598	622	646	670	670
Engine 3	300	300	300	300	313	337	361	385	409	433	457	481	505	505
Engine 4	405	429	453	477	501	525	549	573	597	621	645	669	693	693
Engine operating run hours tota														
Engine 1	135,814	135,838	135,862	135,886	135,910	135,922	135,922	135,922	135,922	135,922	135,922	135,922	135,922	135,922
Engine 2	126,554	126,578	126,602	126,626	126,638	126,650	126,674	126,698	126,722	126,746	126,770	126,794	126,818	126,818
Engine 3	139,541	139,541	139,541	139,541	139,554	139,578	139,602	139,626	139,650	139,674	139,698	139,722	139,746	139,746
Engine 4	134,703	134,727	134,751	134,775	134,799	134,823	134,847	134,871	134,895	134,919	134,943	134,967	134,991	134,991
Cumulative availability, %														
Engine 1	25%	30%	33%	37%	40%	40%	38%	37%	35%	34%	33%	32%	30%	30%
Engine 2	100%	100%	100%	100%	97%	95%	95%	95%	96%	96%	96%	96%	96%	96%
Engine 3	74%	69%	66%	63%	62%	64%	63%	67%	68%	69%	71%	72%	73%	73%
Engine 4	99%	99%	99%	99%	99%	99%	99%	99%	100%	100%	100%	100%	100%	100%
Engine cumulative gross output														
Max cumulative capacity or	14,025	14,850	15,675	16,500	17,325	18,150	18,975	19,800	20,625	21,450	22,275	23,100	23,925	23,925
Engine 1	3,619	4,319	5,016	5,740	6,469	7,253	7,253	7,253	7,253	7,253	7,253	7,253	7,253	7,253
Engine 2	12,985	13,762	14,544	15,289	16,172	17,461	18,959	19,708	20,457	21,193	21,932	22,671	23,410	23,410
Engine 3	9,391	9,391	9,391	9,391	10,084	10,777	11,470	12,163	12,856	13,549	14,242	14,935	15,628	15,628
Engine 4	12,925	13,720	14,467	15,203	15,951	16,730	17,525	18,312	19,059	19,806	20,554	21,296	22,038	22,038
Cumulative capacity factor, %														
Engine 1	26%	29%	32%	35%	37%	40%	38%	37%	35%	34%	33%	31%	30%	30%
Engine 2	93%	93%	93%	93%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%
Engine 3	67%	63%	60%	57%	58%	60%	62%	63%	64%	65%	66%	66%	67%	67%
Engine 4	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%

	Saturday 2/17/2024	Sunday 2/18/2024	Monday 2/19/2024	Tuesday 2/20/2024	Wednesday 2/21/2024	Thursday 2/22/2024	Friday 2/23/2024	Saturday 2/24/2024	Sunday 2/25/2024	Monday 2/26/2024	Tuesday 2/27/2024	Wednesday 2/28/2024	Thursday 2/29/2024	TOTAL
Cumulative by Facility in month														
Max cumulative available engine run time	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	
Actual cumulative engine run time	1,215	1,287	1,359	1,431	1,504	1,576	1,648	1,720	1,792	1,864	1,936	2,008	2,080	
Cumulative Availability, %	74.4%	74.5%	74.5%	74.5%	74.6%	74.6%	74.6%	74.7%	74.7%	74.7%	74.7%	74.7%	74.7%	
Max cumulative gross output, kWh	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	
Actual cumulative gross output, kWh	910,944	966,078	1,019,270	1,072,301	1,125,876	1,181,179	1,237,350	1,292,814	1,345,735	1,399,029	1,452,151	1,504,871	1,557,734	
Cumulative Capacity Factor	67.5%	67.6%	67.6%	67.6%	67.6%	67.7%	67.8%	67.9%	67.9%	67.8%	67.8%	67.8%	67.7%	
Cumulative fuel input, MMBtu	12,613	13,383	14,141	14,892	15,654	16,428	17,209	17,981	18,727	19,485	20,233	20,991	21,735	
Cumulative gross output, kWh	910,944	966,078	1,019,270	1,072,301	1,125,876	1,181,179	1,237,350	1,292,814	1,345,735	1,399,029	1,452,151	1,504,871	1,557,734	
Heat Rate														
Daily heat rate, Btu/kWh gross	12,410	12,575	12,831	12,738	12,814	12,591	12,520	12,520	12,703	12,798	12,682	12,938	12,659	
Daily heat rate, Btu/kWh net	13,768	13,970	14,254	14,150	14,234	13,987	13,908	13,908	14,112	14,217	14,088	14,372	14,063	
Cumulative heat rate, Btu/kWh gross	12,464	12,471	12,489	12,502	12,517	12,520	12,520	12,520	12,527	12,538	12,543	12,557	12,560	
Cumulative heat rate, Btu/kWh net	13,846	13,853	13,874	13,888	13,904	13,908	13,908	13,908	13,916	13,928	13,933	13,949	13,953	
Cumulative by Facility starting C														
Max cumulative available engine run time	4,608	4,704	4,800	4,896	4,992	5,088	5,184	5,280	5,376	5,472	5,568	5,664	5,760	
Actual cumulative engine run time	3,394	3,466	3,538	3,610	3,683	3,755	3,827	3,899	3,971	4,043	4,115	4,187	4,259	
Cumulative Availability, %	73.7%	73.7%	73.7%	73.7%	73.8%	73.8%	73.8%	73.8%	73.9%	73.9%	73.9%	73.9%	73.9%	
Max cumulative gross output, kWh	3,808,200	3,887,400	3,966,600	4,045,800	4,125,000	4,204,200	4,283,400	4,362,600	4,441,800	4,521,000	4,600,200	4,679,400	4,758,600	
Actual cumulative gross output, kWh	2,597,279	2,652,413	2,705,605	2,758,636	2,812,211	2,867,514	2,923,685	2,979,149	3,032,070	3,085,364	3,138,486	3,191,206	3,244,069	
Cumulative Capacity Factor	68.2%	68.2%	68.2%	68.2%	68.2%	68.2%	68.3%	68.3%	68.3%	68.2%	68.2%	68.2%	68.2%	
Cumulative fuel input, MMBtu	35,357	36,127	36,885	37,636	38,398	39,172	39,953	40,725	41,471	42,229	42,977	43,735	44,479	
Cumulative gross output, kWh	2,597,279	2,652,413	2,705,605	2,758,636	2,812,211	2,867,514	2,923,685	2,979,149	3,032,070	3,085,364	3,138,486	3,191,206	3,244,069	
Cumulative heat rate, Btu/kWh gross	12,254	12,261	12,272	12,281	12,291	12,302	12,307	12,306	12,313	12,321	12,327	12,337	12,342	
Cumulative heat rate, Btu/kWh net	13,613	13,621	13,633	13,643	13,654	13,661	13,665	13,670	13,678	13,687	13,694	13,705	13,711	
Service														
Engine 1														
Engine 2														
Engine 3														
Engine 4														
Oil - oil and filter change														
Service - plugs, air filter, valve insp														
Power Reports														
INSTAR Power Reports														
Date	Saturday 2/17/2024	Sunday 2/18/2024	Monday 2/19/2024	Tuesday 2/20/2024	Wednesday 2/21/2024	Thursday 2/22/2024	Friday 2/23/2024	Saturday 2/24/2024	Sunday 2/25/2024	Monday 2/26/2024	Tuesday 2/27/2024	Wednesday 2/28/2024	Thursday 2/29/2024	TOTAL
Hour														
1	2,276	2,230	2,179	2,132	2,181	2,180	2,268	2,270	2,171	2,126	2,154	2,171	2,219	
2	2,276	2,229	2,180	2,131	2,181	2,180	2,268	2,269	2,170	2,126	2,121	2,171	2,218	
3	2,276	2,229	2,179	2,131	2,181	2,180	2,269	2,269	2,170	2,126	2,122	2,171	2,218	
4	2,277	2,229	2,180	2,132	2,182	2,181	2,269	2,269	2,170	2,126	2,123	2,172	2,196	
5	2,277	2,229	2,179	2,132	2,180	2,181	2,268	2,269	2,170	2,125	2,123	2,172	2,170	
6	2,278	2,228	2,179	2,132	2,180	2,181	2,269	2,269	2,140	2,125	2,123	2,173	2,133	
7	2,278	2,228	2,170	2,131	2,180	2,181	2,269	2,268	2,122	2,125	2,123	2,174	2,122	
8	2,279	2,230	2,133	2,092	2,181	2,188	2,269	2,268	2,124	2,122	2,123	2,212	2,073	
9	2,279	2,231	2,134	2,085	2,124	2,271	2,265	2,268	2,124	2,120	2,124	2,215	2,070	
10	2,278	2,230	2,135	2,082	1,923	2,272	2,265	2,268	2,126	2,120	2,123	1,585	2,072	
11	2,278	2,230	2,135	2,082	2,180	2,272	2,265	2,267	2,126	2,119	2,123	953	2,072	
12	2,278	2,231	2,135	2,081	2,091	2,247	2,265	2,267	2,127	2,164	2,122	2,221	2,073	
13	2,278	2,231	2,136	2,090	2,176	2,154	2,265	2,268	2,127	2,168	2,122	2,217	2,160	
14	2,279	2,231	2,136	2,137	2,175	2,267	2,269	2,258	2,125	2,168	2,122	2,216	2,169	
15	2,279	2,231	2,135	2,160	2,177	2,271	2,270	2,219	2,125	2,168	2,123	2,216	2,168	
16	2,279	2,231	2,136	2,182	2,180	2,271	2,269	2,220	2,125	2,172	2,164	2,221	2,164	
17	2,279	2,231	2,136	2,187	2,181	2,270	2,268	2,219	2,126	2,172	2,172	2,220	2,126	
18	2,278	2,229	2,135	2,184	2,179	2,269	2,268	2,219	2,126	2,171	2,172	2,220	2,124	
19	2,277	2,228	2,133	2,183	2,178	2,269	2,268	2,218	2,125	2,171	2,171	2,220	2,123	
20	2,277	2,227	2,133	2,181	2,179	2,268	2,268	2,205	2,125	2,171	2,170	2,220	2,123	
21	2,276	2,227	2,133	2,181	2,179	2,268	2,267	2,172	2,125	2,170	2,169	2,219	2,117	
22	2,275	2,227	2,132	2,180	2,179	2,268	2,268	2,171	2,125	2,170	2,169	2,219	2,074	
23	2,277	2,227	2,132	2,180	2,180	2,267	2,269	2,171	2,125	2,169	2,170	2,219	2,073	
24	2,239	2,217	2,132	2,180	2,180	2,268	2,268	2,171	2,126	2,170	2,170	2,220	2,074	
TOTAL	54,623	53,491	51,527	51,368	51,907	53,627	54,424	53,732	51,246	51,564	51,398	51,017	51,131	
Cumulative Output Sold, kWh	882,146	935,637	987,164	1,038,532	1,090,439	1,144,066	1,198,490	1,252,222	1,303,468	1,355,032	1,406,430	1,457,447	1,508,578	
Transformer and line efficient	99.8%	99.8%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.8%	99.7%	99.7%	99.7%	
Hourly average	2,276	2,229	2,147	2,140	2,163	2,234	2,268	2,239	2,135	2,149	2,142	2,126	2,130	

**CommonWealth New Bedford Energy LLC
New Bedford/Dartmouth, Massachusetts**

MARCH 2024

[illegible]

[illegible]

		Monday 3/18/2024	Tuesday 3/19/2024	Wednesday 3/20/2024	Thursday 3/21/2024	Friday 3/22/2024	Saturday 3/23/2024	Sunday 3/24/2024	Monday 3/25/2024	Tuesday 3/26/2024	Wednesday 3/27/2024	Thursday 3/28/2024	Friday 3/29/2024	Saturday 3/30/2024	Sunday 3/31/2024	TOTAL
Cumulative fuel input, MMBtu		13,401	14,161	14,921	15,655	16,390	17,147	17,893	18,631	19,378	20,124	20,873	21,613	22,371	23,123	
Cumulative gross output, kWh		962,460	1,016,346	1,069,704	1,120,507	1,171,340	1,223,841	1,276,508	1,328,668	1,381,337	1,433,995	1,486,204	1,537,762	1,591,607	1,645,040	
Heat Rate																
Daily heat rate, Btu/kWe gross		12,700	12,683	12,824	13,017	13,009	12,975	12,749	12,749	12,759	12,762	12,913	12,926	12,666	12,671	
Daily heat rate, Btu/kWe gross		14,108	14,089	14,245	14,460	14,451	14,413	14,163	14,162	14,173	14,176	14,344	14,359	14,070	14,076	
Cumulative heat rate, Btu/kWe		12,534	12,542	12,556	12,577	12,596	12,612	12,618	12,623	12,628	12,633	12,643	12,652	12,653	12,653	
Cumulative heat rate, Btu/kWe		13,924	13,933	13,948	13,972	13,992	14,010	14,017	14,022	14,028	14,034	14,045	14,055	14,056	14,056	
Cumulative by Facility starting C																
Max cumulative available engi		7,488	7,584	7,680	7,776	7,872	7,968	8,064	8,160	8,256	8,352	8,448	8,544	8,640	8,736	
Actual cumulative engine run i		5,555	5,627	5,699	5,771	5,843	5,915	5,987	6,059	6,131	6,203	6,275	6,345	6,415	6,487	
Cumulative Availability, %			74.2%		74.2%		74.2%		74.3%		74.3%		74.3%		74.3%	
Max cumulative gross output, k		6,187,500	6,266,700	6,345,900	6,425,100	6,504,300	6,583,500	6,662,700	6,741,900	6,821,100	6,900,300	6,979,500	7,058,700	7,137,900	7,217,100	
Actual cumulative gross output		4,206,529	4,260,415	4,313,773	4,364,576	4,415,409	4,467,910	4,520,577	4,572,737	4,625,406	4,678,064	4,730,273	4,781,831	4,835,676	4,889,109	
Cumulative Capacity Factor			68.0%		67.9%		67.9%		67.8%		67.8%		67.7%		67.7%	
Cumulative fuel input, MMBtu		57,880	58,639	59,399	60,134	60,868	61,625	62,371	63,110	63,856	64,603	65,352	66,092	66,850	67,602	
Cumulative gross output, kWh		4,206,529	4,260,415	4,313,773	4,364,576	4,415,409	4,467,910	4,520,577	4,572,737	4,625,406	4,678,064	4,730,273	4,781,831	4,835,676	4,889,109	
Cumulative heat rate, Btu/kWe		12,386	12,390	12,395	12,403	12,410	12,416	12,420	12,424	12,428	12,431	12,437	12,442	12,445	12,447	
Cumulative heat rate, Btu/kWe		13,760	13,764	13,770	13,778	13,785	13,793	13,797	13,801	13,806	13,810	13,816	13,821	13,824	13,827	
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve ins																
Precipitation																
NSTAR Power Reports		Monday 3/18/2024	Tuesday 3/19/2024	Wednesday 3/20/2024	Thursday 3/21/2024	Friday 3/22/2024	Saturday 3/23/2024	Sunday 3/24/2024	Monday 3/25/2024	Tuesday 3/26/2024	Wednesday 3/27/2024	Thursday 3/28/2024	Friday 3/29/2024	Saturday 3/30/2024	Sunday 3/31/2024	
Date																
Hour																
1		2,183	2,184	2,184	2,183	1,976	2,078	2,128	2,123	2,123	2,124	2,124	2,171	2,171	2,171	
2		2,183	2,184	2,184	2,183	1,977	2,078	2,129	2,123	2,124	2,124	2,124	2,171	2,171	2,171	
3		2,183	2,183	2,183	2,183	1,977	2,078	2,128	2,120	2,124	2,124	2,124	1,972	2,172	2,172	
4		2,183	2,183	2,184	2,183	1,977	2,117	2,128	2,076	2,124	2,124	2,124	328	2,171	2,172	
5		2,182	2,183	2,185	2,183	1,977	2,126	2,128	2,074	2,124	2,124	2,124	2,032	2,173	2,172	
6		2,182	2,183	2,183	2,083	1,977	2,125	2,127	2,110	2,124	2,125	2,123	2,170	2,173	2,171	
7		2,183	2,183	2,183	2,037	1,977	2,125	2,127	2,124	2,124	2,124	2,124	2,170	2,173	2,171	
8		2,179	2,183	2,183	2,035	2,031	2,124	2,127	2,093	2,125	2,121	2,121	2,169	2,173	2,172	
9		2,178	2,180	2,178	2,034	2,071	2,125	2,127	2,075	2,124	2,120	2,119	2,168	2,174	2,172	
10		2,148	2,180	1,734	2,035	2,066	2,125	2,127	2,072	2,125	2,120	1,926	2,169	2,174	2,172	
11		2,167	2,179	2,125	1,712	2,047	2,126	2,127	2,070	2,125	2,119	1,440	2,169	2,173	2,171	
12		2,178	2,179	2,180	2,167	2,107	2,126	2,126	2,069	2,125	2,119	2,011	2,169	2,172	2,171	
13		2,178	2,179	2,178	2,074	2,022	2,127	2,125	2,069	2,125	2,118	2,170	2,168	2,172	2,171	
14		2,179	2,179	2,183	2,069	2,089	2,127	2,125	2,071	2,125	2,118	2,168	2,173	2,173	2,171	
15		2,179	2,180	2,183	2,023	2,126	2,127	2,125	2,071	2,125	2,119	2,169	2,175	2,173	2,170	
16		2,184	2,186	2,184	2,026	2,126	2,126	2,125	2,105	2,124	2,123	2,172	2,174	2,173	2,142	
17		2,185	2,186	2,184	2,027	2,089	2,127	2,125	2,124	2,125	2,124	2,172	2,174	2,173	2,123	
18		2,185	2,187	2,183	2,026	2,078	2,127	2,124	2,124	2,125	2,124	2,172	2,175	2,174	2,124	
19		2,185	2,185	2,183	2,025	2,077	2,127	2,124	2,124	2,124	2,124	2,172	2,174	2,173	2,124	
20		2,185	2,185	2,183	1,997	2,078	2,128	2,122	2,123	2,124	2,124	2,172	2,172	2,173	2,124	
21		2,184	2,183	2,183	1,977	2,079	2,127	2,122	2,123	2,124	2,124	2,171	2,172	2,173	2,123	
22		2,183	2,184	2,182	1,976	2,078	2,128	2,124	2,123	2,124	2,124	2,171	2,172	2,172	2,123	
23		2,182	2,184	2,182	1,977	2,078	2,128	2,123	2,124	2,124	2,124	2,171	2,172	2,172	2,122	
24		2,182	2,184	2,183	1,977	2,077	2,127	2,123	2,123	2,124	2,124	2,171	2,171	2,172	2,121	
TOTAL		52,320	52,366	51,877	49,192	49,157	50,879	51,016	50,433	50,884	50,937	50,535	49,930	52,143	51,696	
Cumulative Output Sold, k1		933,085	985,471	1,037,348	1,086,540	1,135,697	1,186,576	1,237,892	1,288,025	1,339,009	1,389,946	1,440,481	1,490,411	1,542,554	1,594,250	
Transformer and line efficient		99.7%	99.7%	99.7%	99.7%	98.8%	98.8%	99.8%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	
Hourly average		2,180	2,183	2,162	2,050	2,048	2,120	2,126	2,101	2,124	2,122	2,106	2,080	2,173	2,154	

	Monday 4/1/2024	Tuesday 4/2/2024	Wednesday 4/3/2024	Thursday 4/4/2024	Friday 4/5/2024	Saturday 4/6/2024	Sunday 4/7/2024	Monday 4/8/2024	Tuesday 4/9/2024	Wednesday 4/10/2024	Thursday 4/11/2024	Friday 4/12/2024	Saturday 4/13/2024	Sunday 4/14/2024	Monday 4/15/2024	Tuesday 4/16/2024
Cumulative by Facility in month																
Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
Actual cumulative engine run hours	72	144	216	288	360	432	504	576	648	720	792	864	936	1,008	1,080	1,152
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	475,200	554,400	633,600	712,800	792,000	871,200	950,400	1,029,600	1,108,800	1,188,000	1,267,200
Actual cumulative gross output, kWhr	52,668	105,336	158,004	210,672	263,340	316,008	368,676	421,344	474,012	526,678	579,346	632,014	684,682	737,350	790,018	842,686
Cumulative Capacity Factor	66.5%	66.7%	66.9%	67.1%	67.3%	67.5%	67.7%	67.9%	68.1%	68.3%	68.5%	68.7%	68.9%	69.1%	69.3%	69.5%
Cumulative fuel input, MMBtu HHV	743.2	1,486.4	2,229.6	3,000.0	3,756.0	4,507.2	5,258.4	6,009.6	6,760.8	7,512.0	8,263.2	9,014.4	9,765.6	10,516.8	11,268.0	12,019.2
Cumulative gross output, kWhr	526,688	1,053,376	1,580,064	2,106,752	2,633,440	3,160,128	3,686,816	4,213,504	4,740,192	5,266,880	5,793,568	6,320,256	6,846,944	7,373,632	7,900,320	8,427,008
Heat Rate																
Daily heat rate, Btu/kWh gross LHV	12,703	12,715	12,645	12,615	12,512	12,628	12,660	13,054	12,851	12,704	12,744	12,637	12,671	12,809	12,850	12,982
Daily heat rate, Btu/kWh gross HHV	14,111	14,124	14,047	14,014	13,900	14,026	14,064	14,501	14,297	14,112	14,157	14,038	14,075	14,229	14,274	14,389
Cumulative heat rate, Btu/kWh gross LHV	12,703	12,709	12,687	12,669	12,637	12,636	12,639	12,689	12,705	12,702	12,704	12,704	12,704	12,709	12,713	12,713
Cumulative heat rate, Btu/kWh gross HHV	14,111	14,118	14,094	14,074	14,038	14,037	14,040	14,096	14,116	14,115	14,119	14,112	14,109	14,118	14,128	14,145
Cumulative by Facility starting Calendar Year																
Max cumulative available engine run hours	8,832	8,828	9,024	9,120	9,216	9,312	9,408	9,504	9,600	9,696	9,792	9,888	9,984	10,080	10,176	10,272
Actual cumulative available engine run hours	6,559	6,631	6,703	6,775	6,847	6,919	6,991	7,063	7,135	7,207	7,279	7,351	7,423	7,495	7,567	7,639
Cumulative Availability, %	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.4%	74.4%	74.4%
Max cumulative gross output, kWhr	7,296,300	7,375,500	7,454,700	7,533,900	7,613,100	7,692,300	7,771,500	7,850,700	7,929,900	8,009,100	8,088,300	8,167,500	8,246,700	8,325,900	8,405,100	8,484,300
Actual cumulative gross output, kWhr	4,941,777	4,994,721	5,048,170	5,102,551	5,156,933	5,211,314	5,265,695	5,320,076	5,374,457	5,428,838	5,483,219	5,537,600	5,591,981	5,646,362	5,700,743	5,755,124
Cumulative Capacity Factor	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%	67.7%
Cumulative fuel input, MMBtu HHV	68,345	69,093	69,843	70,591	71,339	72,087	72,835	73,583	74,331	75,079	75,827	76,575	77,323	78,071	78,819	79,567
Cumulative gross output, kWhr	4,941,777	4,994,721	5,048,170	5,102,551	5,156,933	5,211,314	5,265,695	5,320,076	5,374,457	5,428,838	5,483,219	5,537,600	5,591,981	5,646,362	5,700,743	5,755,124
Cumulative heat rate, Btu/kWh gross LHV	12,450	12,453	12,455	12,456	12,457	12,458	12,459	12,460	12,461	12,462	12,463	12,464	12,465	12,466	12,467	12,468
Cumulative heat rate, Btu/kWh gross HHV	13,830	13,833	13,835	13,837	13,838	13,840	13,842	13,844	13,846	13,848	13,850	13,852	13,854	13,856	13,858	13,860
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve inspection and adjustment																
INSTAR Power Reports																
Date	Monday 4/1/2024	Tuesday 4/2/2024	Wednesday 4/3/2024	Thursday 4/4/2024	Friday 4/5/2024	Saturday 4/6/2024	Sunday 4/7/2024	Monday 4/8/2024	Tuesday 4/9/2024	Wednesday 4/10/2024	Thursday 4/11/2024	Friday 4/12/2024	Saturday 4/13/2024	Sunday 4/14/2024	Monday 4/15/2024	Tuesday 4/16/2024
Hour	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	2,122	2,132	2,133	2,185	2,225	2,176	2,131	2,132	2,180	2,134	2,134	2,135	2,165	2,137	2,175	2,087
2	2,123	2,132	2,133	2,185	2,225	2,177	2,132	2,133	2,180	2,134	2,134	2,135	2,166	2,137	2,176	2,088
3	2,122	2,132	2,133	2,185	2,226	2,177	2,132	2,133	2,180	2,134	2,134	2,135	2,165	2,137	2,175	2,087
4	2,123	2,133	2,177	2,185	2,227	2,177	2,132	2,134	2,179	2,180	2,134	2,136	2,165	2,136	2,184	2,051
5	2,124	2,166	2,183	2,186	2,226	2,177	2,131	2,133	2,179	2,179	2,134	2,136	2,165	2,137	2,175	2,088
6	2,124	2,182	2,182	2,185	2,226	2,177	2,132	2,134	2,179	2,179	2,134	2,136	2,166	2,137	2,137	2,087
7	2,124	2,161	2,182	2,185	2,188	2,178	2,132	2,124	2,180	2,129	2,134	2,136	2,166	2,137	2,137	2,088
8	2,124	2,133	2,180	2,169	2,176	2,169	2,132	2,081	2,127	2,129	2,130	2,136	2,166	2,137	2,137	2,088
9	2,119	2,116	2,168	2,227	2,176	2,130	2,133	2,081	2,127	2,128	2,084	2,179	2,164	2,088	2,132	2,032
10	2,118	2,084	2,128	2,227	2,175	2,132	2,134	2,136	1,603	2,091	2,124	2,177	2,164	2,087	2,086	2,030
11	2,118	2,116	2,129	2,225	2,176	2,133	2,134	2,119	1,724	2,078	2,130	2,177	2,164	2,086	2,085	2,028
12	2,118	2,134	2,130	2,226	2,175	2,133	2,133	2,129	2,173	2,099	2,127	2,178	2,164	2,086	2,084	2,065
13	2,117	2,133	2,131	2,226	2,179	2,133	2,133	2,176	2,171	2,123	2,129	2,180	2,164	2,085	2,083	2,078
14	2,117	2,135	2,133	2,227	2,181	2,134	2,133	2,174	2,169	2,123	2,129	2,180	2,164	2,086	2,082	2,086
15	2,126	2,134	2,180	2,230	2,181	2,134	2,133	2,171	2,172	2,125	2,131	2,185	2,164	2,093	2,081	2,079
16	2,134	2,135	2,183	2,233	2,183	2,134	2,133	2,179	2,179	2,128	2,135	2,184	2,165	2,136	2,082	2,083
17	2,134	2,134	2,182	2,231	2,182	2,134	2,133	2,179	2,179	2,128	2,135	2,184	2,164	2,136	2,082	2,085
18	2,135	2,134	2,182	2,231	2,181	2,133	2,133	2,181	2,181	2,133	2,135	2,185	2,165	2,136	2,084	2,086
19	2,135	2,179	2,182	2,229	2,180	2,133	2,089	2,181	2,182	2,132	2,135	2,185	2,165	2,136	2,084	2,086
20	2,134	2,182	2,182	2,227	2,178	2,133	2,094	2,181	2,183	2,132	2,135	2,185	2,165	2,136	2,085	2,087
21	2,134	2,180	2,182	2,227	2,176	2,132	2,125	2,180	2,182	2,132	2,135	2,185	2,165	2,137	2,086	2,087
22	2,133	2,180	2,182	2,226	2,177	2,133	2,130	2,180	2,181	2,133	2,135	2,184	2,164	2,136	2,086	2,087
23	2,132	2,180	2,182	2,226	2,177	2,133	2,131	2,181	2,182	2,132	2,135	2,184	2,164	2,137	2,086	2,087
24	2,132	2,132	2,184	2,225	2,177	2,134	2,133	2,180	2,157	2,133	2,135	2,184	2,166	2,137	2,086	2,087
TOTAL	51,022	51,459	51,945	52,908	52,577	51,536	51,078	49,613	51,136	51,266	51,138	52,031	52,779	50,934	50,706	49,812
Cumulative Output Sold, kWhr	51,022	102,481	154,426	207,334	259,911	311,447	362,525	412,138	463,274	514,540	565,078	617,709	669,688	720,822	771,522	821,340
Transformer and line efficiency	99.7%	99.7%	99.8%	99.8%	99.8%	99.8%	99.8%	99.7%	99.8%	99.7%	99.8%	99.4%	100.0%	99.8%	99.7%	99.7%
Hourly average	2,126	2,144	2,164	2,205	2,191	2,147	2,128	2,067	2,131	2,136	2,131	2,168	2,174	2,122	2,113	2,076

5/13/2025

	Wednesday 4/17/2024	Thursday 4/18/2024	Friday 4/19/2024	Saturday 4/20/2024	Sunday 4/21/2024	Monday 4/22/2024	Tuesday 4/23/2024	Wednesday 4/24/2024	Thursday 4/25/2024	Friday 4/26/2024	Saturday 4/27/2024	Sunday 4/28/2024	Monday 4/29/2024	Tuesday 4/30/2024	TOTAL
Cumulative by Facility in month															
Max cumulative available engine run time	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	
Actual cumulative engine run time	1,203	1,275	1,347	1,419	1,491	1,563	1,635	1,707	1,779	1,851	1,923	1,995	2,067	2,139	
Cumulative Availability, %	73.7%	73.8%	73.8%	73.9%	74.0%	74.0%	74.0%	74.1%	74.1%	74.2%	74.2%	74.2%	74.2%	74.3%	
Max cumulative gross output, kWh	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	
Actual cumulative gross output, kWh	882,344	935,008	986,656	1,039,144	1,090,973	1,142,196	1,193,136	1,245,130	1,295,209	1,345,275	1,395,288	1,445,585	1,495,872	1,545,167	
Cumulative Capacity Factor	65.4%	65.4%	65.4%	65.5%	65.5%	65.4%	65.4%	65.4%	65.3%	65.2%	65.1%	65.1%	65.0%	65.0%	
Cumulative fuel input, MMBtu	12,471	13,214	13,946	14,686	15,419	16,150	16,880	17,620	18,341	19,058	19,780	20,508	21,240	21,967	
Cumulative gross output, kWh	882,344	935,008	986,656	1,039,144	1,090,973	1,142,196	1,193,136	1,245,130	1,295,209	1,345,275	1,395,288	1,445,585	1,495,872	1,545,167	
Heat Rate															
Daily heat rate, Btu/kWh gross	12,494	12,704	12,765	12,683	12,742	12,834	12,906	12,819	12,950	12,901	12,988	13,033	13,107	13,012	
Daily heat rate, Btu/kWh net	13,879	14,112	14,181	14,089	14,154	14,257	14,336	14,240	14,385	14,331	14,428	14,478	14,560	14,455	
Cumulative heat rate, Btu/kWh gross	12,723	12,722	12,724	12,722	12,723	12,728	12,736	12,739	12,747	12,753	12,761	12,771	12,782	12,790	
Cumulative heat rate, Btu/kWh net	14,133	14,132	14,135	14,132	14,133	14,139	14,147	14,151	14,160	14,167	14,176	14,187	14,199	14,207	
Cumulative by Facility starting C															
Max cumulative available engine run time	10,368	10,464	10,560	10,656	10,752	10,848	10,944	11,040	11,136	11,232	11,328	11,424	11,520	11,616	
Actual cumulative engine run time	7,690	7,762	7,834	7,906	7,978	8,050	8,122	8,194	8,266	8,338	8,410	8,482	8,554	8,626	
Cumulative Availability, %	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.2%	74.3%	74.3%	
Max cumulative gross output, kWh	8,566,800	8,646,000	8,725,200	8,804,400	8,883,600	8,962,800	9,042,000	9,121,200	9,200,400	9,279,600	9,358,800	9,438,000	9,517,200	9,596,400	
Actual cumulative gross output, kWh	5,771,453	5,824,117	5,875,765	5,928,253	5,980,082	6,031,305	6,082,245	6,134,239	6,184,318	6,234,384	6,284,397	6,334,694	6,384,981	6,435,276	
Cumulative Capacity Factor	67.4%	67.4%	67.3%	67.3%	67.3%	67.3%	67.3%	67.3%	67.2%	67.2%	67.1%	67.1%	67.1%	67.1%	
Cumulative fuel input, MMBtu	80,072	80,815	81,548	82,287	83,021	83,751	84,481	85,222	85,942	86,660	87,381	88,110	88,842	89,569	
Cumulative gross output, kWh	5,771,453	5,824,117	5,875,765	5,928,253	5,980,082	6,031,305	6,082,245	6,134,239	6,184,318	6,234,384	6,284,397	6,334,694	6,384,981	6,435,276	
Cumulative heat rate, Btu/kWh gross	12,489	12,491	12,494	12,495	12,497	12,500	12,504	12,506	12,507	12,513	12,517	12,521	12,526	12,529	
Cumulative heat rate, Btu/kWh net	13,874	13,876	13,879	13,881	13,883	13,886	13,890	13,893	13,897	13,900	13,904	13,909	13,914	13,918	
Service															
Engine 1															
Engine 2															
Engine 3															
Engine 4															
Antenna replacement															
Switched Blower to Outside															
Installed MAP Sensors on E2 and E4															
Oil - oil and filter change															
Service - plugs, air filter, valve inspected during valve lifts															
INSTAR Power Reports															
Date	Wednesday 4/17/2024	Thursday 4/18/2024	Friday 4/19/2024	Saturday 4/20/2024	Sunday 4/21/2024	Monday 4/22/2024	Tuesday 4/23/2024	Wednesday 4/24/2024	Thursday 4/25/2024	Friday 4/26/2024	Saturday 4/27/2024	Sunday 4/28/2024	Monday 4/29/2024	Tuesday 4/30/2024	
Hour	1	2,088	2,133	2,130	2,083	2,080	2,035	2,085	2,030	2,030	2,030	2,032	2,034	2,031	
2	2,088	2,133	2,081	2,113	2,083	2,082	2,035	2,085	2,029	2,030	2,030	2,031	2,033	2,032	
3	2,088	2,133	2,081	2,082	2,083	2,082	2,063	2,087	2,028	2,058	2,030	2,031	2,033	2,032	
4	2,088	2,133	2,081	2,083	2,083	2,083	2,083	2,086	2,028	2,078	2,030	2,032	2,033	2,032	
5	2,088	2,133	2,081	2,082	2,085	2,083	2,084	2,085	2,029	2,027	2,030	2,032	2,033	2,033	
6	2,088	2,132	2,082	2,090	2,085	2,084	2,084	2,084	2,029	2,030	2,029	2,032	2,032	2,033	
7	2,088	2,133	2,082	2,130	2,096	2,083	2,075	2,085	2,030	2,031	2,030	2,032	2,032	2,033	
8	2,044	2,126	2,080	2,130	2,084	2,078	2,025	2,109	1,993	2,004	1,987	2,033	2,026	2,029	
9	1,826	2,124	2,077	2,130	2,084	2,038	1,981	2,126	1,730	1,976	1,982	2,033	2,018	2,023	
10	-	2,122	2,076	2,130	2,084	2,028	1,981	2,125	1,627	1,976	1,982	2,033	2,020	2,025	
11	-	2,123	2,077	2,131	2,083	2,028	2,011	2,125	1,786	1,976	1,981	2,033	2,020	2,026	
12	-	2,122	2,075	2,132	2,082	2,030	2,027	2,125	2,124	1,976	1,983	2,032	2,021	2,025	
13	-	2,122	2,077	2,132	2,083	2,033	2,028	2,125	2,122	1,976	1,987	2,033	2,022	2,024	
14	-	2,123	2,081	2,131	2,083	2,035	2,032	2,123	2,120	1,994	2,030	2,033	2,022	2,025	
15	-	2,128	2,082	2,132	2,084	2,121	2,078	2,127	2,122	2,030	2,030	2,033	2,026	2,027	
16	508	2,130	2,083	2,132	2,083	2,127	2,082	2,126	2,103	2,030	2,030	2,033	2,029	2,032	
17	2,135	2,130	2,083	2,132	2,084	2,083	2,082	2,125	2,078	2,030	2,031	2,033	2,029	2,033	
18	2,136	2,130	2,083	2,132	2,085	2,084	2,083	2,127	2,078	2,030	2,031	2,034	2,030	2,033	
19	2,135	2,129	2,083	2,132	2,084	2,084	2,084	2,127	2,078	2,029	2,031	2,034	2,032	2,034	
20	2,136	2,130	2,083	2,132	2,131	2,084	2,085	2,093	2,078	2,030	2,032	2,034	2,032	2,033	
21	2,134	2,129	2,083	2,132	2,132	2,083	2,085	2,079	2,077	2,030	2,032	2,034	2,032	2,034	
22	2,133	2,129	2,104	2,132	2,131	2,083	2,085	2,053	2,077	2,029	2,032	2,034	2,032	2,033	
23	2,133	2,128	2,130	2,131	2,129	2,031	2,085	2,031	2,049	2,030	2,031	2,034	2,033	2,033	
24	2,133	2,111	2,131	2,129	2,129	2,034	2,085	2,031	2,030	2,029	2,031	2,034	2,032	2,033	
TOTAL	36,068	51,066	50,057	50,941	50,295	49,644	49,378	50,374	48,475	48,459	48,452	48,789	48,687	48,731	
Cumulative Output Sold, kWh	857,408	908,474	958,531	1,009,472	1,059,767	1,109,411	1,158,789	1,209,163	1,257,638	1,306,097	1,354,549	1,403,338	1,452,025	1,500,756	
Transformer and line efficient	99.8%	99.7%	99.7%	99.8%	99.8%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	99.7%	
Hourly average	1,503	2,128	2,086	2,123	2,086	2,069	2,057	2,099	2,020	2,019	2,019	2,033	2,029	2,030	

MAY 2024															
	Friday 5/17/2024	Saturday 5/18/2024	Sunday 5/19/2024	Monday 5/20/2024	Tuesday 5/21/2024	Wednesday 5/22/2024	Thursday 5/23/2024	Friday 5/24/2024	Saturday 5/25/2024	Sunday 5/26/2024	Monday 5/27/2024	Tuesday 5/28/2024	Wednesday 5/29/2024	Thursday 5/30/2024	Friday 5/31/2024
LFG and Biogas Flow to the Engine	1,349.6	1,346.3	1,344.2	1,349.6	1,347.6	1,347.6	1,339.6	1,344.1	1,344.1	1,339.3	1,327.2	1,329.3	1,338.1	1,338.1	1,338.1
LFG and Biogas Flow to the Engine	723.9	722.1	721.0	730.7	720.1	724.2	721.2	723.6	723.6	721.1	714.5	726.4	703.3	703.3	708.2
LFG and Biogas Flow to the Flare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Flow to the Flare (KSCF)	1,349.6	1,346.3	1,344.2	1,349.6	1,347.6	1,347.6	1,339.6	1,344.1	1,344.1	1,339.3	1,327.2	1,329.3	1,338.1	1,338.1	1,338.1
LFG and Biogas Total Flow (MMBtu)	723.9	722.1	721.0	730.7	720.1	724.2	721.2	723.6	723.6	721.1	714.5	726.4	703.3	703.3	708.2
Average Methane Content (%)	53.0	53.0	53.0	53.5	52.8	53.1	53.2	53.2	53.2	53.2	53.2	54.0	51.7	52.1	52.3
Engine 1 Hours	24	24	24	9	-	-	-	-	-	-	-	-	-	-	190
Engine 2 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	741
Engine 3 Hours	-	-	-	15	24	24	24	24	24	24	24	24	24	24	598
Engine 4 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	699
Generator 1 Power Output (kW/hr)	16,772	16,776	16,780	6,680	-	-	-	-	-	-	-	-	-	-	132,404
Generator 2 Power Output (kW/hr)	16,776	16,772	16,772	16,776	16,784	16,790	16,784	16,788	16,784	16,784	16,784	16,784	14,860	16,788	16,788
Generator 3 Power Output (kW/hr)	-	-	-	9,976	16,744	16,744	16,756	16,752	15,760	15,668	15,144	16,744	16,544	15,980	15,568
Generator 4 Power Output (kW/hr)	16,724	16,728	16,732	16,656	16,728	16,728	16,724	16,724	16,728	16,728	16,724	16,720	16,716	16,720	16,728
Gross Power Output (kW/hr)	50,416	50,426	50,437	50,166	50,266	50,001	50,267	50,267	49,105	49,105	49,391	50,291	48,150	49,506	49,125
Net Power Output (kW/hr)	49,024	49,132	49,168	48,196	48,860	48,516	48,864	48,864	47,776	47,664	47,884	48,760	46,716	48,096	47,688
Power Sold as metered by NStar, (MWh)	48,874	49,028	49,053	48,645	48,722	48,372	48,694	48,694	47,776	47,554	47,768	48,615	46,585	47,969	47,547
Offgrid REC's (kW/hr)	1,394	1,294	1,269	1,370	1,426	1,485	1,451	1,503	1,406	1,437	1,407	1,531	1,434	1,410	1,437
Calculated Performance Results															
Daily															
Power output (kW) average w/h	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator 1	699	699	699	742	-	-	-	-	-	-	-	-	-	-	-
Generator 2	699	699	699	699	699	699	699	699	699	699	699	699	699	699	699
Generator 3	-	-	-	665	698	698	697	697	697	697	697	697	697	697	697
Generator 4	697	697	697	694	697	697	697	697	697	697	697	697	697	697	697
Power output (kW) average o/e	2,101	2,102	2,102	2,090	2,095	2,083	2,095	2,095	2,054	2,045	2,054	2,095	2,006	2,063	2,047
Facility Gross	2,043	2,047	2,049	2,033	2,036	2,022	2,035	2,033	1,996	1,986	1,995	2,032	1,947	2,004	1,987
Facility Net	58	54	53	57	59	62	60	63	59	60	59	64	60	59	60
In-plant load	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Daily availability factor	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Engine 1	100%	100%	100%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	88%	100%	100%
Engine 3	0%	0%	0%	63%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Daily capacity factor	64%	64%	64%	63%	63%	63%	63%	63%	62%	62%	62%	63%	61%	63%	62%
Facility	85%	85%	85%	90%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 1	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	86%	85%	85%
Engine 2	0%	0%	0%	81%	85%	85%	85%	85%	80%	79%	80%	85%	84%	81%	79%
Engine 3	0%	0%	0%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
Engine 4	84%	84%	85%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%	84%
Cumulative by engine															
Engine operating run hours in t	408	432	456	480	504	528	552	576	600	624	648	672	696	720	744
Max Cumulative Available,	133	157	181	190	190	190	190	190	190	190	190	190	190	190	190
Engine 1	408	432	456	480	504	528	552	576	600	624	648	672	696	717	741
Engine 2	319	319	319	358	358	382	430	454	478	502	502	526	574	598	699
Engine 3	363	387	411	435	459	483	507	531	555	579	603	627	651	675	699
Engine 4	136,055	136,079	136,103	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112
Engine 1	128,681	128,705	128,729	128,753	128,777	128,801	128,825	128,849	128,873	128,897	128,921	128,945	128,969	128,990	129,014
Engine 2	141,518	141,518	141,518	141,533	141,557	141,581	141,605	141,629	141,653	141,677	141,701	141,725	141,749	141,773	141,797
Engine 3	136,811	136,835	136,859	136,883	136,907	136,931	136,955	136,979	137,003	137,027	137,051	137,075	137,099	137,123	137,147
Engine 4	33%	36%	40%	40%	38%	36%	34%	33%	32%	30%	29%	28%	27%	26%	26%
Cumulative availability, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 1	78%	74%	70%	70%	71%	72%	72%	75%	76%	77%	77%	78%	80%	80%	80%
Engine 2	89%	90%	90%	91%	91%	91%	92%	92%	93%	93%	93%	93%	94%	94%	94%
Engine 3	14,025	14,850	15,675	16,500	17,325	18,150	18,975	19,800	20,625	21,450	22,275	23,100	23,925	24,750	25,575
Engine 4	4,816	5,517	6,216	6,959	7,658	8,357	9,056	9,755	10,454	11,153	11,852	12,551	13,250	13,949	14,648
Max cumulative capacity or	11,882	12,581	13,280	13,979	14,678	15,377	16,076	16,775	17,474	18,173	18,872	19,571	20,270	20,969	21,668
Engine 1	9,563	9,563	9,563	10,262	10,961	11,660	12,359	13,058	13,757	14,456	15,155	15,854	16,553	17,252	17,951
Engine 2	11,136	11,835	12,534	13,233	13,932	14,631	15,330	16,029	16,728	17,427	18,126	18,825	19,524	20,223	20,922
Engine 3	34%	37%	40%	42%	40%	38%	37%	35%	34%	32%	31%	30%	29%	28%	27%
Engine 4	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%
Cumulative capacity factor, %	68%	64%	61%	62%	63%	64%	65%	66%	67%	67%	67%	68%	69%	69%	69%
Engine 1	79%	80%	80%	80%	80%	81%	81%	81%	81%	81%	81%	81%	81%	81%	82%

JUNE 2024															
	Monday 6/17/2024	Tuesday 6/18/2024	Wednesday 6/19/2024	Thursday 6/20/2024	Friday 6/21/2024	Saturday 6/22/2024	Sunday 6/23/2024	Monday 6/24/2024	Tuesday 6/25/2024	Wednesday 6/26/2024	Thursday 6/27/2024	Friday 6/28/2024	Saturday 6/29/2024	Sunday 6/30/2024	TOTAL
LFG and Biogas Flow to the Engine	1,343.8	1,327.7	1,339.2	1,368.2	1,416.0	1,387.7	1,354.7	1,388.1	1,403.8	1,389.6	1,382.9	1,405.8	1,390.9	1,348.4	40,730.4
LFG and Biogas Flow to the Engine	693.6	695.9	693.9	715.8	710.8	702.2	699.2	736.1	708.9	690.7	723.1	729.8	722.1	700.0	21,321.2
LFG and Biogas Flow to the Flare	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and BiogasFlow to the Flare (KSCF)	1,343.8	1,327.7	1,339.2	1,368.2	1,416.0	1,387.7	1,354.7	1,388.1	1,403.8	1,389.6	1,382.9	1,405.8	1,390.9	1,348.4	40,730.4
LFG and Biogas Total Flow (KSCF)	693.6	695.9	693.9	715.8	710.8	702.2	699.2	736.1	708.9	690.7	723.1	729.8	722.1	700.0	21,321.2
Average Methane Content (%)	51.0	51.6	51.2	51.7	49.6	50.0	51.0	52.4	49.9	50.2	51.3	51.3	51.3	51.3	51.7
Engine 1 Hours	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 2 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	720
Engine 3 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	720
Engine 4 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	720
Generator 1 Power Output (kW/hr)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator 2 Power Output (kW/hr)	16,772	16,696	16,772	16,744	16,772	16,768	16,772	16,776	16,772	15,980	16,776	16,772	16,768	16,776	501,488
Generator 3 Power Output (kW/hr)	15,544	15,584	15,552	16,608	17,920	17,912	17,912	17,920	16,744	16,552	17,848	16,720	16,488	16,728	490,312
Generator 4 Power Output (kW/hr)	15,660	15,616	16,024	16,360	16,704	16,704	16,704	17,624	17,056	16,112	16,696	16,472	16,704	16,704	490,928
Gross Power Output (kW/hr)	48,037	47,949	48,419	49,776	51,460	51,441	51,441	52,221	50,642	48,700	51,387	50,022	50,018	50,255	1,484,112
Net Power Output (kW/hr)	46,220	45,986	46,480	47,756	49,388	49,488	49,524	50,188	48,632	46,760	49,364	48,056	48,092	48,352	1,432,076
Power Sold as metered by NSIstar, (MWh)	46,092	45,881	46,356	47,622	49,246	49,376	49,404	50,054	48,501	46,634	49,233	47,936	47,982	48,236	1,428,324
Offgrid REC's (kWhr)	1,817	1,953	1,939	2,022	2,072	1,963	1,917	2,033	2,010	1,940	2,023	1,966	1,926	1,903	52,036
Calculated Performance Results															
Daily															
Power output (kW average whe															
Generator 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator 2	699	696	699	698	699	699	699	699	699	666	699	699	699	699	699
Generator 3	648	649	648	692	747	746	746	747	698	690	744	697	687	697	697
Generator 4	653	651	668	682	696	696	696	728	711	671	696	686	696	696	696
Power output (kW average ove															
Facility Gross	2,002	1,998	2,017	2,074	2,144	2,143	2,143	2,176	2,110	2,029	2,141	2,084	2,084	2,094	2,094
Facility Net	1,926	1,917	1,937	1,990	2,058	2,062	2,064	2,091	2,026	1,948	2,057	2,002	2,004	2,015	2,015
In-plant load	76	81	81	84	86	81	80	85	84	81	84	82	80	79	79
Daily availability factor															
Facility	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Daily capacity factor															
Facility	61%	61%	61%	63%	65%	65%	65%	66%	64%	61%	65%	63%	63%	63%	63%
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	85%	84%	85%	85%	85%	85%	85%	85%	85%	81%	85%	85%	85%	85%	85%
Engine 3	79%	79%	79%	84%	91%	90%	90%	88%	85%	84%	84%	83%	83%	84%	84%
Engine 4	79%	79%	81%	83%	84%	84%	84%	88%	86%	81%	84%	83%	84%	84%	84%
Cumulative by engine															
Engine operating run hours in ti															
Max Cumulative Available,	408	432	456	480	504	528	552	576	600	624	648	672	696	720	720
Engine 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Engine 2	408	432	456	480	504	528	552	576	600	624	648	672	696	720	720
Engine 3	408	432	456	480	504	528	552	576	600	624	648	672	696	720	720
Engine 4	408	432	456	480	504	528	552	576	600	624	648	672	696	720	720
Engine operating run hours tota															
Engine 1	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112	136,112
Engine 2	129,422	129,446	129,470	129,494	129,518	129,542	129,566	129,590	129,614	129,638	129,662	129,686	129,710	129,734	129,734
Engine 3	142,205	142,229	142,253	142,277	142,301	142,325	142,349	142,373	142,397	142,421	142,445	142,469	142,493	142,517	142,517
Engine 4	137,555	137,579	137,603	137,627	137,651	137,675	137,699	137,723	137,747	137,771	137,795	137,819	137,843	137,867	137,867
Cumulative availability, %															
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine cumulative gross output															
Max cumulative capacity or	14,025	14,850	15,675	16,500	17,325	18,150	18,975	19,800	20,625	21,450	22,275	23,100	23,925	24,750	24,750
Engine 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 2	11,848	12,543	13,242	13,940	14,639	15,337	16,036	16,735	17,434	18,100	18,799	19,498	20,196	20,895	20,895
Engine 3	11,243	11,892	12,540	13,232	13,979	14,726	15,473	16,218	16,916	17,605	18,349	19,046	19,733	20,430	20,430
Engine 4	11,464	12,134	12,802	13,484	14,180	14,876	15,572	16,299	17,010	17,681	18,377	19,063	19,759	20,455	20,455
Cumulative capacity factor, %															
Engine 1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 2	84%	84%	84%	84%	84%	85%	85%	85%	85%	84%	84%	84%	84%	84%	84%
Engine 3	80%	80%	80%	80%	81%	81%	82%	82%	82%	82%	82%	82%	82%	83%	83%
Engine 4	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	83%	83%	83%	83%	83%

	Monday 6/17/2024	Tuesday 6/18/2024	Wednesday 6/19/2024	Thursday 6/20/2024	Friday 6/21/2024	Saturday 6/22/2024	Sunday 6/23/2024	Monday 6/24/2024	Tuesday 6/25/2024	Wednesday 6/26/2024	Thursday 6/27/2024	Friday 6/28/2024	Saturday 6/29/2024	Sunday 6/30/2024	TOTAL
Cumulative by Facility in month															
Max cumulative available engi	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	
Actual cumulative engine run t	1,224	1,296	1,368	1,440	1,512	1,584	1,656	1,728	1,800	1,872	1,944	2,016	2,088	2,160	
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	
Max cumulative gross output, k	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	
Actual cumulative gross output, k	830,379	878,328	926,747	976,525	1,027,985	1,079,426	1,130,867	1,183,088	1,233,730	1,282,430	1,333,817	1,383,839	1,433,857	1,484,112	
Cumulative Capacity Factor	61.5%	61.5%	61.5%	61.5%	61.7%	61.8%	62.0%	62.1%	62.2%	62.2%	62.3%	62.3%	62.3%	62.4%	
Cumulative fuel input, MMBtu t	12,083	12,789	13,482	14,198	14,909	15,611	16,310	17,046	17,755	18,446	19,169	19,899	20,621	21,321	
Cumulative gross output, kWhr	830,379	878,328	926,747	976,525	1,027,985	1,079,426	1,130,867	1,183,088	1,233,730	1,282,430	1,333,817	1,383,839	1,433,857	1,484,112	
Heat Rate															
Daily heat rate, Btu/kWe gross	12,997	13,065	12,901	12,946	12,434	12,288	12,236	12,689	12,601	12,767	12,668	13,134	12,966	12,539	
Daily heat rate, Btu/kWe gross	14,438	14,514	14,331	14,381	13,812	13,650	13,592	14,096	13,998	14,183	14,072	14,590	14,437	13,930	
Cumulative heat rate, Btu/kWe	13,109	13,107	13,096	13,088	13,066	13,019	12,983	12,970	12,955	12,948	12,937	12,944	12,946	12,932	
Cumulative heat rate, Btu/kWe	14,563	14,560	14,546	14,540	14,503	14,462	14,423	14,408	14,392	14,384	14,372	14,380	14,382	14,366	
Cumulative by Facility starting C															
Max cumulative available engi	16,224	16,320	16,416	16,512	16,608	16,704	16,800	16,896	16,992	17,088	17,184	17,280	17,376	17,472	
Actual cumulative engine run t	12,078	12,150	12,222	12,294	12,366	12,438	12,510	12,582	12,654	12,726	12,798	12,870	12,942	13,014	
Cumulative Availability, %	74.4%	74.4%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	
Max cumulative gross output, k	13,404,600	13,483,800	13,563,000	13,642,200	13,721,400	13,800,600	13,879,800	13,959,000	14,038,200	14,117,400	14,196,600	14,275,800	14,355,000	14,434,200	
Actual cumulative gross output, k	8,817,842	8,859,791	8,908,210	8,957,988	9,009,448	9,060,889	9,112,330	9,164,551	9,215,193	9,263,893	9,315,280	9,365,302	9,415,320	9,465,575	
Cumulative Capacity Factor	65.7%	65.7%	65.7%	65.7%	65.7%	65.7%	65.7%	65.7%	65.6%	65.6%	65.6%	65.6%	65.6%	65.6%	
Cumulative fuel input, MMBtu t	123,966	124,662	125,355	126,071	126,787	127,484	128,183	128,920	129,628	130,319	131,042	131,772	132,494	133,194	
Cumulative gross output, kWhr	8,817,842	8,859,791	8,908,210	8,957,988	9,009,448	9,060,889	9,112,330	9,164,551	9,215,193	9,263,893	9,315,280	9,365,302	9,415,320	9,465,575	
Cumulative heat rate, Btu/kWe	12,664	12,666	12,667	12,669	12,668	12,666	12,663	12,663	12,663	12,663	12,663	12,666	12,668	12,667	
Cumulative heat rate, Btu/kWe	14,068	14,070	14,072	14,074	14,072	14,070	14,067	14,067	14,067	14,067	14,067	14,070	14,072	14,071	
Service															
Engine 1															
Engine 2															
Engine 3															
Engine 4															
Oil - oil and filter change															
Service - plugs, air filter, valve insp															
Preparation															
INSTAR Power Reports															
Date	Monday 6/17/2024	Tuesday 6/18/2024	Wednesday 6/19/2024	Thursday 6/20/2024	Friday 6/21/2024	Saturday 6/22/2024	Sunday 6/23/2024	Monday 6/24/2024	Tuesday 6/25/2024	Wednesday 6/26/2024	Thursday 6/27/2024	Friday 6/28/2024	Saturday 6/29/2024	Sunday 6/30/2024	
Hour	1	1,930	1,913	1,914	1,897	2,056	2,059	2,059	2,077	2,007	2,056	2,008	2,011	2,008	
2	1,930	1,913	1,914	1,911	2,055	2,056	2,059	2,059	2,059	2,056	2,058	2,058	2,010	2,008	
3	1,930	1,913	1,913	1,940	2,055	2,056	2,060	2,058	2,056	2,009	2,057	2,010	2,011	2,008	
4	1,930	1,914	1,913	1,962	2,055	2,057	2,061	2,059	2,057	2,009	2,057	2,011	2,011	2,009	
5	1,931	1,913	1,913	1,962	2,055	2,057	2,060	2,058	2,057	2,009	2,058	2,011	2,011	2,009	
6	1,931	1,914	1,913	1,962	2,054	2,057	2,061	2,057	2,057	2,010	2,058	2,010	2,011	2,009	
7	1,931	1,914	1,914	1,962	2,055	2,058	2,061	2,058	2,057	2,009	2,058	2,010	1,998	2,009	
8	1,921	1,907	1,910	1,944	2,050	2,057	2,059	2,055	2,011	1,393	2,055	1,963	1,964	2,009	
9	1,904	1,905	1,907	1,904	2,047	2,058	2,058	2,075	2,002	606	2,052	1,955	1,963	2,010	
10	1,900	1,895	1,906	1,901	2,046	2,057	2,057	2,098	2,001	2,012	2,051	1,954	1,961	2,010	
11	1,900	1,856	1,906	1,902	2,044	2,056	2,057	2,097	2,001	2,007	2,049	1,955	1,961	2,010	
12	1,901	1,944	1,909	1,902	2,046	2,056	2,058	2,095	2,000	2,005	2,048	1,956	1,961	2,010	
13	1,903	1,951	1,908	1,944	2,045	2,057	2,056	2,096	2,001	2,003	2,048	2,002	2,009	2,009	
14	1,906	1,907	1,922	2,000	2,046	2,056	2,056	2,096	2,005	2,000	2,047	2,004	2,008	2,008	
15	1,908	1,907	1,957	2,044	2,047	2,057	2,055	2,097	2,004	2,040	2,054	2,008	2,008	2,009	
16	1,913	1,910	1,957	2,051	2,053	2,057	2,056	2,104	2,005	2,056	2,054	2,007	2,008	2,010	
17	1,912	1,911	1,958	2,051	2,054	2,057	2,057	2,105	2,005	2,057	2,055	2,007	2,008	2,011	
18	1,960	1,912	1,960	2,054	2,054	2,057	2,059	2,105	2,007	2,057	2,056	2,006	2,008	2,012	
19	1,969	1,913	1,960	2,055	2,054	2,058	2,059	2,105	2,007	2,057	2,056	2,007	2,009	2,012	
20	1,963	1,913	1,961	2,056	2,054	2,059	2,059	2,105	2,007	2,057	2,056	2,007	2,009	2,012	
21	1,912	1,914	1,959	2,055	2,056	2,059	2,059	2,104	2,007	2,056	2,055	2,008	2,008	2,011	
22	1,912	1,915	1,960	2,055	2,055	2,059	2,059	2,103	2,007	2,056	2,053	2,009	2,008	2,011	
23	1,912	1,914	1,961	2,054	2,056	2,059	2,059	2,104	2,007	2,056	2,053	2,010	2,008	2,011	
24	1,913	1,913	1,961	2,054	2,055	2,059	2,060	2,103	2,007	2,055	2,055	2,008	2,008	2,011	
TOTAL	46,092	45,881	46,356	47,622	49,246	49,376	49,404	50,054	48,501	46,634	49,233	47,938	47,992	48,236	
Cumulative Output Sold, kWh	801,851	847,732	894,088	941,710	990,956	1,040,332	1,089,736	1,139,790	1,188,291	1,234,925	1,284,158	1,332,096	1,380,088	1,428,324	
Transformer and line efficient	99.7%	99.7%	99.7%	99.7%	99.7%	99.8%	99.8%	99.7%	99.7%	99.7%	99.7%	99.8%	99.8%	99.8%	
Hourly average	1,921	1,912	1,932	1,984	2,052	2,057	2,059	2,086	2,021	1,943	2,051	1,997	2,000	2,010	

	Monday 7/1/2024	Tuesday 7/2/2024	Wednesday 7/3/2024	Thursday 7/4/2024	Friday 7/5/2024	Saturday 7/6/2024	Sunday 7/7/2024	Monday 7/8/2024	Tuesday 7/9/2024	Wednesday 7/10/2024	Thursday 7/11/2024	Friday 7/12/2024	Saturday 7/13/2024	Sunday 7/14/2024	Monday 7/15/2024	Tuesday 7/16/2024
Cumulative by Facility in month																
Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
Actual cumulative engine run hours	72	144	216	288	360	432	504	576	648	720	792	864	936	1,008	1,080	1,152
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%	75.0%
Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	475,200	557,700	636,900	716,100	795,300	874,500	953,700	1,032,900	1,112,100	1,191,300	1,270,500
Actual cumulative gross output, kWhr	50,272	99,705	149,336	199,614	249,735	299,058	348,163	397,105	446,047	494,989	543,446	591,271	639,703	688,926	738,149	787,368
Cumulative Capacity Factor	63.5%	62.9%	62.9%	63.0%	63.1%	62.5%	62.4%	62.3%	62.3%	62.2%	62.1%	62.0%	61.9%	61.9%	62.0%	62.0%
Cumulative fuel input, MMBtu HHV	667	1,331	1,988	2,643	3,289	3,920	4,552	5,187	5,818	6,469	7,110	7,751	8,385	9,028	9,675	10,325
Cumulative gross output, kWhr	50272	99,705	149,336	199,614	249,735	299,058	348,163	397,105	446,047	494,989	543,446	591,271	639,703	688,926	738,149	787,368
Heat Rate																
Daily heat rate, Btu/kWh gross LHV	11,936	12,093	11,925	11,725	11,601	11,510	11,595	11,685	11,591	11,991	11,900	12,057	11,791	11,756	11,837	11,880
Daily heat rate, Btu/kWh gross HHV	13,260	13,433	13,247	13,025	12,887	12,786	12,880	12,981	12,876	13,321	13,219	13,394	13,099	13,060	13,149	13,197
Cumulative heat rate, Btu/kWh gross LHV	11,936	12,014	11,984	11,919	11,855	11,798	11,770	11,759	11,741	11,765	11,777	11,800	11,799	11,796	11,799	11,804
Cumulative heat rate, Btu/kWh gross HHV	13,260	13,346	13,313	13,240	13,169	13,106	13,074	13,063	13,042	13,070	13,083	13,108	13,108	13,104	13,107	13,113
Cumulative by Facility starting Calendar Year																
Max cumulative available engine run hours	17,568	17,864	17,760	17,856	17,952	18,048	18,144	18,240	18,336	18,432	18,528	18,624	18,720	18,816	18,912	19,008
Actual cumulative engine run hours	13,086	13,158	13,230	13,302	13,374	13,446	13,518	13,590	13,662	13,734	13,806	13,878	13,950	14,022	14,094	14,166
Cumulative Availability, %	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%	74.5%
Max cumulative gross output, kWhr	14,513,400	14,592,600	14,671,800	14,751,000	14,830,200	14,912,700	14,991,900	15,071,100	15,150,300	15,229,500	15,308,700	15,387,900	15,467,100	15,546,300	15,625,500	15,704,700
Actual cumulative gross output, kWhr	9,515,847	9,565,280	9,614,911	9,665,189	9,715,310	9,764,633	9,813,738	9,862,680	9,911,622	9,960,564	10,009,021	10,058,846	10,108,278	10,154,501	10,203,724	10,252,943
Cumulative Capacity Factor	65.6%	65.5%	65.5%	65.5%	65.5%	65.5%	65.5%	65.4%	65.4%	65.4%	65.4%	65.4%	65.3%	65.3%	65.3%	65.3%
Cumulative fuel input, MMBtu HHV	133,861	134,525	135,182	135,837	136,483	137,114	137,746	138,382	139,012	139,664	140,304	140,945	141,579	142,222	142,869	143,519
Cumulative gross output, kWhr	9,515,847	9,565,280	9,614,911	9,665,189	9,715,310	9,764,633	9,813,738	9,862,680	9,911,622	9,960,564	10,009,021	10,058,846	10,108,278	10,154,501	10,203,724	10,252,943
Cumulative heat rate, Btu/kWh gross LHV	12,663	12,660	12,656	12,652	12,646	12,640	12,635	12,631	12,625	12,622	12,619	12,616	12,612	12,608	12,604	12,601
Cumulative heat rate, Btu/kWh gross HHV	14,067	14,064	14,060	14,054	14,048	14,042	14,036	14,031	14,025	14,022	14,018	14,015	14,010	14,006	14,002	13,998
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve inspection and adjustment																
Preparation																
INSTAR Power Reports	Monday 7/1/2024	Tuesday 7/2/2024	Wednesday 7/3/2024	Thursday 7/4/2024	Friday 7/5/2024	Saturday 7/6/2024	Sunday 7/7/2024	Monday 7/8/2024	Tuesday 7/9/2024	Wednesday 7/10/2024	Thursday 7/11/2024	Friday 7/12/2024	Saturday 7/13/2024	Sunday 7/14/2024	Monday 7/15/2024	Tuesday 7/16/2024
Date	Monday 7/1/2024	Tuesday 7/2/2024	Wednesday 7/3/2024	Thursday 7/4/2024	Friday 7/5/2024	Saturday 7/6/2024	Sunday 7/7/2024	Monday 7/8/2024	Tuesday 7/9/2024	Wednesday 7/10/2024	Thursday 7/11/2024	Friday 7/12/2024	Saturday 7/13/2024	Sunday 7/14/2024	Monday 7/15/2024	Tuesday 7/16/2024
Hour	2011	2010	1964	2013	2009	1960	1958	1959	1966	1915	1962	1914	1912	1969	1975	1962
1	2011	2009	1964	2013	2009	1960	1958	1958	1957	1916	1963	1915	1914	1969	1970	1963
2	2011	2010	1964	2013	2009	1961	1959	1958	1957	1916	1962	1915	1914	1970	1970	1964
3	2012	2010	1965	2013	2009	1962	1959	1958	1958	1917	1963	1915	1918	1970	1970	1965
4	2012	2010	1965	2013	2009	1961	1959	1958	1959	1916	1962	1915	1918	1971	1969	1964
5	2013	2010	1965	2013	2009	1961	1959	1958	1959	1917	1963	1916	1918	1970	1967	1965
6	2014	2010	1965	2012	2009	1961	1959	1960	1959	1918	1962	1917	1919	1971	1967	1966
7	2013	2003	1965	2011	2009	1961	1959	1960	1958	1933	1963	1915	1919	1969	1963	1961
8	2008	1957	1960	2010	2008	1961	1959	1955	1958	1933	1961	1915	1919	1964	1958	1957
9	2004	1955	1956	2010	2008	1961	1958	1954	1957	1958	1961	1915	1917	1964	1957	1957
10	2004	1954	1955	2009	2007	1961	1958	1925	1951	1870	1924	1912	1917	1964	1957	1957
11	2003	1954	1956	2010	2007	1962	1958	1902	1948	1956	1912	1886	1917	1964	1956	1957
12	2003	1954	1957	2009	2008	1961	1958	1903	1948	1950	1912	1859	1917	1964	1955	1955
13	2000	1955	1956	2009	2008	1960	1958	1907	1946	1908	1911	1859	1916	1962	1953	1954
14	1999	1955	1998	2008	2007	1959	1957	1949	1945	1909	1911	1862	1917	1960	1954	1953
15	2005	1957	2006	2009	2007	1960	1957	1949	1949	1949	1912	1910	1917	1962	1957	1956
16	2008	1960	2008	2008	2008	1959	1957	1952	1961	1947	1913	1912	1923	1963	1960	1958
17	2008	1962	2009	2009	2008	1959	1958	1952	1962	1962	1914	1912	1965	1964	1962	1959
18	2009	1962	2010	2009	2008	2005	1958	1955	1963	1963	1915	1912	1965	1967	1964	1961
19	2009	1962	2010	2009	2008	2007	1959	1956	1964	1964	1915	1913	1965	1968	1965	1963
20	2008	1962	2010	2008	2008	2007	1959	1956	1963	1963	1915	1914	1965	1968	1965	1964
21	2008	1962	2010	2008	2007	2005	1959	1957	1962	1963	1915	1913	1964	1969	1964	1963
22	2008	1962	2011	2008	1962	1964	1959	1957	1960	1962	1914	1913	1964	1970	1964	1963
23	2008	1962	2012	2008	1960	1968	1957	1957	1960	1962	1914	1912	1964	1969	1962	1962
24	2009	1964	2012	2008	1960	1959	1959	1957	1916	1962	1913	1913	1969	1969	1964	1962
TOTAL	48,188	47,359	47,588	48,242	48,053	47,254	47,003	46,754	46,791	46,456	46,371	45,740	46,403	47,208	47,111	47,055
Cumulative Output Sold, kWhr	48,188	95,547	143,135	191,377	239,430	286,684	333,657	380,441	427,232	473,688	520,059	565,799	612,202	659,410	706,521	753,576
Transformer and line efficiency	99.7%	99.7%	99.8%	99.7%	99.8%	99.8%	99.8%	99.7%	99.8%	99.1%	99.7%	99.7%	99.7%	99.8%	99.8%	99.7%
Hourly average	2,008	1,873	1,983	2,010	2,002	1,969	1,958	1,948	1,950	1,938	1,932	1,906	1,933	1,967	1,963	1,961

JULY 2024																
	Wednesday 7/17/2024	Thursday 7/18/2024	Friday 7/19/2024	Saturday 7/20/2024	Sunday 7/21/2024	Monday 7/22/2024	Tuesday 7/23/2024	Wednesday 7/24/2024	Thursday 7/25/2024	Friday 7/26/2024	Saturday 7/27/2024	Sunday 7/28/2024	Monday 7/29/2024	Tuesday 7/30/2024	Wednesday 7/31/2024	TOTAL
LFG and Biogas Flow to the Engine	1,246.8	1,237.0	1,254.1	1,251.5	1,257.3	1,250.4	1,232.9	827.6	1,259.1	1,256.2	1,261.4	1,250.3	1,250.3	1,250.3	869.4	38,100.0
LFG and Biogas Flow to the Engine	643.5	646.5	632.7	632.7	633.6	630.7	621.9	417.3	635.1	633.4	635.9	630.7	630.7	630.7	436.2	19,420.3
LFG and Biogas Flow to the Flare	-	-	-	-	-	-	-	263.1	-	-	-	-	-	-	99.3	232.0
LFG and BiogasFlow to the Flare (	-	-	-	-	-	-	-	132.7	-	-	-	-	-	-	-	460.1
LFG and Biogas Total Flow (KSCF	1,246.8	1,237.0	1,254.1	1,251.5	1,257.3	1,250.4	1,232.9	1,090.7	1,259.1	1,256.2	1,261.4	1,250.3	1,250.3	1,250.3	1,066.4	38,560.1
LFG and Biogas Total Flow (MMB	643.5	646.5	632.7	632.7	633.8	630.7	621.9	550.0	635.1	633.4	635.9	630.7	630.7	630.7	537.5	19,652.3
Average Methane Content (%)	51.0	51.8	49.9	50.0	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	49.8	50.4
Engine 1 Hours	24	24	11	-	-	-	-	6	-	-	-	-	-	-	-	209
Engine 2 Hours	-	24	11	14	24	24	24	16	24	24	24	24	24	24	18	707
Engine 3 Hours	-	14	24	24	24	24	21	10	24	24	24	24	24	24	18	543
Engine 4 Hours	24	24	24	24	24	24	16	24	24	24	24	24	24	24	18	730
Generator 1 Power Output (kWhr)	15,508	15,508	7,088	16,764	16,772	16,768	11,252	3,956	-	-	16,776	16,776	16,776	16,776	-	136,968
Generator 2 Power Output (kWhr)	16,756	16,756	9,492	16,768	16,772	16,768	11,252	3,956	-	-	16,776	16,776	16,776	16,776	-	136,968
Generator 3 Power Output (kWhr)	15,696	15,696	16,008	15,544	15,552	15,544	13,678	6,960	15,808	15,552	15,560	15,560	15,560	15,560	11,528	357,200
Generator 4 Power Output (kWhr)	15,696	15,696	15,696	15,656	15,616	15,520	16,088	16,120	16,704	15,536	16,184	16,712	16,712	16,576	11,480	495,456
Gross Power Output (kWhr)	48,210	48,282	48,269	48,162	48,162	47,880	47,880	33,445	49,327	48,937	48,539	49,075	48,927	48,927	35,265	1,485,369
Net Power Output (kWhr)	46,256	46,284	46,240	46,152	46,280	45,952	45,928	32,176	47,360	46,016	46,680	47,180	46,940	46,940	33,488	1,425,872
Power Sold as metered by NSolar, (l	46,133	46,239	46,292	46,043	46,205	45,840	45,812	32,101	47,236	46,827	45,905	46,570	47,059	46,825	33,396	1,422,059
Offgrid REC's (kWhr)	1,954	1,918	1,869	1,862	1,882	1,928	1,868	1,269	1,967	1,867	1,859	1,895	1,987	1,987	1,785	59,497
Calculated Performance Results																
Daily																
Power output (kW average whe																
Generator 1	650	646	644	-	-	-	-	659	659	659	659	659	659	659	654	-
Generator 2	698	692	678	699	699	699	699	703	699	699	699	699	699	699	699	654
Generator 3	-	637	667	648	648	648	646	646	648	648	648	648	648	648	640	-
Generator 4	654	672	650	652	659	647	670	701	696	647	674	696	691	691	638	-
Power output (kW average ove																
Facility Gross	2,009	2,012	2,011	2,001	2,007	1,995	1,992	1,394	2,055	1,995	2,022	2,045	2,039	2,039	1,469	-
Facility Net	1,927	1,932	1,933	1,923	1,928	1,915	1,914	1,341	1,973	1,917	1,945	1,966	1,966	1,966	1,395	-
In-plant load	81	80	78	78	78	80	78	53	82	78	77	79	83	83	74	-
Daily availability factor																
Facility	75%	76%	76%	75%	75%	75%	72%	50%	75%	75%	75%	75%	75%	75%	56%	-
Engine 1	100%	100%	48%	0%	0%	0%	0%	25%	0%	0%	0%	0%	0%	0%	0%	-
Engine 2	100%	46%	58%	100%	100%	100%	100%	67%	100%	100%	100%	100%	100%	100%	75%	-
Engine 3	0%	58%	100%	100%	100%	100%	88%	42%	100%	100%	100%	100%	100%	100%	75%	-
Engine 4	100%	100%	100%	100%	100%	100%	100%	67%	100%	100%	100%	100%	100%	100%	75%	-
Daily capacity factor																
Facility	61%	61%	61%	61%	61%	60%	60%	42%	62%	60%	61%	62%	62%	62%	45%	-
Engine 1	79%	78%	78%	0%	0%	0%	0%	80%	0%	0%	0%	0%	0%	0%	0%	-
Engine 2	85%	84%	82%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	79%	-
Engine 3	0%	77%	81%	79%	79%	79%	78%	84%	80%	79%	79%	79%	79%	79%	78%	-
Engine 4	79%	81%	79%	79%	80%	78%	81%	85%	84%	78%	82%	84%	84%	84%	77%	-
Cumulative by engine																
Engine operating run hours in ti																
Max Cumulative Available,	408	432	466	480	504	528	552	576	600	624	648	672	696	720	744	-
Engine 1	168	192	203	203	203	203	203	208	209	209	209	209	209	209	209	-
Engine 2	406	419	433	457	461	505	529	545	569	593	617	641	665	689	707	-
Engine 3	240	254	278	302	326	350	371	381	405	429	453	477	501	525	543	-
Engine 4	408	432	456	460	504	528	552	568	592	616	640	664	688	712	730	-
Engine operating run hours tota																
Engine 1	136,280	136,304	136,315	136,315	136,315	136,315	136,315	136,321	136,321	136,321	136,321	136,321	136,321	136,321	136,321	-
Engine 2	130,137	130,148	130,162	130,186	130,210	130,224	130,258	130,274	130,298	130,322	130,346	130,370	130,394	130,418	130,436	-
Engine 3	142,756	142,784	142,794	142,818	142,842	142,866	142,890	142,914	142,938	142,962	142,986	143,010	143,034	143,058	143,082	-
Engine 4	136,271	136,295	136,319	136,343	136,367	136,391	136,415	136,439	136,463	136,487	136,511	136,535	136,559	136,583	136,607	-
Cumulative availability, %																
Engine 1	41%	44%	45%	42%	40%	38%	37%	36%	35%	33%	32%	31%	30%	29%	28%	-
Engine 2	100%	97%	95%	95%	96%	96%	95%	95%	95%	95%	95%	95%	96%	96%	95%	-
Engine 3	59%	59%	61%	63%	65%	66%	67%	66%	68%	69%	70%	71%	72%	73%	73%	-
Engine 4	100%	100%	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%	98%	-
Engine cumulative gross output																
Max cumulative capacity or	14,025	14,850	15,675	16,500	17,325	18,150	18,975	19,800	20,625	21,450	22,275	23,100	23,925	24,750	25,575	-
Engine 1	4,546	5,192	5,837	5,837	5,837	5,837	5,837	6,496	6,496	6,496	6,496	6,496	6,496	6,496	6,496	-
Engine 2	11,871	12,562	13,240	13,939	14,637	15,336	16,035	16,734	17,433	18,132	18,831	19,530	20,229	20,928	21,627	-
Engine 3	6,666	7,302	7,969	8,617	9,265	9,913	10,561	11,209	11,857	12,505	13,153	13,801	14,449	15,097	15,745	-
Engine 4	11,653	12,325	12,975	13,627	14,286	14,933	15,603	16,304	17,000	17,647	18,322	19,018	19,709	20,399	21,037	-
Cumulative capacity factor, %																
Engine 1	32%	35%	37%	35%	34%	32%	31%	33%	31%	30%	29%	28%	27%	26%	25%	-
Engine 2	85%	85%	84%	84%	84%	84%	85%	85%	85%	85%	85%	85%	85%	84%	84%	-
Engine 3	48%	49%	51%	53%	55%	57%	58%	59%	59%	59%	59%	60%	61%	61%	62%	-
Engine 4	83%	83%	83%	83%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	82%	-

	Wednesday 7/17/2024	Thursday 7/18/2024	Friday 7/19/2024	Saturday 7/20/2024	Sunday 7/21/2024	Monday 7/22/2024	Tuesday 7/23/2024	Wednesday 7/24/2024	Thursday 7/25/2024	Friday 7/26/2024	Saturday 7/27/2024	Sunday 7/28/2024	Monday 7/29/2024	Tuesday 7/30/2024	Wednesday 7/31/2024	TOTAL
Cumulative by Facility in month																
Max cumulative available engine	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	2,976	
Actual cumulative engine run t	1,224	1,297	1,370	1,442	1,514	1,586	1,658	1,703	1,775	1,847	1,919	1,991	2,063	2,135	2,189	
Cumulative Availability, %	75.0%	75.1%	75.1%	75.1%	75.1%	75.1%	75.0%	73.9%	74.0%	74.0%	74.0%	74.1%	74.1%	74.1%	73.6%	
Max cumulative gross output, k	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	2,458,500	
Actual cumulative gross output, k	835,578	883,860	932,129	980,143	1,028,305	1,076,185	1,123,981	1,157,426	1,206,753	1,254,636	1,303,175	1,352,250	1,401,177	1,450,104	1,485,369	
Cumulative Capacity Factor	61.9%	61.9%	61.8%	61.7%	61.7%	61.6%	61.5%	60.8%	60.8%	60.8%	60.8%	60.9%	60.9%	60.9%	60.4%	
Cumulative fuel input, MMBtu t	10,968	11,617	12,249	12,882	13,516	14,147	14,768	15,186	15,821	16,454	17,090	17,721	18,351	18,982	19,420	
Cumulative gross output, kWhr	835,578	883,860	932,129	980,143	1,028,305	1,076,185	1,123,981	1,157,426	1,206,753	1,254,636	1,303,175	1,352,250	1,401,177	1,450,104	1,485,369	
Heat Rate																
Daily heat rate, Btu/kWe gross	12,016	12,090	11,800	11,863	11,846	11,857	11,713	11,232	11,590	11,908	11,794	11,569	11,604	11,604	11,185	
Daily heat rate, Btu/kWe gross	13,348	13,431	13,109	13,178	13,159	13,172	13,011	12,477	12,875	13,228	13,101	12,851	12,880	12,880	12,425	
Cumulative heat rate, Btu/kWe	11,816	11,831	11,830	11,831	11,832	11,833	11,828	11,811	11,802	11,806	11,805	11,797	11,790	11,784	11,770	
Cumulative heat rate, Btu/kWe	13,126	13,143	13,141	13,143	13,144	13,145	13,139	13,120	13,110	13,115	13,114	13,105	13,097	13,090	13,074	
Cumulative by Facility starting C																
Max cumulative available engine	19,104	19,200	19,296	19,392	19,488	19,584	19,680	19,776	19,872	19,968	20,064	20,160	20,256	20,352	20,448	
Actual cumulative engine run t	14,238	14,311	14,384	14,456	14,528	14,600	14,669	14,717	14,789	14,861	14,933	15,005	15,077	15,149	15,203	
Cumulative Availability, %	74.5%	74.5%	74.5%	74.5%	74.5%	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%	74.4%	74.3%	
Max cumulative gross output, k	15,863,100	15,863,100	15,942,300	16,021,500	16,100,700	16,179,900	16,259,100	16,338,300	16,417,500	16,496,700	16,575,900	16,655,100	16,734,300	16,813,500	16,892,700	
Actual cumulative gross output, k	10,301,153	10,349,435	10,397,704	10,445,718	10,493,880	10,541,760	10,589,556	10,623,001	10,672,328	10,720,211	10,768,750	10,817,825	10,866,752	10,915,679	10,950,944	
Cumulative Capacity Factor	65.3%	65.2%	65.2%	65.2%	65.2%	65.2%	65.1%	65.0%	65.0%	65.0%	65.0%	65.0%	64.9%	64.9%	64.8%	
Cumulative fuel input, MMBtu t	144,162	144,811	145,444	146,076	146,710	147,341	147,963	148,380	149,015	149,648	150,284	150,915	151,546	152,176	152,615	
Cumulative gross output, kWhr	10,301,153	10,349,435	10,397,704	10,445,718	10,493,880	10,541,760	10,589,556	10,623,001	10,672,328	10,720,211	10,768,750	10,817,825	10,866,752	10,915,679	10,950,944	
Cumulative heat rate, Btu/kWe	12,598	12,596	12,592	12,589	12,589	12,582	12,578	12,574	12,569	12,566	12,563	12,558	12,554	12,550	12,545	
Cumulative heat rate, Btu/kWe	13,995	13,992	13,988	13,984	13,981	13,977	13,973	13,968	13,963	13,959	13,956	13,951	13,946	13,941	13,936	
Service																
Engine 1								Eversource								
Engine 2								Outage								
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve insp																
Preparation																
INSTAR Power Reports	Wednesday 7/17/2024	Thursday 7/18/2024	Friday 7/19/2024	Saturday 7/20/2024	Sunday 7/21/2024	Monday 7/22/2024	Tuesday 7/23/2024	Wednesday 7/24/2024	Thursday 7/25/2024	Friday 7/26/2024	Saturday 7/27/2024	Sunday 7/28/2024	Monday 7/29/2024	Tuesday 7/30/2024	Wednesday 7/31/2024	TOTAL
Hour	1	1,962	1,916	1,916	1,962	1,914	1,911	2,020	2,008	1,961	1,914	1,915	1,963	1,962	1,911	
2	1,964	1,916	1,969	1,916	1,963	1,914	1,913	2,008	2,008	1,962	1,914	1,916	1,963	1,961	1,912	
3	1,966	1,917	1,969	1,917	1,964	1,915	1,961	2,006	2,008	1,962	1,915	1,915	1,963	1,960	1,912	
4	1,964	1,925	1,970	1,917	1,964	1,915	1,961	1,969	2,008	1,962	1,915	1,916	1,963	1,960	1,912	
5	1,919	1,964	1,970	1,917	1,964	1,915	1,961	1,969	2,008	1,962	1,915	1,916	1,963	1,961	1,912	
6	1,920	1,964	1,970	1,916	1,960	1,916	1,961	1,798	1,987	1,963	1,915	1,916	1,964	1,961	1,957	
7	1,918	1,965	1,971	1,917	1,916	1,916	1,962	-	1,961	1,963	1,916	1,916	1,964	1,961	1,956	
8	1,917	1,924	1,966	1,915	1,917	1,911	1,961	-	1,961	1,958	1,914	1,915	1,963	1,959	1,734	
9	1,916	1,833	1,962	1,913	1,913	1,907	1,956	-	1,955	1,925	1,914	1,915	1,958	1,954	1,797	
10	1,912	1,899	1,928	1,911	1,911	1,904	1,957	-	1,919	1,907	1,912	1,913	1,957	1,953	616	
11	1,907	1,766	1,788	1,911	1,912	1,903	1,930	-	1,971	1,907	1,911	1,919	1,957	1,952	-	
12	1,907	1,859	1,911	1,911	1,912	1,902	1,907	-	1,951	1,944	1,910	1,960	1,957	1,951	-	
13	1,908	1,911	1,906	1,911	1,912	1,902	1,909	-	1,950	1,959	1,911	1,961	1,957	1,950	-	
14	1,913	1,911	1,909	1,910	1,912	1,901	1,912	247	1,950	1,958	1,910	1,959	1,955	1,949	-	
15	1,913	1,913	1,912	1,911	1,911	1,906	1,913	1,971	1,956	1,959	1,909	1,960	1,955	1,951	-	
16	1,913	1,926	1,911	1,911	1,911	1,910	1,912	2,015	1,956	1,958	1,910	1,960	1,961	1,954	-	
17	1,915	1,964	1,913	1,911	1,911	1,911	1,913	2,016	1,959	1,959	1,910	1,962	1,962	1,955	1,669	
18	1,916	1,966	1,913	1,911	1,913	1,911	1,912	2,014	1,959	1,959	1,910	1,962	1,962	1,956	2,021	
19	1,916	1,966	1,913	1,912	1,913	1,912	1,913	2,013	1,960	1,959	1,911	1,963	1,962	1,957	2,018	
20	1,916	1,967	1,914	1,912	1,913	1,912	1,913	2,010	1,960	1,959	1,912	1,962	1,962	1,957	2,017	
21	1,916	1,966	1,914	1,912	1,913	1,911	1,965	2,010	1,960	1,959	1,913	1,962	1,962	1,957	2,015	
22	1,915	1,967	1,914	1,944	1,913	1,910	1,965	2,009	1,960	1,960	1,914	1,962	1,962	1,932	2,014	
23	1,915	1,967	1,915	1,959	1,913	1,911	1,965	2,008	1,960	1,950	1,914	1,962	1,962	1,910	2,012	
24	1,915	1,967	1,916	1,963	1,913	1,911	2,022	2,008	1,961	1,913	1,915	1,963	1,962	1,911	2,011	
TOTAL	46,133	46,239	46,292	46,043	46,205	46,840	46,812	32,101	47,236	46,827	45,905	46,570	47,059	46,825	33,396	
Cumulative Output Sold, kWh	799,709	845,948	892,240	938,283	984,488	1,030,328	1,076,140	1,108,241	1,155,477	1,202,304	1,248,209	1,294,779	1,341,838	1,386,663	1,422,059	
Transformer and line efficient	99.7%	99.7%	99.8%	99.8%	99.8%	99.8%	99.7%	99.8%	99.7%	101.8%	98.3%	98.7%	100.3%	99.8%	99.7%	
Hourly average	1,922	1,927	1,929	1,918	1,925	1,910	1,909	1,338	1,968	1,951	1,913	1,940	1,961	1,951	1,392	

[illegible]

		Thursday 8/1/2024	Friday 8/2/2024	Saturday 8/3/2024	Sunday 8/4/2024	Sunday 8/5/2024	Tuesday 8/6/2024	Wednesday 8/7/2024	Thursday 8/8/2024	Friday 8/9/2024	Saturday 8/10/2024	Sunday 8/11/2024	Monday 8/12/2024	Tuesday 8/13/2024	Wednesday 8/14/2024	Thursday 8/15/2024	Friday 8/16/2024
Cumulative by Facility in month																	
Actual cumulative available engine run hours	Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
	Actual cumulative engine run hours	54	126	198	270	342	414	486	558	630	702	774	846	918	990	1,062	1,134
	Cumulative Availability, %	56.3%	65.6%	68.8%	70.3%	71.3%	71.9%	72.3%	72.7%	72.9%	73.1%	73.3%	73.6%	73.8%	74.0%	74.2%	74.4%
	Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	475,200	554,400	633,600	712,800	792,000	871,200	950,400	1,029,600	1,108,800	1,188,000	1,267,200
	Actual cumulative gross output, kWhr	33,220	82,058	129,947	177,347	224,671	272,862	320,707	368,505	416,809	465,380	513,263	561,153	609,042	656,932	704,822	752,712
Cumulative Capacity Factor	Max cumulative gross output, kWhr	41.9%	51.8%	54.7%	56.0%	56.7%	57.0%	57.5%	57.9%	58.2%	58.5%	58.7%	59.0%	59.3%	59.6%	59.9%	60.2%
	Actual cumulative gross output, kWhr	421	1,069	1,721	2,371	3,020	3,675	4,320	4,965	5,617	6,266	6,911	7,556	8,201	8,846	9,491	10,136
	Cumulative fuel input, MMBtu HHV	33,220	82,058	129,947	177,347	224,671	272,862	320,707	368,505	416,809	465,380	513,263	561,153	609,042	656,932	704,822	752,712
	Max cumulative gross output, kWhr	11,419	11,942	12,566	13,337	13,356	12,229	12,139	12,151	12,146	12,213	12,481	12,606	12,887	13,085	13,309	13,540
	Actual cumulative gross output, kWhr	12,685	13,266	13,615	13,704	13,726	13,584	13,485	13,498	13,492	13,567	13,865	13,893	13,205	13,885	13,889	13,889
Heat Rate																	
Cumulative heat rate, Btu/kWh gross HHV	Daily heat rate, Btu/kWh gross HHV	11,419	11,731	11,924	12,034	12,102	12,125	12,127	12,130	12,132	12,140	12,172	12,145	12,132	12,161	12,179	12,189
	Actual cumulative heat rate, Btu/kWh gross HHV	12,685	13,031	13,246	13,369	13,444	13,469	13,471	13,475	13,477	13,486	13,521	13,491	13,477	13,509	13,530	13,540
	Max cumulative gross output, kWhr	20,544	20,640	20,736	20,832	20,928	21,024	21,120	21,216	21,312	21,408	21,504	21,600	21,696	21,792	21,888	21,984
	Actual cumulative gross output, kWhr	15,257	15,329	15,401	15,473	15,545	15,617	15,689	15,761	15,833	15,905	15,977	16,049	16,121	16,193	16,265	16,337
	Cumulative Availability, %	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.3%	74.0%	74.0%
Cumulative by Facility starting Calendar Year																	
Cumulative available engine run hours	Max cumulative available engine run hours	16,971,900	17,051,100	17,130,300	17,209,500	17,288,700	17,371,200	17,450,400	17,529,600	17,608,800	17,688,000	17,767,200	17,846,400	17,925,600	18,004,800	18,084,000	18,163,200
	Actual cumulative gross output, kWhr	10,984,164	11,033,002	11,080,891	11,128,291	11,175,615	11,223,806	11,271,651	11,319,449	11,367,753	11,416,324	11,464,207	11,512,276	11,560,276	11,608,276	11,656,276	11,704,276
	Cumulative Capacity Factor	64.7%	64.7%	64.7%	64.6%	64.6%	64.6%	64.6%	64.6%	64.6%	64.6%	64.5%	64.4%	64.3%	64.2%	64.2%	64.2%
	Max cumulative fuel input, MMBtu HHV	153,036	153,684	154,336	154,985	155,635	156,280	156,935	157,580	158,232	158,881	159,535	160,188	160,841	161,494	162,147	162,800
	Actual cumulative gross output, kWhr	10,984,164	11,033,002	11,080,891	11,128,291	11,175,615	11,223,806	11,271,651	11,319,449	11,367,753	11,416,324	11,464,207	11,512,276	11,560,276	11,608,276	11,656,276	11,704,276
Cumulative heat rate, Btu/kWh gross HHV	Max cumulative gross output, kWhr	12,542	12,539	12,538	12,537	12,536	12,535	12,533	12,532	12,530	12,529	12,528	12,527	12,525	12,524	12,524	12,524
	Actual cumulative gross output, kWhr	13,932	13,929	13,928	13,927	13,926	13,925	13,925	13,923	13,921	13,919	13,918	13,917	13,915	13,913	13,913	13,912
	Max cumulative gross output, kWhr	13,932	13,929	13,928	13,927	13,926	13,925	13,925	13,923	13,921	13,919	13,918	13,917	13,915	13,913	13,913	13,912
	Actual cumulative gross output, kWhr	13,932	13,929	13,928	13,927	13,926	13,925	13,925	13,923	13,921	13,919	13,918	13,917	13,915	13,913	13,913	13,912
	Cumulative Availability, %	64.7%	64.7%	64.7%	64.7%	64.7%	64.6%	64.6%	64.6%	64.6%	64.6%	64.6%	64.5%	64.4%	64.2%	64.2%	64.2%
Service																	
Engine 1 Engine 2 Engine 3 Engine 4	District Header install																
	Engine 1																
	Engine 2																
	Engine 3																
	Engine 4																
Oil - oil and filter change																	
Service - plugs, air filter, valve inspection and adjustment	Oil - oil and filter change																
	Service - plugs, air filter, valve inspection and adjustment																
	Oil - oil and filter change																
	Service - plugs, air filter, valve inspection and adjustment																
	Oil - oil and filter change																
INSSTAR Power Reports																	
Date	Thursday 8/1/2024	2,010	2,009	1,956	1,863	1,865	1,910	1,914	1,914	1,916	1,957	1,917	1,917	2,011	1,963	1,921	1,551
	Friday 8/2/2024	2,010	2,010	1,957	1,864	1,865	1,911	1,914	1,914	1,916	1,958	1,918	1,916	2,011	1,964	1,921	1,551
	Saturday 8/3/2024	2,010	2,009	1,864	1,865	1,866	1,912	1,914	1,915	1,917	1,959	1,917	1,917	2,010	1,964	1,923	1,552
	Sunday 8/4/2024	2,010	2,009	1,912	1,864	1,866	1,911	1,914	1,914	1,916	1,959	1,918	1,917	1,988	1,963	1,923	1,552
	Monday 8/5/2024	2,009	2,009	1,912	1,864	1,866	1,911	1,914	1,914	1,916	1,959	1,918	1,917	1,988	1,963	1,923	1,552
Hour	1	2,009	1,871	1,913	1,875	1,867	1,912	1,915	1,914	1,916	1,960	1,919	1,918	1,963	1,926	1,923	1,551
	2	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	3	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	4	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	5	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
Transformer and line efficiency	6	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	7	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	8	1,925	1,862	1,912	1,913	1,867	1,913	1,915	1,914	1,916	1,961	1,919	1,916	1,942	1,914	1,924	1,546
	9	1,923	1,923	1,912	1,909	1,858	1,921	1,880	1,863	1,913	1,961	1,916	1,916	1,911	1,913	1,915	1,726
	10	1,903	1,903	1,910	1,908	1,856	1,955	1,896	1,856	1,905	1,959	1,912	1,913	1,907	1,909	1,913	2,012
Hourly average	11	1,899	1,899	1,907	1,909	1,856	1,956	1,931	1,907	1,907	1,926	1,913	1,913	1,907	1,907	1,911	1,988
	12	1,899	1,899	1,906	1,908	1,854	1,957	1,905	1,908	1,902	1,909	1,911	1,901	1,901	1,901	1,911	1,965
	13	1,898	1,898	1,905	1,907	1,852	1,957	1,905	1,910	1,901	1,909	1,911	1,901	1,901	1,862	1,910	1,966
	14	1,899	1,899	1,903	1,908	1,847	1,955	1,904	1,909	1,902	1,908	1,910	1,901	1,901	1,863	1,910	1,965
	15	1,903	1,903	1,903	1,907	1,850	1,933	1,904	1,911	1,907	1,908	1,911	1,911	1,911	1,863	1,910	1,925
Hourly average	16	1,903	1,903	1,903	1,908	1,999	1,913	1,907	1,915	1,907	1,910	1,911	1,911	1,911	1,898	1,914	1,917
	17	1,907	1,907	1,905	1,908	1,954	1,914	1,911	1,914	1,956	1,910	1,911	1,911	1,911	1,916	1,916	1,918
	18	1,910	1,910	1,907	1,909	1,936	1,914	1,912	1,916	1,956	1,910	1,912	1,913	1,913	1,917	1,918	1,919
	19	1,957	1,957	1,909	1,910	1,910	1,914	1,912	1,916	1,956	1,951	1,913	1,913	1,913	1,918	1,919	1,920
	20	1,957	1,957	1,909	1,910	1,910	1,914	1,912	1,916	1,956	1,951	1,913	1,913	1,913	1,918	1,919	1,920
Hourly average	21	1,956	1,956	1,908	1,963	1,909	1,913	1,905	1,916	1,956	1,961	1,915	2,019	2,014	1,918	1,926	1,921
	22	1,956	1,956	1,908	1,963	1,909	1,913	1,905	1,916	1,956	1,961	1,915	2,016	2,012	1,918	1,926	1,921
	23	1,956	1,956	1,897	1,864	1,910	1,913	1,865	1,916	1,956	1,951	1,915	2,014	2,012	1,919	1,926	1,920
	24	1,956	1,956	1,863	1,864	1,910	1,913	1,884	1,915	1,957	1,916	1,916	2,012	2,007	1,920	1,946	1,921
	TOTAL	31,325	46,718	45,814	45,368	45,247	46,146	45,752	45,844	46,228	46,540	45,950	45,950	24,659	46,031	44,350	43,220
Cumulative Output Sold, kWhr																	

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SEPTEMBER 2024																
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
LFG and Biogas Flow to the Engines (KSCF)	1,211.7	1,208.1	1,226.2	1,223.5	1,223.3	1,221.2	1,224.8	1,263.9	1,227.1	1,202.1	1,271.6	1,221.4	952.2	879.5	915.024	874.3
	628.7	625.7	623.6	642.0	647.5	637.0	637.0	629.3	622.0	622.0	650.3	648.0	519.0	505.0	507.2	507.2
	LFG and Biogas Flow to the Engines (MMBTU HHV)															
	LFG and Biogas Flow to the Flare (KSCF)															
LFG and BiogasFlow to the Flare (MMBTU HHV)	1,211.7	1,208.1	1,226.2	1,223.5	1,223.3	1,221.2	1,224.8	1,263.9	1,227.1	1,202.1	1,271.6	1,221.4	952.2	879.5	874.3	874.3
	628.7	625.7	623.6	642.0	647.5	637.0	637.0	629.3	622.0	622.0	650.3	648.0	519.0	505.0	507.2	507.2
	LFG and Biogas Total Flow (MMBTU HHV)															
	Average Methane Content (%)															
Engine 1 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
	Engine 2 Hours															
	Engine 3 Hours															
	Engine 4 Hours															
Generator 1 Power Output (kW/hr)	15,592	15,588	15,428	14,416	14,592	14,632	15,180	14,556	14,412	14,556	14,592	14,416	17,724	19,488	19,484	19,484
	15,580	15,584	14,852	15,584	15,584	15,580	15,580	15,508	15,580	15,580	15,576	15,580	5,520	-	-	-
	Generator 3 Power Output (kW/hr)															
	Generator 4 Power Output (kW/hr)															
Gross Power Output (kW/hr)	16,408	15,544	15,544	15,536	16,336	16,728	16,672	15,552	15,544	15,544	15,536	15,544	4,872	-	-	-
	47,731	46,865	45,930	45,542	46,640	47,069	47,639	46,952	45,737	45,690	45,852	45,671	40,906	38,966	38,962	38,951
	45,924	44,904	44,144	44,856	44,856	45,872	45,872	43,932	43,868	44,024	43,932	43,868	37,640	37,640	37,640	37,640
	Net Power Output (kW/hr)															
Power Sold as metered by NStar, (kW/hr)	45,829	44,840	44,063	43,665	44,747	45,176	45,784	45,056	43,861	43,802	43,916	43,734	39,346	37,620	37,639	37,611
	Offgrid REC's (kW/hr)															
	Daily availability factor															
	Facility Net															
Daily availability factor	75	73	74	75	74	75	74	75	75	76	76	76	63	54	54	55
	Facility															
	Engine 1															
	Engine 2															
Daily capacity factor	60%	59%	58%	58%	59%	58%	60%	59%	58%	58%	58%	58%	52%	48%	48%	48%
	79%	79%	78%	73%	74%	74%	77%	74%	74%	73%	74%	73%	90%	96%	96%	96%
	79%	78%	75%	78%	79%	79%	79%	78%	78%	79%	79%	79%	74%	73%	74%	74%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine 3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Engine 4															
	Engine 1															
	Engine 2															
Cumulative by engine	60%	59%	58%	58%	59%	58%	60%	59%	58%	58%	58%	58%	52%	48%	48%	48%
	79%	79%	78%	73%	74%	74%	77%	74%	74%	73%	74%	73%	90%	96%	96%	96%
	79%	78%	75%	78%	79%	79%	79%	78%	78%	79%	79%	79%	74%	73%	74%	74%
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Engine operating run hours in the month	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384
	Max Cumulative Available, hours															
	Engine 1	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360
	Engine 2	24	48	72	96	120	144	168	192	216	240	264	288	297	297	297
Engine operating run hours total from 0 hours	24	48	72	96	120	144	168	192	216	240	264	288	295	295	295	295
	Engine 3															
	Engine 4															
	Engine 1															
Cumulative availability, %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Engine 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
	Engine 2	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	8%	83%	88%
	Engine 3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	18%	23%	23%
Engine cumulative gross output, kW/hr	825	1,650	2,475	3,300	4,125	4,950	5,775	6,600	7,425	8,250	9,075	9,900	10,725	11,550	12,375	13,200
	Max cumulative capacity one engine															
	Engine 1	650	1,299	1,942	2,543	3,151	3,760	4,369	4,999	5,606	6,206	6,814	7,415	8,066	8,696	9,377
	Engine 2	649	1,290	1,909	2,554	3,204	3,853	4,502	5,151	5,797	6,447	7,096	7,745	8,358	8,966	9,589
Cumulative capacity factor, %	684	1,331	1,979	2,626	3,307	4,004	4,701	5,395	6,043	6,691	7,338	7,986	8,682	9,377	10,071	10,769
	Engine 1															
	Engine 2	79%	78%	77%	77%	77%	76%	76%	75%	75%	75%	75%	75%	75%	75%	75%
	Engine 3	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Cumulative capacity factor, %	83%	81%	80%	80%	80%	81%	81%	82%	81%	81%	81%	81%	81%	81%	81%	81%
	Engine 4															
	Engine 1															
	Engine 2															

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		Tuesday 9/17/2024	Wednesday 9/18/2024	Thursday 9/19/2024	Friday 9/20/2024	Saturday 9/21/2024	Sunday 9/22/2024	Monday 9/23/2024	Tuesday 9/24/2024	Wednesday 9/25/2024	Thursday 9/26/2024	Friday 9/27/2024	Saturday 9/28/2024	Sunday 9/29/2024	Monday 9/30/2024	TOTAL
Cumulative by Facility in month																
Max cumulative available engine run t		1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	
Actual cumulative engine run t		1,112	1,174	1,246	1,319	1,391	1,463	1,535	1,601	1,673	1,745	1,817	1,889	1,961	2,009	
Cumulative Availability, %		68.1%	67.9%	68.3%	68.7%	69.0%	69.3%	69.5%	69.5%	69.7%	69.9%	70.1%	70.3%	70.4%	69.8%	
Max cumulative gross output, k		1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	
Actual cumulative gross output, k		753,870	797,396	844,169	890,860	937,740	984,558	1,030,333	1,072,690	1,120,032	1,166,950	1,214,701	1,262,008	1,308,824	1,355,025	
Cumulative Capacity Factor		55.9%	55.8%	56.0%	56.1%	56.3%	56.4%	56.5%	56.3%	56.5%	56.6%	56.7%	56.8%	56.9%	57.0%	
Cumulative fuel input, MMBtu t		10,147	10,681	11,339	11,994	12,632	13,272	13,912	14,534	15,188	15,842	16,501	17,157	17,803	18,449	
Cumulative gross output, kWhr		753,870	797,396	844,169	890,860	937,740	984,558	1,030,333	1,072,690	1,120,032	1,166,950	1,214,701	1,262,008	1,308,824	1,355,025	
Heat Rate																
Daily heat rate, Btu/kWe gross		11,440	11,051	12,660	12,638	12,247	12,308	12,588	13,217	12,436	12,548	12,410	12,487	12,422	12,587	
Daily heat rate, Btu/kWe gross		12,708	12,276	14,064	14,039	13,605	13,672	13,984	14,682	13,814	13,933	13,768	13,871	13,799	13,982	
Cumulative heat rate, Btu/kWe		12,116	12,058	12,091	12,120	12,126	12,135	12,155	12,197	12,207	12,221	12,228	12,238	12,245	12,256	
Cumulative heat rate, Btu/kWe		13,459	13,395	13,432	13,464	13,471	13,480	13,503	13,549	13,561	13,576	13,584	13,595	13,602	13,615	
Cumulative by Facility starting C																
Max cumulative available engine run t		25,066	25,152	25,248	25,344	25,440	25,536	25,632	25,728	25,824	25,920	26,016	26,112	26,208	26,304	
Actual cumulative engine run t		19,443	18,505	18,577	18,650	18,722	18,794	18,866	18,932	19,004	19,076	19,148	19,220	19,292	19,340	
Cumulative Availability, %		73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.6%	73.5%	
Max cumulative gross output, k		20,700,900	20,780,100	20,859,300	20,938,500	21,017,700	21,096,900	21,176,100	21,255,300	21,334,500	21,413,700	21,492,900	21,572,100	21,651,300	21,730,500	
Actual cumulative gross output, k		13,119,460	13,162,986	13,209,759	13,256,450	13,303,330	13,350,148	13,396,923	13,438,280	13,485,622	13,532,540	13,580,291	13,627,598	13,674,414	13,720,615	
Cumulative Capacity Factor		63.4%	63.3%	63.3%	63.3%	63.3%	63.3%	63.3%	63.2%	63.2%	63.2%	63.2%	63.2%	63.2%	63.1%	
Cumulative fuel input, MMBtu t		181,867	182,401	183,059	183,714	184,352	184,992	185,632	186,254	186,908	187,562	188,221	188,877	189,523	190,169	
Cumulative gross output, kWhr		13,119,460	13,162,986	13,209,759	13,256,450	13,303,330	13,350,148	13,396,923	13,438,280	13,485,622	13,532,540	13,580,291	13,627,598	13,674,414	13,720,615	
Cumulative heat rate, Btu/kWe		12,479	12,474	12,475	12,475	12,475	12,474	12,474	12,477	12,477	12,477	12,477	12,477	12,476	12,477	
Cumulative heat rate, Btu/kWe		13,862	13,857	13,858	13,858	13,858	13,857	13,857	13,860	13,860	13,860	13,860	13,860	13,860	13,860	
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve insp																
Preparation																
INSTAR Power Reports																
Date		Tuesday 9/17/2024	Wednesday 9/18/2024	Thursday 9/19/2024	Friday 9/20/2024	Saturday 9/21/2024	Sunday 9/22/2024	Monday 9/23/2024	Tuesday 9/24/2024	Wednesday 9/25/2024	Thursday 9/26/2024	Friday 9/27/2024	Saturday 9/28/2024	Sunday 9/29/2024	Monday 9/30/2024	TOTAL
Hour		1	1,568	1,571	1,881	1,877	1,879	1,878	1,737	1,968	1,873	1,872	1,919	1,873	1,872	
1		1,568	1,571	1,881	1,877	1,877	1,880	1,878	1,737	1,968	1,873	1,872	1,919	1,873	1,872	
2		1,568	1,571	1,881	1,877	1,877	1,880	1,878	1,737	1,968	1,873	1,872	1,919	1,873	1,872	
3		1,570	1,571	1,880	1,877	1,878	1,879	1,879	1,249	1,952	1,873	1,872	1,920	1,873	1,872	
4		1,570	1,570	1,880	1,877	1,878	1,880	1,879	1,250	1,920	1,873	1,898	1,920	1,873	1,873	
5		1,570	1,571	1,880	1,877	1,878	1,880	1,879	1,250	1,920	1,873	1,920	1,920	1,873	1,872	
6		1,571	1,571	1,880	1,877	1,877	1,880	1,884	1,245	1,917	1,873	1,921	1,920	1,873	1,873	
7		1,570	1,571	1,880	1,877	1,878	1,880	1,239	1,243	1,914	1,869	1,921	1,920	1,873	1,873	
8		1,568	1,568	1,876	1,872	1,877	1,880	1,518	1,238	1,914	1,864	1,921	1,920	1,873	1,873	
9		1,565	1,566	1,874	1,864	1,877	1,880	1,872	1,263	1,908	1,417	1,896	1,920	1,873	1,867	
10		1,565	1,480	1,874	1,821	1,877	1,880	1,870	1,538	1,872	1,671	1,779	1,916	1,873	1,866	
11		1,564	1,922	1,873	1,774	1,876	1,876	1,868	1,846	1,860	2,005	1,762	1,872	1,873	1,866	
12		1,563	1,878	1,873	1,866	1,876	1,876	1,867	1,786	1,858	1,992	1,788	1,871	1,873	1,819	
13		1,562	1,882	1,872	1,873	1,875	1,872	1,867	2,019	1,859	1,954	1,964	1,872	1,873	1,818	
14		1,562	1,881	1,872	1,875	1,875	1,872	1,868	2,065	1,859	1,944	1,963	1,871	1,872	1,818	
15		1,564	1,881	1,871	1,879	1,876	1,873	1,875	1,995	1,866	1,918	1,963	1,871	1,872	1,822	
16		1,567	1,880	1,870	1,879	1,876	1,873	1,877	1,972	1,870	1,919	1,966	1,871	1,872	1,823	
17		1,569	1,880	1,871	1,878	1,875	1,873	1,876	1,971	1,870	1,919	1,967	1,872	1,872	1,824	
18		1,570	1,881	1,871	1,878	1,875	1,872	1,877	1,971	1,870	1,919	1,968	1,872	1,872	1,825	
19		1,570	1,880	1,870	1,877	1,875	1,871	1,876	1,971	1,870	1,919	1,969	1,873	1,872	1,825	
20		1,570	1,880	1,870	1,877	1,875	1,871	1,876	1,971	1,870	1,919	1,969	1,873	1,872	1,825	
21		1,570	1,880	1,870	1,877	1,875	1,872	1,876	1,970	1,870	1,918	1,969	1,872	1,872	1,824	
22		1,570	1,881	1,869	1,876	1,875	1,875	1,876	1,969	1,870	1,918	1,920	1,872	1,871	1,824	
23		1,570	1,880	1,872	1,877	1,879	1,876	1,879	1,969	1,871	1,919	1,920	1,872	1,871	1,824	
24		1,570	1,881	1,877	1,877	1,877	1,876	1,879	1,968	1,873	1,871	1,919	1,872	1,872	1,843	
TOTAL		37,626	41,978	44,988	44,859	45,043	45,031	43,992	40,702	45,389	44,991	45,769	45,401	44,939	44,291	
Cumulative Output Sold, kWh		724,315	766,253	811,281	856,140	901,183	946,214	990,206	1,030,908	1,076,297	1,121,288	1,167,087	1,212,488	1,257,427	1,301,718	
Transformer and line efficient		99.9%	99.8%	99.7%	99.7%	99.7%	99.8%	99.8%	99.8%	99.7%	99.7%	99.7%	99.8%	99.8%	99.7%	
Hourly average		1,568	1,749	1,875	1,869	1,877	1,876	1,833	1,696	1,891	1,875	1,908	1,892	1,872	1,845	

OCTOBER 2024																								
	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday								
	10/1/2024	10/2/2024	10/3/2024	10/4/2024	10/5/2024	10/6/2024	10/7/2024	10/8/2024	10/9/2024	10/10/2024	10/11/2024	10/12/2024	10/13/2024	10/14/2024	10/15/2024	10/16/2024	Wednesday							
LFG and Biogas Flow to the Engines (KSCF)	1,109.5	1,059.9	1,134.8	1,142.5	1,142.5	1,145.7	1,148.2	1,144.8	1,148.5	1,151.6	1,160.9	1,169.9	1,176.2	1,168.7	1,185.4	1,185.4	1,185.4							
LFG and Biogas Flow to the Engines (MMBTU HHV)	581.4	547.3	567.2	571.9	579.8	579.8	594.1	597.0	597.0	598.2	599.5	609.2	622.8	616.6	609.1	609.1	609.1							
LFG and Biogas Flow to the Flare (KSCF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
LFG and BiogasFlow to the Flare (MMBTU HHV)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
LFG and Biogas Total Flow (KSCF)	1,109.5	1,059.9	1,134.8	1,142.5	1,142.5	1,145.7	1,148.2	1,144.8	1,148.5	1,151.6	1,160.9	1,169.9	1,176.2	1,168.7	1,185.4	1,185.4	1,185.4							
LFG and Biogas Total Flow (MMBTU HHV)	581.4	547.3	567.2	571.9	579.8	579.8	594.1	597.0	597.0	598.2	599.5	609.2	622.8	616.6	609.1	609.1	609.1							
Average Methane Content, (%)	51.8	51.0	49.4	49.5	49.8	50.0	51.1	51.5	49.8	50.2	51.5	51.5	52.2	52.1	50.8	50.8	50.8							
Engine 1 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24							
Engine 2 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24							
Engine 3 Hours	11	11	24	10	-	-	-	-	-	-	-	-	-	-	-	-	-							
Engine 4 Hours	13	13	14	14	24	24	24	24	24	24	24	24	24	24	24	24	24							
Generator 1 Power Output (kW/hr)	14,828	14,860	14,796	14,540	14,408	14,412	15,012	14,412	14,412	13,760	14,652	14,412	14,412	14,412	14,416	14,412	14,412							
Generator 2 Power Output (kW/hr)	15,580	14,272	15,564	15,544	15,584	15,584	15,584	15,584	15,584	15,580	15,160	15,584	15,588	15,588	15,584	14,952	14,952							
Generator 3 Power Output (kW/hr)	6,912	6,824	14,952	6,192	-	-	-	-	-	-	-	-	-	-	-	-	-							
Generator 4 Power Output (kW/hr)	8,480	7,368	-	8,432	15,272	15,296	15,536	15,536	15,104	15,120	14,784	14,768	14,680	15,360	14,368	14,368	14,368							
Gross Power Output (kW/hr)	45,912	43,224	45,375	44,815	45,409	45,425	46,275	44,828	44,256	43,832	44,593	44,911	44,832	45,517	44,508	43,860	43,860							
Net Power Output (kW/hr)	44,112	41,536	43,840	43,344	43,956	44,020	44,828	43,832	43,540	43,372	43,372	43,536	43,240	44,180	43,136	42,520	42,520							
Power Sold as metered by NSIstar, (kW/hr)	44,005	41,445	43,733	43,225	43,837	43,911	44,697	44,129	43,718	43,135	43,264	43,412	43,088	43,035	42,426	42,426	42,426							
Offgrid REC's (kW/hr)	1,800	1,688	1,535	1,471	1,453	1,405	1,447	1,416	1,402	1,353	1,357	1,375	1,308	1,337	1,372	1,340	1,340							
Calculated Performance Results																								
Daily																								
Power output (kW average when running)																								
Generator 1	618	611	617	606	600	601	626	601	601	573	611	601	601	601	601	601	601							
Generator 2	649	595	649	648	649	649	649	649	649	649	632	649	650	649	649	623	623							
Generator 3	620	623	623	619	-	-	-	-	-	-	-	-	-	-	-	-	-							
Generator 4	652	567	-	602	636	637	647	647	629	630	616	615	612	640	599	599	599							
Power output (kW average over 24-hrs)																								
Facility Gross	1,913	1,801	1,891	1,867	1,892	1,893	1,928	1,903	1,885	1,858	1,864	1,871	1,868	1,897	1,855	1,828	1,828							
Facility Net	1,838	1,731	1,827	1,806	1,832	1,834	1,868	1,844	1,826	1,802	1,807	1,814	1,814	1,841	1,797	1,772	1,772							
In-plant load	75	70	64	61	61	59	60	59	58	56	57	57	55	56	57	56	56							
Daily availability factor																								
Facility	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%	75%							
Engine 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%							
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%							
Engine 3	46%	46%	100%	42%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%							
Engine 4	54%	54%	0%	58%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%							
Daily capacity factor																								
Facility	58%	55%	57%	57%	57%	57%	58%	58%	57%	56%	56%	57%	57%	57%	56%	55%	55%							
Engine 1	75%	74%	75%	73%	73%	73%	76%	73%	73%	69%	74%	73%	73%	73%	73%	73%	73%							
Engine 2	79%	72%	79%	79%	79%	79%	79%	79%	79%	79%	77%	79%	79%	79%	79%	79%	76%							
Engine 3	76%	75%	76%	75%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%							
Engine 4	79%	69%	0%	73%	77%	77%	78%	78%	76%	76%	75%	75%	74%	78%	73%	73%	73%							
Cumulative by engine																								
Engine operating run hours in the month																								
Max Cumulative Available, hours	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	384							
Engine 1	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	384							
Engine 2	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360	384	384							
Engine 3	11	22	46	56	56	56	56	56	56	56	56	56	56	56	56	56	56							
Engine 4	13	26	26	40	64	88	112	136	160	184	208	232	256	280	304	328	328							
Engine operating run hours total from 0 hours																								
Engine 1	137,246	137,270	137,294	137,318	137,342	137,366	137,390	137,414	137,438	137,462	137,486	137,510	137,534	137,558	137,582	137,606	137,606							
Engine 2	131,643	131,667	131,691	131,715	131,739	131,763	131,787	131,811	131,835	131,859	131,883	131,907	131,931	131,955	131,979	132,003	132,003							
Engine 3	144,027	144,038	144,062	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072							
Engine 4	139,702	139,715	139,715	139,729	139,753	139,777	139,801	139,825	139,849	139,873	139,897	139,921	139,945	139,969	139,993	140,017	140,017							
Cumulative availability, %																								
Engine 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Engine 2	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%						
Engine 3	46%	46%	64%	58%	47%	38%	33%	29%	26%	23%	21%	19%	18%	17%	16%	15%	15%							
Engine 4	54%	54%	36%	42%	53%	61%	67%	71%	74%	77%	79%	81%	82%	83%	84%	85%	85%							
Engine cumulative gross output, kW/hr																								
Max cumulative capacity one engine	825	1,650	2,475	3,300	4,125	4,950	5,775	6,600	7,425	8,250	9,075	9,900	10,725	11,550	12,375	13,200	13,200							
Engine 1	618	1,229	1,845	2,451	3,051	3,652	4,277	4,878	5,478	6,052	6,662	7,263	7,863	8,464	9,064	9,665	9,665							
Engine 2	649	1,244	1,892	2,540	3,189	3,839	4,488	5,137	5,787	6,436	7,086	7,717	8,366	9,016	9,665	10,288	10,288							
Engine 3	628	1,249	1,872	2,491	3,114	3,737	4,360	4,983	5,606	6,229	6,852	7,475	8,098	8,721	9,344	9,967	9,967							
Engine 4	652	1,219	1,219	1,821	2,458	3,095	3,742	4,390	5,019	5,649	6,285	6,880	7,482	8,132	8,731	9,329	9,329							
Cumulative capacity factor, %																								
Engine 1	75%	74%	75%	74%	74%	74%	74%	74%	74%	73%	73%	73%	73%	73%	73%	73%	73%							
Engine 2	79%	75%	76%	77%	77%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%	78%							
Engine 3	76%	76%	76%	75%	75%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%	76%							
Engine 4	79%	74%	49%	55%	60%	63%	65%	67%	68%	69%	69%	69%	70%	71%	71%	71%	71%							

OCTOBER 2024																
	Thursday 10/17/2024	Friday 10/18/2024	Saturday 10/19/2024	Sunday 10/20/2024	Monday 10/21/2024	Tuesday 10/22/2024	Wednesday 10/23/2024	Thursday 10/24/2024	Friday 10/25/2024	Saturday 10/26/2024	Sunday 10/27/2024	Monday 10/28/2024	Tuesday 10/29/2024	Wednesday 10/30/2024	Thursday 10/31/2024	TOTAL
LFG and Biogas Flow to the Engine	1,182.0	1,198.0	1,195.0	1,197.9	408.3	-	-	-	412.8	1,190.3	1,168.7	1,225.2	1,189.0	1,160.6	1,147.5	31,051.7
LFG and Biogas Flow to the Flare	613.8	617.0	617.0	626.4	203.2	861.2	831.4	817.5	202.0	598.5	598.5	610.2	602.2	595.2	604.1	15,940.2
LFG and BiogasFlow to the Flare (%)	-	-	-	-	203.2	861.2	831.4	817.5	570.1	598.5	-	-	-	-	-	3,692.6
LFG and Biogas Total Flow (KSCF)	1,182.0	1,198.0	1,195.0	1,197.9	1,020.7	861.2	831.4	817.5	982.9	1,190.3	1,168.7	1,225.2	1,189.0	1,160.6	1,147.5	34,744.3
LFG and Biogas Total Flow (MMBtu/hr)	613.8	617.0	617.0	626.4	508.0	446.2	427.3	410.2	481.0	598.5	598.5	610.2	602.2	595.2	604.1	17,807.6
Average Methane Content (%)	51.3	50.9	51.0	49.2	49.2	51.2	50.8	49.6	48.4	49.7	50.6	49.2	50.0	50.7	52.0	50.6
Engine 1 Hours	24	24	24	24	8	-	-	-	8	24	24	24	24	24	24	640
Engine 2 Hours	24	24	24	24	7	-	-	-	-	-	24	24	8	-	-	528
Engine 3 Hours	-	-	-	-	-	-	-	-	8	24	24	24	15	24	24	208
Engine 4 Hours	24	24	24	24	7	-	-	-	8	24	24	-	24	24	24	540
Generator 1 Power Output (kW/hr)	14,412	14,412	14,412	14,408	4,564	-	-	-	4,940	14,512	13,944	14,404	14,608	14,424	14,420	385,416
Generator 2 Power Output (kW/hr)	14,432	14,664	14,472	15,352	4,932	-	-	-	-	-	5,364	14,716	5,072	-	-	335,920
Generator 3 Power Output (kW/hr)	-	-	-	-	-	-	-	-	4,936	14,872	13,960	14,544	14,592	14,408	14,392	126,584
Generator 4 Power Output (kW/hr)	14,360	14,368	14,368	14,368	4,552	-	-	-	4,912	15,544	8,392	-	8,992	15,104	15,152	334,584
Gross Power Output (kW/hr)	43,321	43,573	43,391	44,268	14,088	-	-	-	14,864	45,044	41,761	43,623	43,257	43,922	43,987	1,185,374
Net Power Output (kW/hr)	42,000	42,008	42,000	42,912	13,668	-	-	-	14,396	43,668	40,540	42,308	41,928	42,556	42,572	1,148,068
Power Sold as metered by NSIstar, (MWh)	41,915	42,136	41,996	42,839	13,764	-	-	-	14,237	43,577	40,454	42,226	41,850	42,458	42,485	1,145,418
Offgrid REC's (kW/hr)	1,321	1,365	1,311	1,356	420	-	-	-	448	1,376	1,221	1,315	1,329	1,366	1,415	37,302
Calculated Performance Results																
Daily																
Power output (kW average whe																
Generator 1	601	601	601	600	571	-	-	-	618	605	581	600	609	601	601	
Generator 2	601	611	603	640	705	-	-	-	-	-	596	613	634	-	-	
Generator 3	-	-	-	-	-	-	-	-	617	620	592	606	608	600	600	
Generator 4	598	599	599	599	650	-	-	-	614	648	599	-	599	629	631	
Power output (kW average ove																
Facility Gross	1,805	1,816	1,808	1,845	587	-	-	-	619	1,877	1,740	1,818	1,802	1,830	1,833	
Facility Net	1,750	1,759	1,763	1,788	570	-	-	-	600	1,820	1,690	1,763	1,747	1,773	1,774	
Inplant load	55	57	55	57	18	-	-	-	19	57	51	55	55	57	59	
Daily availability factor																
Facility	75%	75%	75%	75%	23%	0%	0%	0%	25%	75%	74%	75%	74%	75%	75%	
Engine 1	100%	100%	100%	100%	33%	0%	0%	0%	33%	100%	100%	100%	100%	100%	100%	
Engine 2	100%	100%	100%	100%	28%	0%	0%	0%	0%	0%	38%	100%	33%	0%	0%	
Engine 3	0%	0%	0%	0%	0%	0%	0%	0%	33%	100%	100%	100%	100%	100%	100%	
Engine 4	100%	100%	100%	100%	29%	0%	0%	0%	33%	100%	58%	0%	63%	100%	100%	
Daily capacity factor																
Facility	55%	55%	55%	56%	18%	0%	0%	0%	19%	57%	53%	55%	55%	55%	56%	
Engine 1	73%	73%	73%	73%	69%	0%	0%	0%	75%	73%	70%	73%	74%	73%	73%	
Engine 2	73%	74%	73%	76%	65%	0%	0%	0%	0%	0%	72%	74%	77%	0%	0%	
Engine 3	0%	0%	0%	0%	0%	0%	0%	0%	75%	75%	71%	73%	74%	73%	73%	
Engine 4	73%	73%	73%	73%	79%	0%	0%	0%	74%	79%	73%	0%	73%	76%	77%	
Cumulative by engine																
Engine operating run hours in ti																
Max Cumulative Available,																
Engine 1	408	432	456	480	504	528	552	576	600	624	648	672	696	720	744	
Engine 2	408	432	456	480	488	488	488	487	486	487	487	486	486	486	486	
Engine 3	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	
Engine 4	352	376	400	424	431	431	431	431	439	463	477	477	482	516	540	
Engine operating run hours tota																
Engine 1	137,630	137,654	137,678	137,702	137,710	137,710	137,710	137,710	137,718	137,742	137,766	137,790	137,814	137,838	137,862	
Engine 2	132,027	132,051	132,075	132,099	132,106	132,106	132,106	132,106	132,106	132,106	132,106	132,139	132,147	132,147	132,147	
Engine 3	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,072	144,080	144,104	144,128	144,152	144,152	144,204	144,224	
Engine 4	140,041	140,065	140,089	140,113	140,120	140,120	140,120	140,120	140,128	140,152	140,166	140,166	140,181	140,205	140,229	
Cumulative availability, %																
Engine 1	100%	100%	100%	100%	97%	92%	88%	85%	83%	83%	84%	85%	85%	86%	86%	
Engine 2	100%	100%	100%	100%	97%	92%	88%	85%	81%	78%	77%	77%	76%	73%	71%	
Engine 3	14%	13%	12%	12%	11%	11%	11%	10%	12%	14%	17%	20%	23%	26%	28%	
Engine 4	86%	87%	88%	88%	86%	82%	78%	75%	73%	74%	74%	71%	71%	72%	73%	
Engine cumulative gross output																
Max cumulative capacity or																
Engine 1	14,025	14,850	15,675	16,500	17,325	18,150	18,975	19,800	20,625	21,450	22,275	23,100	23,925	24,750	25,575	
Engine 2	10,265	10,866	11,466	12,067	12,637	12,637	12,637	12,637	12,635	13,859	14,440	15,041	15,641	16,241	16,841	
Engine 3	10,890	11,501	12,104	12,743	13,448	13,448	13,448	13,448	13,448	13,448	14,044	14,657	15,291	15,921	16,591	
Engine 2	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	2,491	
Engine 4	9,928	10,526	11,125	11,724	12,374	12,374	12,374	12,374	12,988	13,636	14,235	14,835	15,435	16,035	16,635	
Cumulative capacity factor, %																
Engine 1	73%	73%	73%	73%	73%	70%	67%	64%	64%	65%	65%	65%	65%	66%	66%	
Engine 2	78%	78%	77%	77%	78%	74%	71%	68%	63%	65%	63%	63%	63%	62%	60%	
Engine 3	18%	17%	16%	15%	14%	14%	13%	13%	15%	17%	19%	21%	23%	25%	26%	
Engine 4	71%	71%	71%	71%	71%	68%	65%	62%	63%	64%	64%	62%	62%	62%	63%	

	Thursday 10/17/2024	Friday 10/18/2024	Saturday 10/19/2024	Sunday 10/20/2024	Monday 10/21/2024	Tuesday 10/22/2024	Wednesday 10/23/2024	Thursday 10/24/2024	Friday 10/25/2024	Saturday 10/26/2024	Sunday 10/27/2024	Monday 10/28/2024	Tuesday 10/29/2024	Wednesday 10/30/2024	Thursday 10/31/2024	TOTAL
Cumulative by Facility in month																
Max cumulative available engi	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	2,976	
Actual cumulative engine run t	1,224	1,296	1,368	1,440	1,462	1,462	1,462	1,462	1,486	1,558	1,629	1,701	1,772	1,844	1,916	
Cumulative Availability, %	75.0%	75.0%	75.0%	75.0%	72.5%	69.2%	66.2%	63.5%	61.9%	62.4%	62.8%	63.3%	63.6%	64.0%	64.4%	
Max cumulative gross output, k	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	2,458,500	
Actual cumulative gross output, k	763,612	807,185	850,576	894,844	908,932	908,932	908,932	908,932	923,776	968,820	1,010,581	1,054,204	1,097,461	1,141,383	1,185,370	
Cumulative Capacity Factor	56.6%	56.5%	56.4%	56.4%	54.5%	52.1%	49.8%	47.7%	46.6%	47.0%	47.2%	47.5%	47.7%	48.0%	48.2%	
Cumulative fuel input, MMBtu t	10,066	10,683	11,300	11,926	12,130	12,130	12,130	12,130	12,332	12,930	13,528	14,139	14,741	15,336	15,940	
Cumulative gross output, kWhr	763,612	807,185	850,576	894,844	908,932	908,932	908,932	908,932	923,776	968,820	1,010,581	1,054,204	1,097,461	1,141,383	1,185,370	
Heat Rate																
Daily heat rate, Btu/kWe gross	12,755	12,746	12,800	12,737	12,984				12,251	11,960	12,901	12,592	12,531	12,199	12,362	
Daily heat rate, Btu/kWe gross	14,169	14,160	14,219	14,149	14,424				13,610	13,286	14,331	13,988	13,921	13,552	13,733	
Cumulative heat rate, Btu/kWe	11,867	11,914	11,959	11,998	12,013	12,013	12,013	12,013	12,017	12,014	12,051	12,073	12,091	12,095	12,105	
Cumulative heat rate, Btu/kWe	13,182	13,235	13,285	13,328	13,345	13,345	13,345	13,345	13,349	13,346	13,387	13,412	13,432	13,436	13,447	
Cumulative by Facility starting C																
Max cumulative available engi	27,998	28,032	28,128	28,224	28,320	28,416	28,512	28,608	28,704	28,800	28,896	28,992	29,088	29,184	29,280	
Actual cumulative engine run t	20,564	20,636	20,708	20,780	20,802	20,802	20,802	20,802	20,826	20,898	20,969	21,041	21,112	21,184	21,256	
Cumulative Availability, %	73.6%	73.6%	73.6%	73.6%	73.5%	73.2%	73.0%	72.7%	72.6%	72.6%	72.6%	72.6%	72.6%	72.6%	72.6%	
Max cumulative gross output, k	23,080,200	23,159,400	23,238,600	23,317,800	23,397,000	23,476,200	23,555,400	23,634,600	23,713,800	23,793,000	23,872,200	23,951,400	24,030,600	24,109,800	24,189,000	
Actual cumulative gross output, k	14,484,227	14,527,800	14,571,191	14,615,459	14,629,547	14,629,547	14,629,547	14,629,547	14,644,391	14,689,435	14,731,196	14,774,819	14,818,076	14,861,998	14,905,985	
Cumulative Capacity Factor	62.8%	62.7%	62.7%	62.7%	62.5%	62.3%	62.1%	61.9%	61.8%	61.7%	61.7%	61.7%	61.7%	61.6%	61.6%	
Cumulative fuel input, MMBtu t	200,235	200,852	201,469	202,095	202,298	202,298	202,298	202,298	202,500	203,099	203,697	204,308	204,910	205,505	206,109	
Cumulative gross output, kWhr	14,484,227	14,527,800	14,571,191	14,615,459	14,629,547	14,629,547	14,629,547	14,629,547	14,644,391	14,689,435	14,731,196	14,774,819	14,818,076	14,861,998	14,905,985	
Cumulative heat rate, Btu/kWe	12,445	12,446	12,447	12,447	12,448	12,448	12,448	12,448	12,448	12,446	12,448	12,448	12,448	12,448	12,447	
Cumulative heat rate, Btu/kWe	13,824	13,825	13,827	13,827	13,828	13,828	13,828	13,828	13,828	13,826	13,828	13,828	13,828	13,828	13,827	
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve insp																
Preparation																
INSTAR Power Reports	Thursday 10/17/2024	Friday 10/18/2024	Saturday 10/19/2024	Sunday 10/20/2024	Monday 10/21/2024	Tuesday 10/22/2024	Wednesday 10/23/2024	Thursday 10/24/2024	Friday 10/25/2024	Saturday 10/26/2024	Sunday 10/27/2024	Monday 10/28/2024	Tuesday 10/29/2024	Wednesday 10/30/2024	Thursday 10/31/2024	TOTAL
Date																
Hour	1	1,797	1,753	1,799	1,798	-	-	-	-	1,890	1,796	1,841	1,748	1,739	1,783	
2	1,748	1,798	1,753	1,799	1,798	-	-	-	-	1,889	1,796	1,841	1,748	1,740	1,782	
3	1,748	1,799	1,753	1,799	1,798	-	-	-	-	1,841	1,796	1,841	1,748	1,743	1,792	
4	1,748	1,799	1,754	1,799	1,799	-	-	-	-	1,841	1,796	1,796	1,748	1,788	1,792	
5	1,748	1,799	1,754	1,799	1,799	-	-	-	-	1,842	1,795	1,793	1,748	1,788	1,792	
6	1,748	1,759	1,753	1,799	1,797	-	-	-	-	1,842	1,795	1,793	1,747	1,789	1,792	
7	1,749	1,748	1,753	1,799	1,795	-	-	-	-	1,843	1,796	1,751	1,743	1,788	1,747	
8	1,743	1,745	1,752	1,753	1,181	-	-	-	-	1,842	1,775	1,742	1,736	1,785	1,738	
9	1,742	1,741	1,749	1,750	-	-	-	-	-	1,842	1,748	1,739	1,502	1,782	1,735	
10	1,742	1,739	1,745	1,747	-	-	-	-	-	1,820	1,745	1,736	1,332	1,782	1,734	
11	1,741	1,737	1,743	1,744	-	-	-	-	-	1,790	1,743	1,736	1,871	1,781	1,733	
12	1,741	1,736	1,743	1,749	-	-	-	-	-	1,790	1,743	1,734	1,767	1,779	1,732	
13	1,740	1,735	1,741	1,790	-	-	-	-	-	1,790	1,742	1,733	1,832	1,784	1,743	
14	1,740	1,735	1,741	1,789	-	-	-	-	-	1,791	753	1,734	1,795	1,784	1,775	
15	1,742	1,741	1,741	1,789	-	-	-	-	-	1,791	41	1,736	1,832	1,744	1,776	
16	1,747	1,742	1,743	1,789	-	-	-	-	-	1,791	1,456	1,740	1,810	1,738	1,782	
17	1,748	1,743	1,743	1,790	-	-	-	-	1,195	1,791	1,897	1,740	1,787	1,738	1,784	
18	1,748	1,744	1,745	1,792	-	-	-	-	1,873	1,792	1,897	1,741	1,787	1,739	1,784	
19	1,748	1,745	1,746	1,793	-	-	-	-	1,742	1,792	1,895	1,740	1,787	1,739	1,786	
20	1,748	1,746	1,748	1,793	-	-	-	-	1,866	1,792	1,893	1,741	1,786	1,747	1,786	
21	1,748	1,750	1,747	1,793	-	-	-	-	1,860	1,793	1,892	1,743	1,759	1,788	1,786	
22	1,749	1,752	1,747	1,793	-	-	-	-	1,860	1,794	1,891	1,743	1,739	1,788	1,786	
23	1,750	1,753	1,747	1,794	-	-	-	-	1,890	1,794	1,890	1,739	1,739	1,790	1,784	
24	1,761	1,753	1,796	1,796	-	-	-	-	1,891	1,795	1,882	1,739	1,739	1,793	1,741	
TOTAL	41,915	42,136	41,996	42,839	13,764	-	-	-	14,237	43,577	40,454	42,226	41,850	42,458	42,485	
Cumulative Output Sold, kV	737,396	779,532	821,528	864,367	878,131	878,131	878,131	878,131	892,368	935,945	976,399	1,018,625	1,060,475	1,102,933	1,145,418	
Transformer and line efficient	99.8%	99.8%	99.8%	99.8%	100.7%	#DIV/0!	#DIV/0!	#DIV/0!	96.9%	96.8%	99.8%	99.8%	99.8%	99.8%	99.8%	
Hourly average	1,746	1,756	1,750	1,785	574	-	-	-	593	1,816	1,686	1,759	1,744	1,769	1,770	1,540
																0.0%

NOVEMBER 2024													
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday
	11/1/2024	11/2/2024	11/3/2024	11/4/2024	11/5/2024	11/6/2024	11/7/2024	11/8/2024	11/9/2024	11/10/2024	11/11/2024	11/12/2024	11/13/2024
	1,147.5	1,150.4	1,163.7	1,163.7	1,141.6	1,149.6	1,149.6	1,158.2	1,190.0	1,190.0	1,159.4	1,169.0	1,223.1
LFG and Biogas Flow to the Engines (KSCF)	611.0	600.0	600.0	600.0	611.0	614.4	610.1	614.2	602.8	607.0	616.9	603.2	598.5
LFG and Biogas Flow to the Engines (MMBTU HHV)	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Flow to the Flare (KSCF)	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Flow to the Flare (MMBTU HHV)	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Total Flow (KSCF)	1,147.5	1,150.4	1,163.7	1,163.7	1,141.6	1,149.6	1,149.6	1,158.2	1,190.0	1,190.0	1,159.4	1,169.0	1,223.1
LFG and Biogas Total Flow (MMBTU HHV)	611.0	600.0	600.0	600.0	611.0	614.4	610.1	614.2	602.8	607.0	616.9	603.2	598.5
Average Methane Content, (%)	52.6	51.5	50.9	50.9	52.9	52.8	52.4	52.4	50.1	50.4	52.6	51.0	48.3
Engine 1 Hours	-	24	24	24	24	24	24	24	24	24	24	24	24
Engine 2 Hours	-	24	24	24	24	24	24	24	24	24	24	24	24
Engine 3 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24
Engine 4 Hours	24	24	24	24	24	24	24	24	24	24	24	24	24
Generator 1 Power Output (kW/hr)	14,424	14,424	14,424	14,424	14,424	14,548	14,408	14,404	14,412	14,416	14,752	14,636	14,908
Generator 2 Power Output (kW/hr)	-	-	-	-	-	9,436	14,424	14,788	14,416	14,412	15,372	14,892	14,412
Generator 3 Power Output (kW/hr)	14,400	14,392	14,392	14,392	14,392	14,584	14,376	14,392	14,384	14,392	14,384	14,384	14,392
Generator 4 Power Output (kW/hr)	15,288	14,388	14,388	14,388	14,380	5,056	-	-	-	-	9,186	4,576	-
Gross Power Output (kW/hr)	44,074	43,195	43,195	43,195	43,194	43,622	43,233	43,584	43,253	43,253	44,190	43,006	43,203
Net Power Output (kW/hr)	42,686	41,872	41,808	41,808	41,832	42,164	41,868	42,321	41,952	41,972	42,848	41,740	41,908
Power Sold as metered by NSIstar, (kW/hr)	42,577	41,815	41,841	41,762	41,736	42,078	41,787	42,231	41,871	41,900	42,807	41,621	41,841
Offgrid REC's (kW/hr)	1,418	1,323	1,287	1,309	1,362	1,468	1,365	1,270	1,301	1,281	1,342	1,266	1,298
Calculated Performance Results													
Daily													
Power output (kW average when running)	-	-	-	-	-	-	-	-	-	-	-	-	-
Generator 1	601	601	601	601	606	606	600	600	601	601	615	610	600
Generator 2	-	-	-	-	629	601	616	601	601	601	641	602	641
Generator 3	600	600	600	600	599	599	599	599	599	599	604	598	600
Generator 4	635	599	599	598	632	-	-	-	-	-	-	-	-
Power output (kW average over 24-hrs)	-	-	-	-	-	-	-	-	-	-	-	-	-
Facility Gross	1,836	1,800	1,800	1,798	1,818	1,801	1,801	1,816	1,802	1,802	1,841	1,792	1,800
Facility Net	1,777	1,745	1,746	1,744	1,743	1,757	1,745	1,764	1,748	1,749	1,785	1,739	1,746
In-plant load	59	55	54	55	57	61	57	53	54	53	56	53	54
Daily availability factor	-	-	-	-	-	-	-	-	-	-	-	-	-
Facility	75%	75%	75%	75%	75%	74%	75%	75%	75%	75%	74%	75%	75%
Engine 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 2	0%	0%	0%	0%	0%	63%	100%	100%	100%	100%	100%	100%	100%
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	33%	0%	0%	0%	0%	63%	38%	0%
Daily capacity factor	-	-	-	-	-	-	-	-	-	-	-	-	-
Facility	56%	55%	55%	54%	55%	55%	55%	55%	55%	55%	56%	54%	55%
Engine 1	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	74%	73%
Engine 2	0%	0%	0%	0%	0%	76%	73%	75%	73%	73%	78%	76%	73%
Engine 3	73%	73%	73%	73%	74%	73%	73%	73%	73%	73%	73%	71%	73%
Engine 4	77%	73%	73%	72%	73%	77%	0%	0%	0%	0%	73%	62%	0%
Cumulative by engine													
Engine operating run hours in the month	-	-	-	-	-	-	-	-	-	-	-	-	-
Max Cumulative Available, hours	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 1	24	48	72	96	120	144	168	192	216	240	264	288	312
Engine 2	0	0	0	0	0	15	39	63	87	111	135	159	183
Engine 3	24	48	72	96	120	144	168	192	216	240	248	263	287
Engine 4	24	48	72	96	120	144	128	128	128	128	143	152	152
Engine operating run hours total from 0 hours	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 1	137,943	137,967	137,991	138,015	138,039	138,063	138,087	138,111	138,135	138,159	138,183	138,207	138,231
Engine 2	132,147	132,147	132,147	132,147	132,147	132,162	132,186	132,210	132,234	132,258	132,282	132,306	132,330
Engine 3	144,227	144,251	144,275	144,299	144,323	144,347	144,371	144,395	144,419	144,443	144,467	144,491	144,515
Engine 4	140,250	140,274	140,298	140,322	140,346	140,369	140,393	140,417	140,441	140,465	140,489	140,513	140,537
Cumulative availability, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 1	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 2	0%	0%	0%	0%	0%	10%	23%	33%	40%	46%	51%	55%	59%
Engine 3	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Engine 4	100%	100%	100%	100%	100%	89%	76%	67%	59%	53%	54%	53%	49%
Engine cumulative gross output, kW/hr	-	-	-	-	-	-	-	-	-	-	-	-	-
Max cumulative capacity one engine	825	1,850	2,475	3,300	4,125	4,950	5,775	6,600	7,425	8,250	9,075	9,900	10,725
Engine 1	601	1,202	1,803	2,404	3,005	3,611	4,211	4,812	5,412	6,013	6,617	7,217	7,818
Engine 2	-	-	-	-	-	1,846	3,691	5,536	7,381	9,226	11,071	12,916	14,761
Engine 3	600	1,200	1,799	2,399	2,999	3,600	4,200	4,800	5,400	6,000	6,600	7,200	7,800
Engine 4	635	1,234	1,833	2,431	3,029	3,661	3,661	3,661	3,661	3,661	4,265	4,773	4,773
Cumulative capacity factor, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 1	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
Engine 2	0%	0%	0%	0%	0%	13%	21%	28%	33%	37%	41%	44%	46%
Engine 3	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%	73%
Engine 4	77%	75%	74%	74%	73%	74%	63%	55%	49%	44%	47%	48%	41%

	Sunday 11/17/2024	Monday 11/18/2024	Tuesday 11/19/2024	Wednesday 11/20/2024	Thursday 11/21/2024	Friday 11/22/2024	Saturday 11/23/2024	Sunday 11/24/2024	Monday 11/25/2024	Tuesday 11/26/2024	Wednesday 11/27/2024	Thursday 11/28/2024	Friday 11/29/2024	Saturday 11/30/2024	TOTAL
Cumulative by Facility in month															
Max cumulative available engine run t	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	
Actual cumulative engine run t	1,219	1,291	1,363	1,435	1,507	1,579	1,651	1,723	1,795	1,867	1,939	2,011	2,083	2,155	
Cumulative Availability, %	74.7%	74.7%	74.7%	74.7%	74.8%	74.8%	74.8%	74.8%	74.8%	74.8%	74.2%	73.3%	72.5%	71.8%	
Max cumulative gross output, k	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	
Actual cumulative gross output, k	737,350	780,554	823,335	866,507	909,731	953,395	997,621	1,040,845	1,084,052	1,127,308	1,167,764	1,206,768	1,245,785	1,284,791	
Cumulative Capacity Factor	54.6%	54.6%	54.6%	54.6%	54.6%	54.6%	54.7%	54.7%	54.7%	54.7%	54.5%	54.3%	54.2%	54.0%	
Cumulative fuel input, MMBtu t	10,221	10,814	11,405	11,995	12,586	13,172	13,768	14,357	14,946	15,532	16,070	16,583	17,096	17,601	
Cumulative gross output, kWhr	737,350	780,554	823,335	866,507	909,731	953,395	997,621	1,040,845	1,084,052	1,127,308	1,167,764	1,206,768	1,245,785	1,284,791	
Heat Rate															
Daily heat rate, Btu/kWh gross	12,195	12,352	12,430	12,317	12,302	12,423	12,121	12,275	12,280	12,179	11,991	11,831	11,827	11,655	
Daily heat rate, Btu/kWh net	13,547	13,721	13,808	13,682	13,666	13,423	13,465	13,636	13,641	13,529	13,321	13,142	13,138	12,947	
Cumulative heat rate, Btu/kWh	12,478	12,471	12,469	12,462	12,454	12,437	12,423	12,417	12,411	12,403	12,388	12,370	12,353	12,332	
Cumulative heat rate, Btu/kWh net	13,862	13,854	13,852	13,843	13,835	13,816	13,800	13,794	13,788	13,778	13,762	13,742	13,723	13,699	
Cumulative by Facility starting C															
Max cumulative available engine run t	30,912	31,008	31,104	31,200	31,296	31,392	31,488	31,584	31,680	31,776	31,872	31,968	32,064	32,160	
Actual cumulative engine run t	22,475	22,547	22,619	22,691	22,763	22,835	22,907	22,979	23,051	23,123	23,195	23,267	23,339	23,411	
Cumulative Availability, %	72.7%	72.7%	72.7%	72.7%	72.7%	72.7%	72.7%	72.8%	72.8%	72.8%	72.7%	72.7%	72.6%	72.5%	
Max cumulative gross output, k	25,538,700	25,617,900	25,697,100	25,776,300	25,855,500	25,934,700	26,013,900	26,093,100	26,172,300	26,251,500	26,330,700	26,409,900	26,489,100	26,568,300	
Actual cumulative gross output, k	15,643,335	15,686,539	15,729,320	15,772,492	15,815,716	15,859,380	15,903,606	15,946,830	15,990,037	16,033,263	16,073,749	16,112,753	16,151,776	16,190,776	
Cumulative Capacity Factor	61.3%	61.2%	61.2%	61.2%	61.2%	61.2%	61.1%	61.1%	61.1%	61.1%	61.0%	61.0%	61.0%	60.9%	
Cumulative fuel input, MMBtu t	216,330	216,923	217,514	218,104	218,695	219,281	219,877	220,466	221,055	221,641	222,180	222,692	223,205	223,710	
Cumulative gross output, kWhr	15,686,539	15,729,320	15,772,492	15,815,716	15,859,380	15,903,606	15,946,830	15,990,037	16,033,263	16,073,749	16,112,753	16,151,776	16,190,776	16,230,776	
Cumulative heat rate, Btu/kWh	12,449	12,448	12,448	12,448	12,447	12,447	12,446	12,445	12,445	12,444	12,443	12,442	12,441	12,438	
Cumulative heat rate, Btu/kWh net	13,829	13,829	13,829	13,828	13,828	13,827	13,826	13,825	13,825	13,824	13,823	13,821	13,819	13,817	
Service															
Engine 1															
Engine 2															
Engine 3															
Engine 4															
Oil - oil and filter change															
Service - plugs, air filter, valve insp															
Prestart															
INSTAR Power Reports	Sunday 11/17/2024	Monday 11/18/2024	Tuesday 11/19/2024	Wednesday 11/20/2024	Thursday 11/21/2024	Friday 11/22/2024	Saturday 11/23/2024	Sunday 11/24/2024	Monday 11/25/2024	Tuesday 11/26/2024	Wednesday 11/27/2024	Thursday 11/28/2024	Friday 11/29/2024	Saturday 11/30/2024	TOTAL
Date															
Hour	1	1,741	1,745	1,739	1,736	1,786	1,789	1,741	1,739	1,741	1,740	1,731	1,576	1,574	
2	1,741	1,739	1,745	1,738	1,737	1,786	1,789	1,741	1,738	1,740	1,739	1,731	1,577	1,575	
3	1,741	1,740	1,746	1,738	1,738	1,786	1,789	1,741	1,738	1,740	1,739	1,731	1,577	1,574	
4	1,741	1,742	1,746	1,738	1,738	1,787	1,788	1,741	1,738	1,740	1,740	1,731	1,577	1,574	
5	1,741	1,741	1,746	1,738	1,738	1,786	1,788	1,741	1,738	1,739	1,737	1,731	1,576	1,574	
6	1,741	1,739	1,743	1,735	1,735	1,785	1,789	1,740	1,735	1,739	1,733	1,731	1,576	1,574	
7	1,741	1,737	1,741	1,731	1,732	1,781	1,789	1,741	1,733	1,736	1,733	1,731	1,576	1,574	
8	1,741	1,733	1,626	1,727	1,728	1,744	1,769	1,741	1,730	1,737	1,614	1,574	1,577	1,575	
9	1,738	1,729	1,273	1,726	1,727	1,731	1,766	1,739	1,728	1,737	1,562	1,575	1,576	1,576	
10	1,737	1,727	1,865	1,723	1,727	1,733	1,767	1,738	1,727	1,732	1,563	1,575	1,576	1,576	
11	1,731	1,735	1,779	1,722	1,727	1,732	1,767	1,738	1,730	1,731	1,564	1,575	1,576	1,576	
12	1,732	1,734	1,721	1,722	1,732	1,732	1,767	1,732	1,735	1,730	1,566	1,575	1,576	1,576	
13	1,731	1,735	1,722	1,723	1,732	1,737	1,767	1,732	1,735	1,731	1,570	1,574	1,576	1,576	
14	1,731	1,735	1,720	1,723	1,732	1,737	1,791	1,732	1,735	1,736	1,571	1,574	1,576	1,576	
15	1,731	1,737	1,725	1,726	1,732	1,738	1,790	1,733	1,735	1,735	1,571	1,574	1,576	1,576	
16	1,732	1,740	1,729	1,728	1,732	1,739	1,791	1,734	1,732	1,734	1,572	1,573	1,576	1,577	
17	1,734	1,740	1,731	1,730	1,732	1,736	1,789	1,734	1,735	1,735	1,573	1,575	1,576	1,577	
18	1,734	1,741	1,732	1,731	1,731	1,734	1,789	1,734	1,735	1,735	1,573	1,575	1,577	1,577	
19	1,735	1,742	1,735	1,731	1,731	1,741	1,773	1,733	1,738	1,735	1,574	1,576	1,576	1,576	
20	1,735	1,742	1,735	1,731	1,734	1,741	1,741	1,733	1,738	1,736	1,573	1,576	1,576	1,576	
21	1,735	1,741	1,735	1,732	1,736	1,742	1,741	1,736	1,735	1,736	1,574	1,577	1,576	1,575	
22	1,734	1,742	1,735	1,737	1,739	1,742	1,741	1,739	1,735	1,741	1,573	1,577	1,576	1,575	
23	1,739	1,744	1,739	1,736	1,739	1,742	1,741	1,739	1,735	1,741	1,573	1,577	1,576	1,575	
24	1,740	1,745	1,739	1,736	1,767	1,767	1,741	1,739	1,742	1,740	1,572	1,577	1,575	1,575	
TOTAL	41,677	41,720	41,253	41,541	41,694	42,065	42,672	41,694	41,637	41,682	38,999	37,791	37,807	37,807	
Cumulative Output Sold, kWh	713,089	754,809	796,062	837,603	879,297	921,362	964,034	1,005,728	1,047,365	1,089,047	1,127,949	1,165,731	1,203,560	1,241,367	
Transformer and line efficient	99.9%	99.8%	99.9%	99.9%	100.0%	99.8%	99.9%	99.9%	99.9%	99.9%	99.5%	99.9%	99.9%	99.9%	
Hourly average	1,737	1,738	1,719	1,731	1,737	1,753	1,778	1,737	1,735	1,737	1,621	1,575	1,576	1,575	

DECEMBER 2024															
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
	12/1/2024	12/2/2024	12/3/2024	12/4/2024	12/5/2024	12/6/2024	12/7/2024	12/8/2024	12/9/2024	12/10/2024	12/11/2024	12/12/2024	12/13/2024	12/14/2024	12/15/2024
LFG and Biogas Flow to the Engines (KSCF)	918.1	921.8	1,031.0	1,132.7	1,121.6	1,085.6	1,116.6	1,089.3	1,002.5	941.9	1,007.1	1,043.0	977.8	899.7	890.1
LFG and Biogas Flow to the Engines (MMBTU HHV)	521.5	525.9	565.2	596.9	596.9	577.9	592.0	586.1	549.6	531.5	558.4	566.3	514.8	502.0	505.8
LFG and Biogas Flow to the Flare (KSCF)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Flow to the Flare (MMBTU HHV)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LFG and Biogas Total Flow (KSCF)	918.1	921.8	1,031.0	1,132.7	1,121.6	1,085.6	1,116.6	1,089.3	1,002.5	941.9	1,007.1	1,043.0	977.8	899.7	890.1
LFG and Biogas Total Flow (MMBTU HHV)	521.5	525.9	565.2	596.9	596.9	577.9	592.0	586.1	549.6	531.5	558.4	566.3	514.8	502.0	505.8
Average Methane Content (%)	56.1	56.4	54.2	52.1	52.6	52.6	52.4	53.2	54.2	55.8	54.8	53.7	52.0	55.1	56.2
Engine 1 Hours	24	24	22	22	22	14	24	24	-	-	-	-	-	-	14
Engine 2 Hours	24	24	22	22	22	24	24	24	24	24	22	22	22	22	24
Engine 3 Hours	-	-	-	-	-	9	24	24	10	10	23	23	9	-	-
Engine 4 Hours	-	-	15	24	24	24	24	24	24	24	22	24	24	24	-
Generator 1 Power Output (kW/hr)	19,476	19,484	15,840	14,412	14,408	7,964	-	-	-	-	-	-	-	-	8,968
Generator 2 Power Output (kW/hr)	19,472	19,472	16,356	14,872	15,576	14,368	14,428	14,424	17,300	15,676	14,892	14,848	17,528	19,476	17,228
Generator 3 Power Output (kW/hr)	-	-	-	-	-	5,184	14,392	14,376	6,096	7,368	13,856	14,632	5,520	-	-
Generator 4 Power Output (kW/hr)	-	-	10,328	14,456	14,864	14,120	14,376	14,376	17,256	15,632	14,240	14,616	17,480	19,424	17,184
Gross Power Output (kW/hr)	39,016	39,001	42,962	43,747	44,899	41,629	43,172	43,172	40,577	38,718	42,762	44,019	40,434	38,842	43,416
Net Power Output (kW/hr)	37,840	37,784	41,212	42,268	43,428	40,200	41,656	41,360	39,160	37,368	41,360	42,728	39,304	37,868	42,328
Power Sold as metered by NStar, (kW/hr)	37,809	37,760	41,405	42,179	43,359	40,109	41,601	41,605	38,985	37,552	41,349	42,541	39,141	37,861	42,574
Ofgrid RECs (kW/hr)	1,176	1,217	1,350	1,479	1,471	1,429	1,508	1,516	1,417	1,350	1,402	1,291	1,130	974	1,088
Calculated Performance Results															
Daily															
Power output (kW average when running)															
Generator 1	812	812	720	655	655	569	-	-	-	-	-	-	-	-	641
Generator 2	811	811	743	676	708	599	601	601	721	653	668	675	797	885	811
Generator 3	-	-	-	-	-	576	599	599	610	737	602	636	613	-	-
Generator 4	-	-	689	602	619	588	599	599	719	651	647	609	728	809	716
Power output (kW average over 24-hrs)															
Facility Gross	1,626	1,625	1,773	1,823	1,871	1,735	1,799	1,799	1,691	1,613	1,782	1,834	1,685	1,618	1,809
Facility Net	1,577	1,574	1,717	1,761	1,810	1,675	1,736	1,736	1,632	1,557	1,723	1,780	1,638	1,578	1,764
Facility Net	49	51	56	62	61	60	63	63	59	56	58	54	47	41	45
In-plant load															
Daily availability factor															
Facility	50%	50%	61%	71%	71%	74%	75%	75%	60%	60%	70%	72%	57%	48%	56%
Engine 1	100%	100%	92%	92%	92%	55%	0%	0%	0%	0%	0%	0%	0%	0%	58%
Engine 2	100%	100%	92%	92%	92%	100%	100%	100%	100%	100%	92%	92%	92%	92%	100%
Engine 3	0%	0%	0%	0%	0%	38%	100%	100%	100%	100%	42%	96%	38%	0%	0%
Engine 4	0%	0%	63%	100%	100%	100%	100%	100%	100%	100%	92%	100%	100%	100%	100%
Daily capacity factor															
Facility	49%	49%	54%	55%	57%	53%	55%	55%	51%	49%	54%	56%	51%	49%	55%
Engine 1	98%	98%	87%	79%	79%	69%	0%	0%	0%	0%	0%	0%	0%	0%	78%
Engine 2	98%	98%	90%	82%	86%	73%	73%	73%	87%	79%	81%	82%	97%	107%	98%
Engine 3	0%	0%	0%	0%	0%	73%	73%	73%	74%	74%	73%	77%	74%	0%	0%
Engine 4	0%	0%	83%	73%	75%	71%	73%	73%	87%	79%	78%	74%	88%	98%	87%
Cumulative by engine															
Engine operating run hours in the month															
Max Cumulative Available, hours	24	48	72	96	120	144	168	192	216	240	264	288	312	336	360
Engine 1	24	48	70	92	114	138	162	186	210	234	256	278	300	322	346
Engine 2	24	48	70	92	114	138	162	186	210	234	256	278	300	322	346
Engine 3	0	0	0	0	0	9	33	57	67	77	100	123	132	132	132
Engine 4	0	0	15	39	63	87	111	135	159	183	205	229	253	277	301
Engine operating run hours total from 0 hours															
Engine 1	138,664	138,688	138,710	138,732	138,754	138,768	138,768	138,768	138,768	138,768	138,768	138,768	138,768	138,768	138,768
Engine 2	132,780	132,784	132,806	132,828	132,850	132,874	132,898	132,922	132,946	132,970	132,992	133,014	133,036	133,058	133,082
Engine 3	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620	144,620
Engine 4	140,569	140,569	140,584	140,608	140,632	140,656	140,680	140,704	140,728	140,752	140,776	140,800	140,824	140,848	140,872
Cumulative availability, %															
Engine 1	100%	100%	97%	96%	95%	89%	76%	67%	59%	53%	48%	44%	41%	38%	35%
Engine 2	100%	100%	97%	96%	95%	96%	96%	97%	97%	98%	97%	97%	96%	96%	96%
Engine 3	0%	0%	0%	0%	0%	6%	20%	30%	31%	32%	38%	43%	42%	39%	34%
Engine 4	0%	0%	21%	41%	53%	60%	66%	70%	74%	76%	78%	80%	81%	82%	84%
Engine cumulative gross output, kW/hr															
Max cumulative capacity one engine	825	1,650	2,475	3,300	4,125	4,950	5,775	6,600	7,425	8,250	9,075	9,900	10,725	11,550	12,375
Engine 1	812	1,623	2,434	3,245	4,056	4,867	5,678	6,489	7,300	8,111	8,922	9,733	10,544	11,355	12,166
Engine 2	811	1,623	2,434	3,245	4,056	4,867	5,678	6,489	7,300	8,111	8,922	9,733	10,544	11,355	12,166
Engine 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine 4	-	-	689	1,291	1,910	2,499	3,088	3,677	4,266	4,855	5,444	6,033	6,622	7,211	7,800
Cumulative capacity factor, %															
Engine 1	98%	98%	95%	91%	89%	85%	73%	64%	57%	51%	47%	43%	39%	37%	34%
Engine 2	98%	98%	96%	92%	91%	88%	86%	84%	82%	80%	78%	76%	74%	72%	70%
Engine 3	0%	0%	0%	0%	0%	12%	20%	27%	32%	38%	44%	49%	54%	59%	64%
Engine 4	0%	0%	28%	39%	46%	50%	54%	56%	59%	61%	63%	64%	66%	68%	70%

	Sunday 12/1/2024	Monday 12/2/2024	Tuesday 12/3/2024	Wednesday 12/4/2024	Thursday 12/5/2024	Friday 12/6/2024	Saturday 12/7/2024	Sunday 12/8/2024	Monday 12/9/2024	Tuesday 12/10/2024	Wednesday 12/11/2024	Thursday 12/12/2024	Friday 12/13/2024	Saturday 12/14/2024	Sunday 12/15/2024	Monday 12/16/2024
Cumulative by Facility in month																
Max cumulative available engine run hours	96	192	288	384	480	576	672	768	864	960	1,056	1,152	1,248	1,344	1,440	1,536
Actual cumulative engine run hours	48	96	155	223	291	362	434	506	564	622	689	758	813	859	907	969
Cumulative Availability, %	50.0%	50.0%	53.8%	58.1%	60.6%	62.8%	64.6%	65.9%	65.3%	64.8%	65.2%	65.8%	65.1%	63.9%	63.0%	63.1%
Max cumulative gross output, kWhr	79,200	158,400	237,600	316,800	396,000	478,500	557,700	636,900	716,100	795,300	874,500	953,700	1,032,900	1,112,100	1,191,300	1,270,500
Actual cumulative gross output, kWhr	39,016	78,017	120,579	164,326	209,225	250,854	294,026	337,198	377,775	416,493	459,255	503,274	543,708	582,550	621,392	664,808
Cumulative Capacity Factor	49.3%	49.3%	50.7%	51.9%	52.8%	52.4%	52.7%	52.9%	52.8%	52.4%	52.5%	52.8%	52.6%	52.4%	52.2%	52.3%
Cumulative fuel input, MMBtu HHV	522	1,047	1,613	2,210	2,806	3,384	3,976	4,562	5,112	5,644	6,202	6,768	7,283	7,785	8,291	8,858
Cumulative gross output, kWhr	39016	78,017	120,579	164,326	209,225	250,854	294,026	337,198	377,775	416,493	459,255	503,274	543,708	582,550	621,392	664,808
Heat Rate																
Daily heat rate, Btu/kWh gross LHV	12,032	12,139	11,954	12,283	11,967	12,497	12,344	12,221	12,193	12,357	11,755	11,581	11,461	11,634	11,722	11,750
Daily heat rate, Btu/kWh gross HHV	13,366	13,484	13,279	13,644	13,294	13,882	13,713	13,576	13,545	13,727	12,658	12,663	12,732	12,924	13,022	13,053
Cumulative heat rate, Btu/kWh gross LHV	12,032	12,095	12,039	12,104	12,075	12,145	12,174	12,180	12,181	12,198	12,167	12,106	12,069	12,030	12,011	11,984
Cumulative heat rate, Btu/kWh gross HHV	13,366	13,425	13,374	13,446	13,413	13,491	13,524	13,530	13,532	13,550	13,504	13,448	13,395	13,364	13,342	13,323
Cumulative by Facility starting Calendar Year																
Max cumulative available engine run hours	32,256	32,352	32,448	32,544	32,640	32,736	32,832	32,928	33,024	33,120	33,216	33,312	33,408	33,504	33,600	33,696
Actual cumulative gross output, kWhr	23,371	23,419	23,478	23,546	23,614	23,685	23,757	23,829	23,887	23,945	24,012	24,081	24,146	24,212	24,280	24,348
Cumulative Availability, %	72.5%	72.4%	72.4%	72.4%	72.3%	72.4%	72.5%	72.4%	72.3%	72.3%	72.3%	72.3%	72.2%	72.2%	72.1%	72.1%
Max cumulative gross output, kWhr	26,547,500	26,726,700	26,805,900	26,885,100	26,964,300	27,046,800	27,126,000	27,205,200	27,284,400	27,363,600	27,442,800	27,522,000	27,601,200	27,680,400	27,759,600	27,838,800
Actual cumulative gross output, kWhr	16,229,792	16,268,793	16,311,355	16,355,102	16,400,001	16,441,630	16,484,802	16,527,974	16,568,551	16,607,269	16,650,031	16,694,050	16,734,484	16,773,326	16,812,168	16,855,584
Cumulative Capacity Factor	60.9%	60.9%	60.8%	60.8%	60.8%	60.8%	60.8%	60.8%	60.7%	60.7%	60.7%	60.7%	60.6%	60.6%	60.6%	60.5%
Cumulative fuel input, MMBtu HHV	224,231	224,757	225,322	225,919	226,516	227,094	227,686	228,272	228,822	229,353	229,912	230,478	230,993	231,495	232,001	232,554
Cumulative gross output, kWhr	16,229,792	16,268,793	16,311,355	16,355,102	16,400,001	16,441,630	16,484,802	16,527,974	16,568,551	16,607,269	16,650,031	16,694,050	16,734,484	16,773,326	16,812,168	16,855,584
Cumulative heat rate, Btu/kWh gross LHV	12,437	12,436	12,435	12,435	12,433	12,434	12,433	12,433	12,432	12,432	12,430	12,428	12,426	12,424	12,422	12,421
Cumulative heat rate, Btu/kWh gross HHV	13,816	13,815	13,814	13,813	13,812	13,812	13,812	13,811	13,811	13,810	13,808	13,806	13,803	13,801	13,800	13,798
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
1 Vertical well installed																
2 New Vertical Wells installed																
Oil - oil and filter change																
Service - plugs, air filter, valve inspection and adjustment																
Precipitation																
INSTAR Power Reports																
Date	Sunday 12/1/2024	Monday 12/2/2024	Tuesday 12/3/2024	Wednesday 12/4/2024	Thursday 12/5/2024	Friday 12/6/2024	Saturday 12/7/2024	Sunday 12/8/2024	Monday 12/9/2024	Tuesday 12/10/2024	Wednesday 12/11/2024	Thursday 12/12/2024	Friday 12/13/2024	Saturday 12/14/2024	Sunday 12/15/2024	Monday 12/16/2024
Hour	1	1,575	1,573	1,812	1,791	1,777	1,736	1,738	1,731	1,569	1,827	1,890	1,744	1,576	1,578	1,580
2	1,575	1,575	1,573	1,789	1,791	1,743	1,736	1,738	1,731	1,568	1,805	1,891	1,744	1,576	1,578	1,579
3	1,575	1,575	1,573	1,788	1,791	1,742	1,736	1,738	1,732	1,568	1,780	1,890	1,743	1,576	1,577	1,580
4	1,575	1,575	1,573	1,788	1,791	1,742	1,735	1,738	1,733	1,568	1,779	1,887	1,743	1,577	1,577	1,580
5	1,575	1,575	1,573	1,787	1,792	1,741	1,736	1,738	1,730	1,569	1,780	1,815	1,742	1,577	1,577	1,580
6	1,574	1,573	1,573	1,766	1,790	1,737	1,735	1,739	1,729	1,569	1,778	1,790	1,739	1,577	1,577	1,580
7	1,574	1,573	1,573	1,734	1,785	1,734	1,735	1,738	1,730	1,566	1,777	1,788	1,738	1,577	1,577	1,577
8	1,575	1,570	1,569	1,835	1,821	1,734	1,732	1,736	1,726	1,562	1,774	1,771	1,739	1,577	1,578	1,575
9	1,576	1,569	1,564	1,737	1,828	1,601	1,732	1,736	1,724	1,521	1,772	1,734	1,610	1,577	1,578	1,573
10	1,577	1,570	1,564	1,737	1,828	1,601	1,732	1,736	1,724	1,521	1,772	1,734	1,610	1,577	1,578	1,573
11	1,571	1,571	1,609	1,733	1,830	1,588	1,732	1,735	1,557	1,557	1,773	1,737	1,571	1,580	1,581	1,900
12	1,577	1,570	1,728	1,731	1,831	1,553	1,732	1,731	1,556	1,203	1,773	1,738	1,572	1,581	1,581	1,888
13	1,576	1,569	1,569	1,731	1,829	1,063	1,731	1,732	1,561	1,876	1,776	1,738	1,572	1,580	1,581	1,888
14	1,576	1,572	1,861	1,731	1,833	1,808	1,731	1,732	1,561	1,876	1,820	1,738	1,572	1,582	1,581	1,897
15	1,577	1,576	1,890	1,736	1,836	1,372	1,731	1,731	1,560	1,875	1,838	1,740	1,575	1,583	1,581	1,899
16	1,577	1,577	1,888	1,737	1,837	1,889	1,731	1,732	1,564	1,877	1,839	1,741	1,576	1,583	1,580	1,901
17	1,576	1,577	1,879	1,736	1,836	1,884	1,731	1,731	1,565	1,876	1,877	1,739	1,574	1,577	1,577	1,896
18	1,575	1,575	1,883	1,737	1,837	1,880	1,732	1,730	1,565	1,876	1,841	1,739	1,574	1,576	1,577	1,896
19	1,575	1,575	1,898	1,739	1,788	1,878	1,732	1,731	1,565	1,876	1,812	1,738	1,574	1,576	1,577	1,896
20	1,574	1,574	1,885	1,740	1,788	1,855	1,731	1,729	1,566	1,876	1,863	1,738	1,573	1,576	1,577	1,896
21	1,574	1,574	1,840	1,768	1,787	1,784	1,732	1,729	1,568	1,828	1,734	1,738	1,573	1,575	1,577	1,895
22	1,573	1,573	1,836	1,791	1,787	1,693	1,735	1,729	1,568	1,828	1,693	1,736	1,574	1,575	1,576	1,897
23	1,573	1,573	1,836	1,791	1,780	1,771	1,735	1,731	1,568	1,827	1,682	1,734	1,576	1,575	1,579	1,901
24	1,573	1,573	1,836	1,791	1,790	1,735	1,737	1,732	1,568	1,827	1,891	1,744	1,576	1,575	1,580	1,899
TOTAL	37,809	37,760	41,405	42,179	43,359	40,109	41,601	41,605	38,985	37,552	41,349	42,541	39,141	37,861	37,882	42,574
Cumulative Output Sold, kWhr	37,809	75,569	116,974	159,153	202,512	242,621	284,222	325,827	364,812	402,364	443,713	486,254	525,395	563,256	601,138	643,712
Transformer and line efficiency	99.9%	99.9%	100.5%	99.8%	99.8%	99.8%	99.9%	99.6%	99.6%	100.5%	100.0%	99.6%	99.6%	100.0%	100.0%	100.6%
Hourly average	1,575	1,573	1,725	1,757	1,807	1,671	1,733	1,734	1,624	1,565	1,723	1,773	1,631	1,578	1,578	1,774

	Tuesday 12/17/2024	Wednesday 12/18/2024	Thursday 12/19/2024	Friday 12/20/2024	Saturday 12/21/2024	Sunday 12/22/2024	Monday 12/23/2024	Tuesday 12/24/2024	Wednesday 12/25/2024	Thursday 12/26/2024	Friday 12/27/2024	Saturday 12/28/2024	Sunday 12/29/2024	Monday 12/30/2024	Tuesday 12/31/2024	TOTAL
Cumulative by Facility in month																
Max cumulative available engi	1,632	1,728	1,824	1,920	2,016	2,112	2,208	2,304	2,400	2,496	2,592	2,688	2,784	2,880	2,976	
Actual cumulative engine run t	1,042	1,115	1,172	1,220	1,268	1,316	1,364	1,412	1,460	1,523	1,595	1,667	1,739	1,811	1,883	
Cumulative Availability, %	63.8%	64.5%	64.3%	63.5%	62.9%	62.3%	61.8%	61.3%	60.8%	61.0%	61.5%	62.0%	62.5%	62.9%	63.3%	
Max cumulative gross output, k	1,349,700	1,428,900	1,508,100	1,587,300	1,666,500	1,745,700	1,824,900	1,904,100	1,983,300	2,062,500	2,141,700	2,220,900	2,300,100	2,379,300	2,458,500	
Actual cumulative gross output, t	710,466	753,854	794,429	833,408	872,395	911,376	949,865	988,857	1,027,853	1,071,389	1,115,757	1,159,304	1,203,395	1,249,525	1,293,467	
Cumulative Capacity Factor	52.6%	52.8%	52.7%	52.5%	52.3%	52.2%	52.1%	51.9%	51.8%	51.9%	52.1%	52.2%	52.3%	52.5%	52.6%	
Cumulative fuel input, MMBtu t	9,443	10,002	10,525	11,034	11,548	12,066	12,586	13,118	13,651	14,240	14,855	15,457	16,056	16,673	17,269	
Cumulative gross output, kWhr	710,466	753,854	794,429	833,408	872,395	911,376	949,865	988,857	1,027,853	1,071,389	1,115,757	1,159,304	1,203,395	1,249,525	1,293,467	
Heat Rate																
Daily heat rate, Btu/kWe gross	11,546	11,594	11,597	11,767	11,863	11,955	12,174	12,268	12,304	12,193	12,462	12,426	12,242	12,035	12,212	
Daily heat rate, Btu/kWe gross	12,826	12,879	12,882	13,071	13,179	13,281	13,523	13,628	13,668	13,545	13,866	13,803	13,589	13,369	13,566	
Cumulative heat rate, Btu/kWe	11,965	11,944	11,926	11,918	11,916	11,918	11,928	11,941	11,955	11,965	11,985	12,002	12,011	12,012	12,018	
Cumulative heat rate, Btu/kWe	13,291	13,268	13,248	13,240	13,237	13,239	13,250	13,265	13,281	13,291	13,314	13,333	13,342	13,343	13,351	
Cumulative by Facility starting C																
Max cumulative available engi	33,792	33,888	33,984	34,080	34,176	34,272	34,368	34,464	34,560	34,656	34,752	34,848	34,944	35,040	35,136	
Actual cumulative engine run t	24,365	24,438	24,495	24,543	24,591	24,639	24,687	24,735	24,783	24,846	24,918	24,990	25,062	25,134	25,206	
Cumulative Availability, %	72.1%	72.1%	72.1%	72.0%	72.0%	71.9%	71.8%	71.8%	71.7%	71.7%	71.7%	71.7%	71.7%	71.7%	71.7%	
Max cumulative gross output, k	27,916,000	27,997,200	28,076,400	28,155,600	28,234,800	28,314,000	28,393,200	28,472,400	28,551,600	28,630,800	28,710,000	28,789,200	28,868,400	28,947,600	29,026,800	
Actual cumulative gross output, t	16,901,242	16,944,630	16,985,205	17,024,184	17,063,171	17,102,152	17,140,641	17,179,633	17,218,629	17,262,165	17,306,533	17,350,080	17,394,171	17,440,301	17,484,243	
Cumulative Capacity Factor	60.5%	60.5%	60.5%	60.5%	60.4%	60.4%	60.4%	60.3%	60.3%	60.3%	60.3%	60.3%	60.3%	60.2%	60.2%	
Cumulative fuel input, MMBtu t	233,712	233,712	234,234	234,744	235,258	235,775	236,296	236,827	237,360	237,950	238,565	239,166	239,766	240,383	240,979	
Cumulative gross output, kWhr	16,901,242	16,944,630	16,985,205	17,024,184	17,063,171	17,102,152	17,140,641	17,179,633	17,218,629	17,262,165	17,306,533	17,350,080	17,394,171	17,440,301	17,484,243	
Cumulative heat rate, Btu/kWe	12,416	12,416	12,414	12,413	12,411	12,410	12,410	12,410	12,409	12,409	12,409	12,409	12,409	12,408	12,407	
Cumulative heat rate, Btu/kWe	13,795	13,793	13,790	13,789	13,787	13,786	13,786	13,785	13,785	13,784	13,785	13,785	13,784	13,783	13,783	
Service																
Engine 1																
Engine 2																
Engine 3																
Engine 4																
Oil - oil and filter change																
Service - plugs, air filter, valve insp																
Preparation																
INSTAR Power Reports																
Date	Tuesday 12/17/2024	Wednesday 12/18/2024	Thursday 12/19/2024	Friday 12/20/2024	Saturday 12/21/2024	Sunday 12/22/2024	Monday 12/23/2024	Tuesday 12/24/2024	Wednesday 12/25/2024	Thursday 12/26/2024	Friday 12/27/2024	Saturday 12/28/2024	Sunday 12/29/2024	Monday 12/30/2024	Tuesday 12/31/2024	TOTAL
Hour	1	1,899	1,792	1,744	1,571	1,572	1,569	1,567	1,570	1,569	1,832	1,786	1,739	1,835	1,785	
2	1,898	1,793	1,743	1,571	1,572	1,569	1,567	1,568	1,570	1,569	1,796	1,786	1,739	1,834	1,785	
3	1,899	1,772	1,743	1,572	1,572	1,569	1,569	1,568	1,570	1,570	1,785	1,785	1,739	1,834	1,785	
4	1,898	1,747	1,743	1,572	1,572	1,569	1,569	1,567	1,570	1,570	1,785	1,785	1,739	1,835	1,785	
5	1,898	1,746	1,743	1,572	1,572	1,570	1,569	1,568	1,570	1,570	1,785	1,785	1,739	1,835	1,786	
6	1,896	1,744	1,740	1,572	1,572	1,570	1,569	1,568	1,569	1,570	1,780	1,738	1,740	1,835	1,786	
7	1,782	1,744	1,736	1,572	1,572	1,570	1,566	1,569	1,570	1,571	1,779	1,739	1,756	1,853	1,786	
8	1,766	1,740	1,734	1,569	1,572	1,569	1,563	1,570	1,570	1,566	1,777	1,738	1,787	1,876	1,779	
9	1,801	1,624	1,566	1,567	1,573	1,568	1,562	1,571	1,571	1,820	1,777	1,739	1,788	1,876	1,776	
10	1,882	1,847	1,563	1,568	1,572	1,569	1,562	1,571	1,572	1,880	1,775	1,740	1,788	1,876	1,757	
11	1,882	1,778	1,563	1,568	1,573	1,570	1,562	1,572	1,573	1,851	1,764	1,740	1,789	1,876	1,735	
12	1,680	1,735	1,567	1,569	1,573	1,570	1,562	1,572	1,573	1,850	1,728	1,737	1,769	1,877	1,736	
13	1,845	1,735	1,570	1,573	1,573	1,571	1,566	1,572	1,574	1,880	1,735	1,738	1,787	1,876	1,738	
14	1,885	1,739	1,571	1,573	1,573	1,571	1,569	1,572	1,573	1,879	1,743	1,738	1,787	1,875	1,739	
15	1,888	1,741	1,572	1,572	1,573	1,571	1,570	1,572	1,573	1,875	1,784	1,738	1,787	1,878	1,741	
16	1,879	1,742	1,572	1,572	1,573	1,570	1,571	1,572	1,573	1,883	1,765	1,738	1,787	1,881	1,740	
17	1,839	1,739	1,572	1,572	1,573	1,569	1,570	1,571	1,572	1,876	1,784	1,738	1,787	1,881	1,740	
18	1,839	1,738	1,573	1,573	1,571	1,567	1,569	1,570	1,570	1,875	1,782	1,738	1,787	1,858	1,739	
19	1,839	1,738	1,572	1,572	1,570	1,568	1,568	1,569	1,570	1,849	1,782	1,737	1,787	1,830	1,739	
20	1,838	1,738	1,571	1,572	1,569	1,567	1,567	1,570	1,570	1,826	1,782	1,737	1,786	1,832	1,738	
21	1,827	1,738	1,571	1,572	1,570	1,568	1,568	1,570	1,570	1,827	1,781	1,737	1,786	1,832	1,753	
22	1,792	1,737	1,571	1,572	1,569	1,568	1,567	1,570	1,570	1,833	1,782	1,737	1,786	1,832	1,767	
23	1,793	1,743	1,571	1,572	1,570	1,569	1,569	1,570	1,569	1,833	1,786	1,739	1,786	1,832	1,786	
24	1,793	1,743	1,571	1,572	1,569	1,569	1,567	1,570	1,570	1,833	1,786	1,739	1,796	1,812	1,786	
TOTAL	44,239	41,933	39,042	37,711	37,719	37,660	37,106	37,679	37,701	42,225	42,075	41,922	42,561	44,461	42,307	
Cumulative Output Sold, kWh	687,951	729,884	768,926	806,637	844,356	882,016	919,122	956,801	994,502	1,036,727	1,079,402	1,121,324	1,163,901	1,206,366	1,250,673	
Transformer and line efficient	99.6%	99.7%	99.5%	100.0%	99.9%	100.0%	100.0%	100.0%	100.0%	100.4%	99.8%	99.8%	100.1%	99.8%	99.8%	
Hourly average	1,843	1,747	1,627	1,571	1,572	1,569	1,546	1,570	1,571	1,759	1,778	1,747	1,774	1,853	1,763	

PRIOR TO RUNNING

Run time in 2024
158 Hours

TYPE A39SM
REG TYPE A34GV

Pkh _____ VTR _____ :1
Mult. by _____ CTR _____ :5



SERIAL # **08128229** **Honeywell**

9S

Cell W/KYZ
Multifunction

CL20



KZG08128229UBC33

CL20, 120 TO 480V, 4W, 60Hz

Kh 1.8

FM 9S Watthour Meter

ZD3213M10LL-81

P/R 24

R3.05.01-2010QM-038681

TA 2.5A

FCC ID: R17LE910SV

This device complies with Part 15 of the FCC Rules

RESET

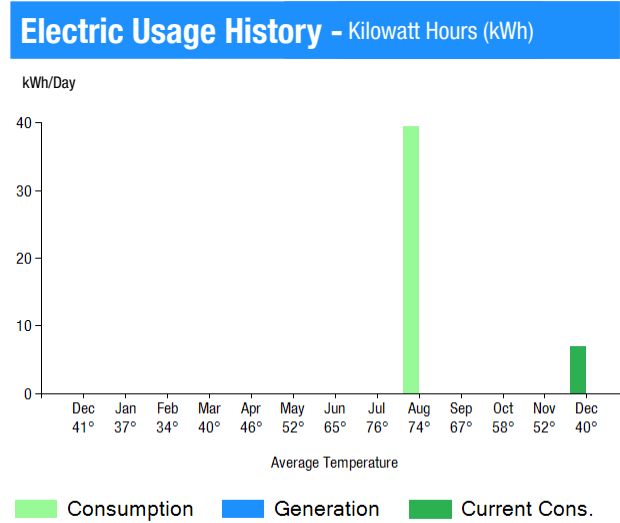
ALT



Account Number: 7401 333 1181
Statement Date: 12/31/24

Service Provided To:
COMMONWLTH NB ENERGY LLC

No Payment Due	
Amount Due On 12/16/24	-\$66.69
Last Payment Received	\$0.00
Balance Forward	-\$66.69
Total Current Charges	-\$2.16



Current Charges for Electricity

Supply \$33.15 Cost of electricity from CONSTELLATION - NEW BEDFORD CEA	Delivery -\$35.31 Cost to deliver electricity from Eversource
---	--

Your electric supplier is
CONSTELLATION - NEW BEDFORD CEA
PO BOX 5471
CAROL STREAM IL 60197
www.Constellation.com
833-848-6938
Billing for CITY OF NEW BEDFORD MA

News For You

We know you count on us every day for the energy you need, especially as you use energy to keep warm. We can help you manage your energy use and bill this winter and beyond. Visit [Eversource.com/winter-bill](https://eversource.com/winter-bill).

Remit Payment To: Eversource, PO Box 56007, Boston, MA 02205-6007

GB20241231.txt



Account Number: 7401 333 1181

You may be subject to a 1.14% late payment charge if the "Total Amount Due" is not received by 01/25/25

COMMONWLTH NB ENERGY LLC
229 BILLINGS ST
SHARON MA 02067-2103

Please make your check payable to Eversource or to make your payment today visit [Eversource.com](https://eversource.com).
If mailing your payment, please allow up to 5 business days to post to your account.

No Payment Due	
Amount Enclosed	

Eversource
PO Box 56007
Boston, MA 02205-6007



Account Number: **7401 333 1181**

Customer name key: COMM

Statement Date: 12/31/24

Service Provided To:
COMMONWLTH NB ENERGY LLC

**Svc Addr: 300 SAMUEL BARNET BLVD CGN
NEW BEDFORD MA 02745**

Rate G1-Small General Service Cycle 12

Service from 11/19/24 - 12/18/24 30 Days

Next read date on or about: Jan 17, 2025

Meter Number	Current Read	Previous Read	Current Usage	Reading Type
8128229	3.3	3.2	0.1	Consumption
8128229	35202.3	34623	579.3	Generation

Current Demand = 65.5

Service Reference: 91924146

0.1 x Meter Constant of 2100 = 210 Billed Usage for 30 Days

Total Demand Use On Peak: 86.8 kVA

579.3 x Meter Constant of 2100 = 1216530 Billed Usage for 30 Days

Consumption of 210 kWh - Generation of 1216530 kWh = -1216320 Net kWh Usage

Monthly kWh Use

Dec	Jan	Feb	Mar	Apr	May	Jun
0	0	0	0	0	0	0
Jul	Aug	Sep	Oct	Nov	Dec	
0	1260	0	0	0	210	

Contact Information

Emergency: 800-592-2000

www.eversource.com

Pay by Phone: 888-783-6618

Customer Service: 800-340-9822

No Payment Due

Electric Account Summary

Amount Due On 12/16/24	-\$66.69
Last Payment Received	\$0.00
Balance Forward	-\$66.69
Current Charges/Credits	
Electric Supply Services	\$33.15
Delivery Services	-\$35.31
Total Current Charges	-\$2.16
Total Amount Due	-\$68.85

Total Charges for Electricity

Supplier (CONSTELLATION - NEW BEDFORD CEA)

Meter 8128229

Generation Service Charge	210 kWh X .15784	\$33.15
Subtotal Supplier Services		\$33.15

Delivery

G1-Small General Service

Meter 8128229

Customer Charge		\$15.00
Distribution Charge	210 kWh X .05105	\$10.72
Transformer Allowance	65.5 kW X -1.09000	-\$71.40
Transition Charge	210 kWh X -0.00037	-\$0.08
Transmission Charge	210 kWh X .03794	\$7.97
Net Meter Recovery Surcharge	210 kWh X .01197	\$2.51
Revenue Decoupling Charge	210 kWh X .00004	\$0.01
Distributed Solar Charge	210 kWh X .00590	\$1.24
Renewable Energy Charge	210 kWh X .00050	\$0.11
Energy Efficiency Charge	210 kWh X -0.00563	-\$1.18
Electric Vehicle Program	210 kWh X .00103	\$0.22
Primary Metering Discount		-\$0.43
Subtotal Delivery Services		-\$35.31
Total Cost of Electricity		-\$2.16

GB20241231.txt

Eversource is required to comply with Department of Public Utilities' billing and termination regulations. If you have a dispute please see the bill insert for more information.

For an electronic version of this insert, residential customers go to Eversource.com/about-residential-bill and business customers go to Eversource.com/about-business-bill. Then select "Monthly Bill Inserts" from the page. Budget Billing is also available to pay a more consistent bill each month. Please see the Customer Rights Supplement for more information.



Account Number: 7401 333 1181
Customer name key: COMM
Statement Date: 12/31/24
Service Provided To:
COMMONWLTH NB ENERGY LLC

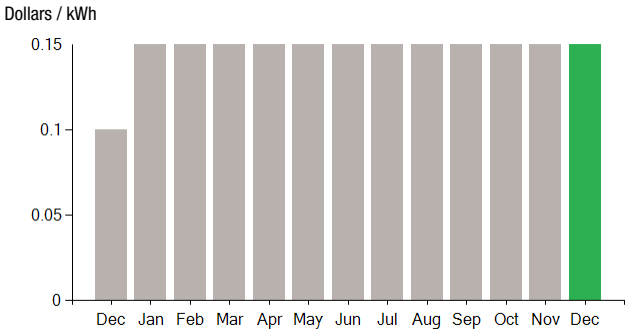
No Payment Due

Continued from previous page...

Total Current Charges - \$2.16

Continued from previous page...

Supply Rate



Demand Profile

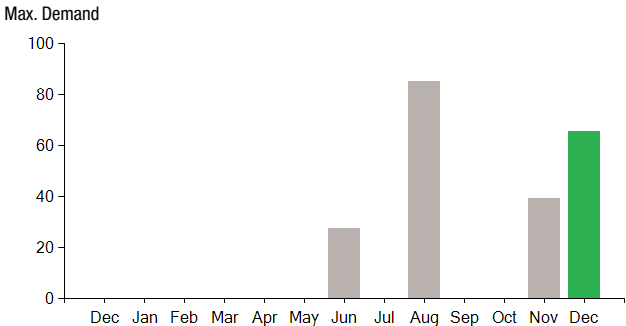


Exhibit 6:

Calibration of the LFG, composition meter, other instrumentation for the periods.

Landfill Gas Flow Calculation													
Crapo Hill Landfill, New Bedford/Dartmouth, Massachusetts													
Note: Calculation of volumetric flow of LFG through a pipe using a pitot tube and manometer.													
Engine 1, kW	810	-	-	-	-	-	-	-	-	-	-	590	650
Engine 2, kW	-	750	750	700	700	700	700	700	700	700	700	650	650
Engine 3, kW	810	700	700	700	700	700	700	700	700	700	700	650	650
Engine 4, kW	810	750	750	700	700	700	700	700	700	700	700	650	650
Gross, kW	2,430	2,200	2,200	2,100	2,100	2,100	2,100	2,100	2,100	2,100	2,100	1,870	1,950
MEASURING INSTRUMENT:	Pitot Tube	160	160	160	160	160	160	160	160	160	160	160	160
DATE OF MEASUREMENT:	9-Jan-24	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II	Dwyer Mark II
TIME OF MEASUREMENT:	3:00	14-Mar-24	10-Apr-24	1-May-24	5-Jun-24	2-Jul-24	8-Aug-24	10-Sep-24	12-Sep-24	15-Nov-24	10-Oct-24	15-Nov-24	12-Dec-24
PARAMETERS	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES	VALUES
Pipe dimensions													
Inside Diameter	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420	10.420
Area of cross section	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922	0.5922
Flow Calculation													
Kp	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49	85.49
Pitot tube constant	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Kp	0.200	0.199	0.196	0.187	0.172	0.171	0.188	0.161	0.159	0.126	0.159	0.126	0.108
dP													
Average velocity pressure of stack gas													
Blower Inlet													
Ts	60	58	58	62	68	74	82	80	80	76	80	76	70
Degrees Fahrenheit	520	518	518	522	528	534	542	540	540	536	540	536	530
Degrees Rankine	-57	-58	-58	-59	-58	-57	-60	-64	-64	-62	-64	-62	-64
Inch H2O	(4.19)	(4.27)	(4.27)	(4.34)	(4.27)	(4.19)	(4.41)	(4.71)	(5.00)	(4.56)	(5.00)	(4.71)	(4.71)
Inch Hg	26.04	25.81	25.74	25.79	25.67	25.53	25.75	25.33	25.15	25.26	25.15	25.26	25.13
Absolute stack gas pressure													
Blower Outlet													
Ts	107	108	108	109	110	111	110	107	110	108	109	108	110
Degrees Fahrenheit	567	568	568	569	570	571	570	567	570	568	569	568	570
Degrees Rankine	64.2	63.9	63.9	64.3	64.8	65.3	64.2	63.9	64.3	64.0	64.3	64.0	64.8
Inch H2O	4.72	4.70	4.70	4.76	4.81	4.86	4.75	4.72	4.76	4.73	4.76	4.73	4.81
Inch Hg	2.32	2.31	2.31	2.35	2.39	2.43	2.32	2.32	2.35	2.32	2.35	2.32	2.39
Pbar	30.23	30.08	30.01	30.13	30.24	30.32	30.16	30.04	30.15	30.02	30.15	30.02	30.32
Ps	34.95	34.78	34.71	34.83	34.93	35.01	34.87	34.78	34.83	34.75	34.83	34.75	35.01
Mbs	27.45	27.52	27.41	27.39	27.25	27.18	27.30	26.90	27.17	26.82	27.17	26.82	27.30
lbs/mole	32.6	32.6	32.7	32.5	32.1	31.1	31.1	30.4	30.3	30.1	30.3	29.8	30.4
Actual cubic feet per minute	1,159	1,157	1,161	1,155	1,140	1,106	1,103	1,082	1,076	1,068	1,076	1,068	1,083
Volumetric Flow	1,024	1,017	1,018	1,007	978	933	925	896	884	888	813	813	739
Standard cubic feet per minute *													
Standard cubic feet per minute **													
Heat input	32.08	31.19	32.64	31.43	29.91	28.70	28.87	27.01	25.87	26.60	25.01	23.28	23.28
MMBtu per hour HHV	28.88	28.08	29.38	28.73	26.29	25.83	26.89	24.32	23.29	23.94	22.52	20.96	20.96
MMBtu per hour LHV	51.60%	50.50%	52.80%	52.20%	52.90%	52.80%	50.90%	50.90%	48.20%	49.32%	50.70%	51.90%	51.90%
Diff. between pitot tube and orifice reading:	1.1%	1.0%	1.0%	0.1%	1.6%	-1.6%	1.7%	2.7%	-0.1%	-0.6%	-0.6%	-0.6%	-0.6%
FACILITY ORIFICE FLOW METER:													
dP	7.20	7.20	7.60	7.20	6.60	6.50	5.80	6.20	5.75	5.60	4.80	4.80	4.00
Qact	931	932	958	934	890	885	833	859	837	826	840	897	807
Standard cubic feet per minute *	1,013	1,007	1,033	1,006	963	948	909	940	890	886	893	817	743
Qstd	1,045	1,017	1,091	1,050	1,019	1,001	929	957	890	854	881	829	771
Heat input	31.73	30.88	33.11	31.89	30.92	30.39	28.22	28.06	27.03	25.92	26.74	23.41	23.41
MMBtu per hour HHV	28.36	27.80	29.81	28.70	27.84	27.36	25.40	24.07	23.33	22.65	21.08	21.08	21.08
MMBtu per hour LHV													
* Standard conditions are corrected to 68 degrees F and 29.92 in Hg at actual methane content.													
** Standard conditions corrected to 50 % methane content.													
Input values are in blue or bold.													
Calculated output values are in black or not bold.													
Calculation Formulas:													
Vs = Kp*Qp/(sqrt(dP) * sqrt(Ts/(Ps*Ms)))													
Qact = Vs * A * 60													
Qstd = Qact * Tsstd / Ts * Ps/Std													
Flow ACFM = 96.3221*SQRT(dP)*SQRT((460+Temperature)/(2.703*(Pressure +14.7)))													
Conversions and constants													
13.5959 in H2O/in Hg													
1 PSI = 2.036 in Hg													
1 PSI = 27.08 in WG													
Tstd = 528 degrees R													
Pstd = 29.92 in Hg													
Methane heat content = 1,012 BTU per scf HHV													
Methane heat content = 911 BTU per scf LHV													

Landfill Gas Flow Measurements		Crapo Hill Landfill, New Bedford/Dartmouth, Massachusetts													
Measurements by		TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, RB	TY, EN	TY, EN	TY, EN	TY, EN
Date		9-Jan-24	7-Feb-24	14-Mar-24	10-Apr-24	1-May-24	5-Jun-24	2-Jul-24	8-Aug-24	10-Sep-24	12-Sep-24	11-Oct-24	15-Nov-24	12-Dec-24	
Time		3:00	14:00		15:00	13:00	15:30	15:30	15:30	14:15	10:30	10:30	14:30	13:15	
Flow valve															
Pipe inside diameter, inches		10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	10.42	
Ambient Temperature, F		28	38	46	60	65	65	73	80	70	65	67	50	50	
Barometric Pressure, In Hg		30.23	30.08	30.01	30.13	29.94	29.72	30.16	30.04	29.82	30.15	29.82	29.97	29.84	
Blower Inlet Temperature, F		60	58	58	62	68	74	82	84	80	80	76	70	70	
Outlet Temperature, F		107	108	108	109	110	111	110	107	110	110	108	109	110	
Blower Inlet Pressure (SP), In H2O		-57	-58	-58	-59	-58	-57	-60	-64	-64	-68	-62	-48	-64	
Blower Outlet Pressure, PSIG		2.32	2.31	2.31	2.25	2.45	2.43	2.50	2.52	2.20	2.20	2.15	2.24	2.25	
Blower Outlet Pressure, In H2O		64.22	63.94	63.94	62.28	67.82	67.26	69.20	69.75	60.90	60.90	59.51	62.00	62.28	
Measurement															
Manometer															
Pilot Tube															
Velocity Pressure (dP)															
Point															
1		0.18	0.19	0.19	0.19	0.18	0.16	0.16	0.16	0.15	0.15	0.15	0.12	0.12	
2		0.20	0.19	0.19	0.19	0.18	0.17	0.17	0.17	0.16	0.16	0.15	0.12	0.12	
3		0.19	0.20	0.20	0.19	0.19	0.18	0.17	0.19	0.16	0.17	0.15	0.13	0.12	
4		0.21	0.20	0.20	0.20	0.18	0.18	0.18	0.20	0.17	0.16	0.17	0.13	0.11	
5		0.21	0.20	0.20	0.20	0.19	0.18	0.18	0.20	0.17	0.17	0.17	0.12	0.11	
6		0.21	0.20	0.20	0.20	0.19	0.18	0.18	0.20	0.16	0.17	0.16	0.13	0.11	
7		0.21	0.21	0.21	0.20	0.19	0.17	0.17	0.20	0.16	0.16	0.16	0.13	0.11	
8		0.20	0.20	0.20	0.21	0.19	0.17	0.17	0.20	0.16	0.17	0.16	0.12	0.12	
9		0.19	0.20	0.20	0.18	0.19	0.16	0.16	0.17	0.16	0.13	0.16	0.13	0.10	
Average		0.200	0.199	0.199	0.196	0.187	0.172	0.171	0.188	0.161	0.159	0.159	0.126	0.108	
Gas Composition															
Compound, %v/v															
Methane (CH4)		51.6%	50.5%	52.8%	52.2%	52.9%	52.8%	51.1%	50.9%	50.0%	48.2%	49.3%	50.7%	51.9%	
Carbon dioxide (CO2)		36.2%	35.6%	36.8%	36.4%	36.2%	36.2%	36.0%	33.6%	34.3%	33.8%	34.2%	34.3%	34.3%	
Oxygen (O2)		0.95%	1.10%	0.90%	0.81%	0.54%	0.55%	1.10%	0.98%	0.67%	0.79%	0.80%	0.56%	0.83%	
Balance gas		11.20%	12.80%	9.50%	10.54%	10.40%	10.40%	11.80%	14.44%	15.00%	17.30%	15.74%	13.80%	13.00%	
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Moisture (H2O) (included in balance gas)		1.7%	1.6%	1.8%	1.9%	2.3%	2.8%	3.7%	4.0%	3.5%	3.5%	3.0%	2.5%	2.5%	
Molecular weight, lb/lb-mole wet		27.45	27.52	27.41	27.39	27.25	27.18	27.30	26.90	27.17	27.31	27.28	27.26	27.05	

Measurement confirmation/calibration for pressure and temperature															
Measurements by															
Date	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN	TY, EN
Time	9-Jan-24	7-Feb-24	14-Mar-24	10-Apr-24	1-May-24	5-Jun-24	8-Aug-24	10-Sep-24	12-Sep-24	11-Oct-24	15-Nov-24	12-Dec-24			
	3:00	14:00	0:00	15:00	13:00	15:30	15:30	15:30	14:15	10:30	14:30	13:15			
Pressure and Temperature Measurements															
Facility Flow Measurement Point															
Facility Pressure monitor, inches WG															
Measurement Type	2.32	2.31	2.31	2.25	2.45	2.43	2.52	2.20	2.20	2.15	2.24	2.25			
Independent Pressure monitor, inches WG															
Measurement Type	2.30	2.30	2.30	2.30	2.40	2.40	2.50	2.25	2.25	2.20	2.24	2.25			
Difference in Pressure, %	-0.9%	-0.4%	-0.4%	2.2%	-2.1%	-1.3%	-0.8%	2.2%	2.2%	2.3%	0.0%	0.0%			
Adjusted Pressure, in WG	2.32	2.31	2.31	2.25	2.45	2.43	2.52	2.20	2.20	2.15	2.24	2.25			
Facility Temperature monitor, F															
Facility Temperature monitor, R	107	108	108	109	110	111	107	110	110	108	109	110			
Measurement Type	567	568	568	569	570	571	567	570	570	568	569	570			
Independent Temperature monitor, F															
Facility Temperature monitor, R	107	108	108	109	110	111	107	110	110	108	109	110			
Measurement Type	567	568	568	569	570	571	567	570	570	568	569	570			
Difference in Temperature, %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Adjusted Temperature, F	107	108	108	109	110	111	107	110	110	108	109	110			
Calibration Flow Measurement Point															
Facility Pressure monitor, inches WG															
Measurement Type	-57	-58	-58	-59	-58	-57	-64	-64	-68	-62	-48	-64			
Independent Pressure monitor, inches WG															
Measurement Type	-57	-58	-58	-59	-58	-57	-64	-64	-68	-62	-48	-64			
Difference in Pressure, %	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
Adjusted Pressure, in WG	-57	-58	-58	-59	-58	-57	-64	-64	-68	-62	-48	-64			
Facility Temperature monitor, F															
Facility Temperature monitor, R	60	58	58	62	68	74	84	80	80	76	70	70			
Measurement Type	520	518	518	522	528	534	544	540	540	536	530	530			
Independent Temperature monitor, F															
Facility Temperature monitor, R	71	72	73	74	75	76	78	80	81	82	83	84			
Measurement Type	531	532	533	534	535	536	538	540	541	542	543	544			
Difference in Temperature, %	2.1%	2.6%	2.8%	2.2%	1.3%	0.4%	-1.1%	0.0%	0.2%	1.1%	2.4%	2.6%			
Adjusted Temperature, F	60	58	58	62	68	74	84	80	80	76	70	70			

CommonWealth New Bedford Energy, LLC
 Greater New Bedford LFG Utilization Project
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 New Bedford, Massachusetts
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'California Analytical' Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Jan. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
1/1/24	1/5/24	60 F	53.70%	53.35%	52.80%	0.02%	53.98%	52.27%
1/8/24	1/12/24	56 F	53.70%	53.39%	49.80%	0.01%	54.54%	50.03%
1/15/24	1/19/24	55 F	53.70%	53.40%	50.85%	0.00%	53.95%	50.94%
1/22/24	1/26/24	59 F	53.70%	53.36%	52.71%	-0.03%	51.70%	52.52%

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Month: Feb. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
1/29/24	2/2/24	57 F	53.70%	53.38%	50.63%	0.04%	53.49%	50.74%
2//5/24	2/9/24	58 F	53.70%	53.37%	51.62%	-0.01%	54.11%	51.86%
2/12/24	2/16/24	58 F	53.70%	53.37%	51.08%	-0.01%	52.92%	50.99%
2/19/24	2/23/24	59 F	53.70%	53.36%	51.44%	-0.03%	53.54%	51.56%

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'California Analytical' Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Mar. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
2/26/24	3/1/24	59 F	53.70%	53.36%	52.50%	-0.02%	53.61%	52.72%
3/4/24	3/8/24	59 F	53.70%	53.36%	49.81%	0.02%	53.55%	49.79%
3/11/24	3/15/24	61 F	53.70%	53.34%	52.47%	0.01%	53.31%	52.56%
3/18/24	3/22/24	60 F	53.70%	53.35%	51.33%	0.00%	54.91%	51.38%
3/25/24	3/30/24	61 F	53.70%	53.33%	51.90%	-0.01%	51.06%	51.99%

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'California Analytical' Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Apr. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
4/1/24	4/5/24	63 F	53.70%	53.31%	51.62%	-0.01%	53.00%	52.23%
4/8/24	4/12/24	62 F	53.70%	53.33%	52.40%	0.01%	53.37%	52.44%
4/15/24	4/19/24	63 F	53.70%	53.31%	52.70%	0.00%	52.01%	52.92%
4/22/24	4/26/24	65 F	53.70%	53.29%	52.12%	0.03%	53.75%	52.39%
4/29/24	5/2/24	65 F	53.70%	53.29%	53.12%	0.01%	53.35%	53.29%

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‘California Analytical’ Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: May 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
5/6/24	5/10/24	65 F	53.70%	53.29%	53.12%	0.01%	50.10%	53.29%
5/13/24	5/17/24		50.00%		53.20%	0.00%	49.80%	53.00%
5/20/24	5/24/24		50.00%		53.40%	0.00%	49.90%	53.20%
5/27/24	5/31/24		50.00%		52.00%	0.00%	50.30%	52.30%

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'California Analytical' Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Jun. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
6/3/24	6/7/24		50.00%		53.10%	0.00%	50.20%	53.30%
6/10/24	6/14/24		50.00%		51.70%	0.00%	50.00%	51.70%
6/17/24	6/21/24		50.00%		49.50%	0.00%	50.10%	49.60%
6/24/24	6/28/24		50.00%		51.00%	0.00%	50.00%	51.10%

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 New Bedford, Massachusetts
 (508) 985-0923

‘California Analytical’ Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Jul. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
7/1/24	7/5/24	77 F	53.70%	53.10%	49.18%	-1.12%	51.13%	49.24%
7/8/24	7/12/24		50.00%		50.50%	0.00%	50.20%	50.80%
7/15/24	7/19/24		50.10%		50.00%	0.00%	49.90%	50.00%
7/22/24	7/26/24	77 F	53.70%	53.10%	49.18%	-1.12%	51.13%	49.24%

CommonWealth New Bedford Energy, LLC
 Greater New Bedford LFG Utilization Project
 300 Samuel Barnett Blvd.
 New Bedford, Massachusetts
 (508) 985-0923

‘California Analytical’ Analyzer Calibration Results
California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Aug. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
7/29/24	8/2/24	78 F	53.70%	53.08%	49.18%	0.16%	52.90%	49.16%
8/5/24	8/9/24	77 F	53.70%	53.10%	52.08%	0.66%	54.17%	50.21%
8/12/24	8/16/24	89 F	53.70%	52.84%	52.15%	0.19%	53.46%	51.58%
8/19/24	8/23/24	78 F	53.70%	53.08%	49.60%	-0.71%	52.03%	51.25%
8/26/24	8/30/24	78 F	53.70%	53.08%	50.91%	0.74%	54.15%	49.77%

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Month: Sep. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
9/2/24	9/6/24	78 F	53.70%	53.08%	52.00%	0.11%	53.48%	51.89%
9/9/24	9/13/24	78 F	53.70%	53.08%	54.66%	-0.72%	52.14%	55.70%
9/16/24	9/20/24	76 F	53.70%	53.12%	51.54%	0.40%	53.64%	50.95%
9/23/24	9/27/24	74 F	53.70%	53.15%	50.84%	0.54%	53.66%	50.24%

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Month: Oct. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
9/30/24	10/4/24	75 F	53.70%	53.13%	48.76%	-0.73%	52.12%	50.17%
10/7/24	10/11/24	75 F	53.70%	53.13%	48.17%	-0.65%	52.23%	49.58%
10/14/24	10/18/24	71 F	53.70%	53.20%	47.65%	0.02%	52.76%	47.94%
10/21/24	10/25/24	x	x	x	x	x	x	x

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Month: Nov. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
10/28/24	11/1/24	73 F	53.70%	53.17%	48.50%	-0.02%	52.29%	48.57%
11/4/24	11/8/24	73 F	53.70%	53.17%	52.22%	0.37%	54.18%	51.15%
11/11/24	11/15/24	70 F	53.70%	53.21%	48.04%	-0.54%	52.03%	49.17%
11/18/24	11/22/24	69 F	53.70%	53.23%	49.53%	0.19%	53.29%	49.32%
11/25/24	11/27/24	63 F	53.70%	53.31%	54.72%	0.07%	53.47%	54.75%

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California Analytical Instrument, Model 602P NDIR, Serial #S07002

Month: Dec. 2024		Methane (% v/v) measurements						
Week	Date	LFG Temp @ blower inlet	Cal Gas dry	Cal Gas wet	Pre-calibration	Zero gas	Span gas	Post-calibration
12/2/24	12/6/24	63 F	53.70%	53.31%	52.36%	0.32%	53.69%	51.90%
12/9/24	12/13/24	60 F	53.70%	53.35%	52.88%	0.12%	53.15%	52.53%
12/16/24	12/20/24	57 F	53.70%	53.38%	51.05%	-0.43%	52.63%	51.77%
12/23/24	12/27/24	57 F	53.70%	53.38%	52.65%	0.23%	54.22%	52.17%

Exhibit 7:
Attestation Statement

Attestation Statement

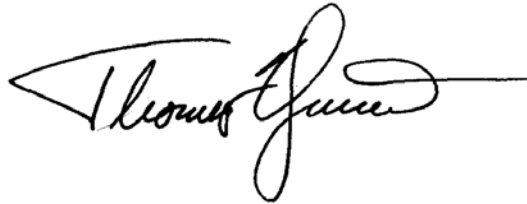
As an officer of Commonwealth New Bedford Energy LLC (CNBE) I hereby certify that the verified carbon units (VCUs) verified under the verified carbon standard (VCS) for the period January 1, 2024 through December 31, 2024 from the Project Activity will be registered on the VERRA Registry only.

Thomas Yeransian

Name

Principal of Commonwealth Resource Management Corporation,
Member of Commonwealth New Bedford Energy LLC

Title

A handwritten signature in black ink, appearing to read "Thomas Yeransian", with a long horizontal flourish extending to the right.

Signature

Date: May 14, 2025

Exhibit 8:

Permits and Other Regulatory Documentation

1. Amended Final Air Quality Operation Permit (Renewal) Issued August 3, 2022.
2. NMOC Emission Rate Report, October 22, 2024. The NMOC Emission Report demonstrates that the NMOCs emissions continue to be below the NSPS applicability threshold and therefore the Crapo Hill Landfill is not subject to the requirements of NSPS.



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Bethany A. Card
Secretary

Martin Suuberg
Commissioner

AMENDED FINAL AIR QUALITY OPERATING PERMIT

Issued by the Massachusetts Department of Environmental Protection ("Department" or "MassDEP") pursuant to its authority under M.G.L. c. 111, §142B and §142D, 310 CMR 7.00 et seq., and in accordance with the provisions of 310 CMR 7.00: Appendix C.

ISSUED TO ["the Permittee"]:

CommonWealth New Bedford Energy, LLC
1 Bornheimer Place
Scarborough, ME 04074

INFORMATION RELIED UPON:

Application No. 17-AQ14/12-000003-APP
Application No. 4B04015
Approval No. SE-13-020
Application No. 22-AQ11-0002-AMD
ePlace Authorization No.: AQ-14-0000105

FACILITY LOCATION:

CommonWealth New Bedford Energy, LLC
300 Samuel Barnet Boulevard
Dartmouth, MA

FACILITY IDENTIFYING NUMBERS:

AQ ID: 1200624
FMF FAC No.: 402936
FMF RO No.: 402937

NATURE OF BUSINESS:

Electric Power Generation

Standard Industrial Classification (SIC): 4911
North American Industrial Classification System (NAICS): 221117

RESPONSIBLE OFFICIAL:

Name: Mr. Thomas Yeransian
Title: Principal of CommonWealth Resource Management Corporation, Managing Member of CommonWealth New Bedford Energy

FACILITY CONTACT PERSON:

Name: Mr. Thomas Yeransian
Title: Principal
Phone: (508) 339-3074
Email: tyeransian@crmcx.com
Fax: (508) 339-1326

This Operating Permit shall expire on July 23, 2025.

For the Department of Environmental Protection

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Permit Chief, Bureau of Air and Waste

August 3, 2022

Date

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SPECIAL CONDITIONS FOR OPERATING PERMIT

1. PERMITTED ACTIVITIES

In accordance with the provisions of 310 CMR 7.00:Appendix C and applicable rules and regulations, the Permittee is authorized to operate air emission units as shown in Table 1 and exempt, and insignificant activities as described in 310 CMR 7.00:Appendix C(5)(h) and (i). The units described in Table 1 are subject to the terms and conditions shown in Sections 4, 5, and 6 and to other terms and conditions as specified in this Permit. Emissions from the exempt activities shall be included in the total facility emissions for the emission-based portion of the fee calculation described in 310 CMR 4.00 and this Permit.

A. DESCRIPTION OF FACILITY AND OPERATIONS

CommonWealth New Bedford Energy, LLC, (CNBE) operates the Greater New Bedford LFG Utilization Project, a landfill gas (LFG) to energy, electric power generation facility (“Facility”) located at the Crapo Hill Landfill in Dartmouth, Massachusetts, with a United States Postal Service mailing address of 300 Samuel Barnet Boulevard, New Bedford MA 02745. The facility is a Major Source, as defined in 310 CMR 7.00: Appendix C, of Carbon Monoxide (CO), and therefore subject to the 310 CMR 7.00: Appendix C: Operating Permit and Compliance Program, and the requirement to obtain an Operating Permit. The approved operation consists of up to five (5) identical LFG-fired reciprocating engine/generator sets. The reciprocating engines are Caterpillar Model 3516 engines. Each engine/generator set has a nominal output rating of approximately 825 kW of electricity, and a maximum output rating of 900 kW of electricity. The engines are housed in a generation building. Each engine has a separate exhaust stack, which discharges through the generation building roof at an exhaust height of 30 feet above ground.

The primary fuel supplied to the Facility is LFG generated from the Crapo Hill Landfill, which is owned and operated by the Greater New Bedford Regional Refuse Management District (District). A small quantity of digester gas supplements the LFG fuel supplied to the Facility. CRMC Bioenergy LLC owns and operates an anaerobic digestion facility that is located adjacent to the Facility and supplies the digester gas to CNBE. The anaerobic digestion facility operates in accordance with MassDEP Air Quality Plan Approval SE-13-020, Transmittal X254662, dated September 26, 2013. Both the Facility and anaerobic digestion facility are located on property leased from the District.

As part of the Operating Permit (OP) renewal process, MassDEP evaluated the relationship between the District and CNBE, to determine if the parties were under common control for purposes of implementing the Title V Operating Permit program. Based on a review of the case-specific facts, factors, and circumstances, and informal guidance documents and determination letters from the United States Environmental Protection Agency, MassDEP determined that the District and CNBE do not meet the criteria for common control, and therefore, the two entities should continue to be considered separate sources.

MassDEP also evaluated the relationship between CRMC Bioenergy LLC and CNBE and has determined that CRMC Bioenergy LLC and CNBE meet the criteria for common control for purposes of implementing the Title V Operating Permit program. This anaerobic digester system is identified as Emission Unit No. 8 (EU-8) in this Operating Permit.

Other equipment associated with Emission Unit Nos. 1 through 5 (EU-1 through EU-5) includes a LFG production system which conditions the LFG with a knockout drum, 2 (redundant) blowers, a

cooler, and a coalescing filter. The condensate from the conditioned LFG drains into the Landfill's leachate collection system for disposal. The engines are serviced by a closed-loop lubricating oil system that consists of a 2,000-gallon virgin oil tank and a 2,000-gallon waste oil tank. Each engine is cooled by a glycol/water mix that is run through a radiator outside of the building.

The key parameters that govern the facility operation are monitored and recorded through a supervisory control and data acquisition (SCADA) system. This electronic operator interface system allows for remote access to facility operations and is the main monitoring/recordkeeping tool. In addition, the operation of the engine-generators is controlled by General Electric Fanuc programmable logic controllers (PLCs) located in the switchgear for each engine. Controls include air-to-fuel ratio control, load control, electric generation controls and protective relays. The operation and control of the motors are by variable frequency drives (VFDs). The VFDs operate motors that drive the LFG blowers, the cooler, the engine room ventilation fans, and the radiators.

The facility also maintains a cold cleaning degreaser-parts washer identified as Emission Unit No. 6 (EU-6). The parts washer is subject to and operated in accordance with 310 CMR 7.03(8) and 310 CMR 7.18(8)(a).

The OP renewal application includes the addition of Emission Unit No. 7 (EU-7). EU7 is an emergency reciprocating internal combustion engine (RICE) which operates an emergency engine generator, fires No.2 fuel oil, and is rated at 150 kilowatts of power generation output. The unit was installed on November 13, 2014, and is subject to the requirements of 310 CMR 7.26(42) *Emergency Engines and Turbines*, 40 CFR 60 Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* and 40 CFR 63 Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*.

CNBE is considered an Area Source for Hazardous Air Pollutants (HAPs). The facility has proposed to restrict facility-wide HAP emissions to less than twenty-five (25) tons per year (aggregate total HAPs) and less than ten (10 tons per year (any Single HAP). The four (4) existing engines (EU-1, EU-2, EU-3, and EU-4) were installed prior to June 12, 2006. EU-1, EU-2, EU-3, EU-4 are subject to requirements for existing, non-emergency, non-black start, LFG-fired, stationary, spark ignited, reciprocating internal combustion engines (RICE) at 40 CFR Part 63, Subpart ZZZZ. The facility is approved for the installation of one (1) additional engine (EU-5). At the time of installation of EU-5, the Permittee shall notify MassDEP, evaluate the installation according to applicable State and Federal regulations (such as, but not limited to 40 CFR Part 63 Subpart ZZZZ, and 40 CFR Part 60 Subpart JJJJ), and propose to modify the Operating Permit as necessary. The facility does not currently have any emission units subject to requirements at 40 CFR Part 64, Compliance Assurance Monitoring (CAM).

A list of any exempt activities shall be maintained as indicated in Section 3, Table 2. Operating Permit Section 4, Tables 3, 4, 5, and 6 list the facility emission limits along with monitoring, testing, record-keeping and reporting requirements. Operating Permit Section 4, Table 7 lists regulations that are not applicable to the facility at this time.

The Permittee is subject to the requirements of Greenhouse Gas Emissions Reporting as defined by MassDEP in 310 CMR 7.71(3)(a).

This Amended Final Air Quality Operating Permit, amends Final Air Quality Operating Permit issued by MassDEP on July 23, 2020, as a result of a change in the Permittee's mailing address.

2. EMISSION UNIT IDENTIFICATION

The following emission units (Table 1) are subject to and regulated by this Operating Permit:

Table 1			
EU	Description of EU	EU Design Capacity	Pollution Control Device (PCD)
EU-1 through EU-5 ^(note 1)	Caterpillar Model No. 3516, Internal Combustion Engine	10.07 MMBtu/hr (maximum energy input) 900 kilowatts (maximum generator output)	None
EU-6	Parts Washer (Cold Cleaning Degreaser)	Meets design specifications at 310 CMR 7.18(8)(a)3.	None
EU-7	Emergency Generator Kohler Model 150REOZJF Date of Installation: 2014	Maximum heat rate input 1.725MMBtu/hr Fuel: No. 2 Fuel Oil	None
EU-8	Anaerobic Digestion System	100,000 gallon digester capacity	None

Table 1 Key:

MMBtu/hr = Million British thermal units per hour
CMR = Code of Massachusetts Regulations

EU = Emission Unit
No. = number

Table 1 Note:

(1) Facility currently consists of four (4) identical Caterpillar Engines which are identified in this Operating Permit as EU-1, EU-2, EU-3 and EU-4. EU-5 has not yet been installed.

3. IDENTIFICATION OF EXEMPT ACTIVITIES

The following are considered exempt activities in accordance with the criteria contained in 310 CMR 7.00: Appendix C(5)(h):

Table 2	
Description of Current Exempt Activities	Reason
The list of current exempt activities is contained in the Operating Permit application and shall be updated by the Permittee to reflect changes at the facility over the Permit term. An up-to-date copy of exempt activities list shall be kept on-site at the facility and a copy shall be submitted to the MassDEP's Regional Office. Emissions from these activities shall be reported on the annual emissions statement pursuant to 310 CMR 7.12.	310 CMR 7.00: Appendix C(5)(h)

Table 2 Key:

MassDEP = Massachusetts Department of Environmental Protection

CMR = Code of Massachusetts Regulations

4. APPLICABLE REQUIREMENTS

A. OPERATIONAL AND/OR PRODUCTION EMISSION LIMITS AND RESTRICTIONS

The Permittee is subject to the limits/restrictions as contained in Table 3 below:

Table 3					
EU	Fuel/Raw Material	Pollutant	Operational and/or Production Limits	Emissions Limits/Standards	Applicable Regulation and/or Approval No.
1,2,3,4,5 (per engine) (Note 2)	Landfill Gas/ Digester Gas	NO _x	N/A	0.166 lb/MMBtu	4B04015 SE-13-020
				0.60 g/bhp-hr	
				0.62 TPM	
				7.32 TPY ^(Note 1)	
		CO	N/A	0.83 lb/MMBtu	
				3.11 TPM	
				36.61 TPY ^(Note 1)	
		NMOC	N/A	0.083 lb/MMBtu	
				0.31 TPM	
				3.66 TPY ^(Note 1)	
		VOC	N/A	0.083 lb/MMBtu	
				0.31 TPM	
				3.66 TPY ^(Note 1)	
		PM/PM ₁₀ /PM _{2.5}	N/A	0.06 lb/MMBtu	
				0.21 TPM	
				2.40 TPY ^(Note 1)	
		SO ₂	LFG H ₂ S ≤ 200 ppm _v	0.064 lb/MMBtu	
				0.24 TPM	
				2.81 TPY ^(Note 1)	
1,2,3,4	Landfill Gas/ Digester Gas	HAP ^(Note 6)	Change oil and filter every 1440 hours of operation or annually ^(Note 3) , whichever comes first; Inspect spark plugs every 1440 hours of operation or annually, whichever comes first; and Inspect all hoses and belts every 1440 hours of operation or annually, whichever comes first, and replace as necessary.	40 CFR Part 63, Subpart ZZZZ §§ 63.6603(a), 63.6625(j) and Table 2d	
			At all times operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for	40 CFR Part 63, Subpart ZZZZ § 63.6605(a) and (b)	

Table 3						
EU	Fuel/Raw Material	Pollutant	Operational and/or Production Limits		Emissions Limits/Standards	Applicable Regulation and/or Approval No.
1,2,3,4	Landfill Gas/ Digested Gas	HAP ^(Note 6)	minimizing emissions.			
			i. Operate and maintain the stationary RICE according to the manufacturer’s emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.			40 CFR Part 63, Subpart ZZZZ § 63.6625(e) and Table 6
			Minimize the engine’s time spent at idle during startup and minimize the engine’s startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.			40 CFR Part 63, Subpart ZZZZ § 63.6625(h) and Table 2d
1,2,3,4,5 (Combined) (Note 4)	Landfill Gas/ Digester Gas	NO _x	See heat input limit below	3.10 TPM	4B04015 SE-13-020	
				36.6 TPY ^(Note 1)		
		CO	See heat input limit below	15.5 TPM		
				183.0 TPY ^(Note 1)		
		VOC	See heat input limit below	1.55 TPM		
				18.3 TPY ^(Note 1)		
		NMOC	See heat input limit below	1.55 TPM		
				18.3 TPY ^(Note 1)		
		NMOC	Operate each EU at all times when the collected LFG is routed to the EU	Each EU shall reduce NMOC emissions by 98% by weight, or reduce the stack NMOC concentration to < 20 ppm _{vd} , as hexane, at 3% O ₂		
		PM/PM ₁₀ /PM _{2.5}	See heat input limit below	1.05 TPM		
				12.2 TPY ^(Note 1)		
		SO ₂	See heat input limit below	1.20 TPM		
14.0 TPY ^(Note 1)						
All	Maximum heat input of LFG/DG shall not exceed 37,460 MMBtu per month	N/A				
		Maximum heat input of LFG/DG shall not exceed 440,925 MMBtu in any consecutive 12 month period	N/A			
1,2,3,4,5	Landfill Gas/ Digester Gas	Visible Emissions	Stack emissions shall not exceed 0% opacity (no visible emissions), with the exception of up to five (5) minutes during startup. During startup visible emissions shall comply with the provisions of 310 CMR 7.06.			
6	Non-halogenated solvent	VOC	Solvent consumption < 100 gallons per month per unit	Operating procedures identified at 310 CMR 7.18(8)(e); and design features and specifications identified at 310 CMR	310 CMR 7.03(8) 310 CMR 7.18(8)(a) 310 CMR 7.18(8)(e)	

Table 3

EU	Fuel/Raw Material	Pollutant	Operational and/or Production Limits	Emissions Limits/Standards	Applicable Regulation and/or Approval No.
				7.18(8)(a)	
7	No 2. Fuel Oil	All	$\leq$ 100 hours per calendar year for maintenance and testing as recommended by the manufacturer; and As part of the above, $\leq$ 50 hours per calendar year for non-emergency situations; and During an emergency		310 CMR 7.26(42)(d)1.a.
			Affected source must meet the requirements of this part by meeting the requirements of 40 CFR Part 60, Subpart IIII, for compression ignition engines		40 CFR Part 63, Subpart ZZZZ § 63.6590(c) 310 CMR 7.26(42)(d)1.b.
		NMHC + NO _x	As noted below	4.0 g/kW-hr	40 CFR Part 60, Subpart IIII § 60.4211(a) and (c) § 60.4205(b) § 60.4202(a)(2)
		CO	As noted below	3.5 g/kW-hr	
		PM	As noted below	0.20 g/kW-hr	
		Sulfur in fuel	N/A	$\leq$ 0.0015 percent	310 CMR 7.26(42)(c) 310 CMR 7.05(1)(a)1.: Table 1
		All	N/A	Shall comply with applicable Emission limits set by US EPA for non-road engines (40 CFR 89).	310 CMR 7.26(42)(b)
			Operate and maintain engine and control device according to manufacturer's emission-related written instructions. <i>See Table 4, Proviso No. 19</i>		40 CFR Part 60, Subpart IIII § 60.4211(a)(1) and (2)
			Limited to operation as noted at § 60.4211(f) for emergency stationary ICE. <i>See Table 4, Provisos Nos. 16, 17, & 18</i>		40 CFR Part 60 Subpart IIII 310 CMR 7.26(42)(d)1.
		Smoke	N/A	< No. 1 of Chart ⁽¹⁾ , except $\geq$ No. 1 to < No. 2 of Chart for $\leq$ 6 minutes during any one hour, no time to equal or exceed No. 2 of the Chart.	310 CMR 7.26(42)(d)5. 310 CMR 7.06(1)(a)

Table 3					
EU	Fuel/Raw Material	Pollutant	Operational and/or Production Limits	Emissions Limits/Standards	Applicable Regulation and/or Approval No.
7	No 2. Fuel Oil	Opacity	N/A	≤ 20 % except >20% to ≤ 40 % for ≤ 2 minutes during any 1 hour	310 CMR 7.26(42)(d)5. 310 CMR 7.06(1)(b)
		Sound		Constructed, located, operated and maintained to comply with 310 CMR 7.10	310 CMR 7.26(42)(d)2. 310 CMR 7.10 (State Only Requirement)
		All	Limited to stack height and Emission dispersion requirements. <i>See Table 4 Proviso No. 21</i>	N/A	310 CMR 7.26(42)(d)3.a.
8	Digester Gas	N/A	3,000 gallons of feedstock per day based on a 90 day rolling average	N/A	SE-13-020
Facility-wide	All	Greenhouse Gas (Note 5)	N/A	N/A	310 CMR 7.71 (State Only Requirement)
	All	Any Single HAP	N/A	< 10 TPY	17-AQ14/12-000003-APP
		Total HAP		< 25 TPY	

Table 3 Key:

Btu = British thermal units
CFR = Code of Federal Regulations
CMR = Code of Massachusetts Regulations
CO = Carbon Monoxide
DG = Digester Gas
EU = Emission Unit
g/bhp-hr = grams per brake horsepower for one hour (engine output)
g/kW-hr = grams per kilowatt for one hour (engine output)
HAP = Hazardous Air Pollutant as listed in the 1990 Clean Air Act Amendments, Section 112(b)
H₂S = Hydrogen Sulfide
HAP = Hazardous Air Pollutant(s)
ICE = Internal Combustion Engine
lb/MMBtu = pound per Million British thermal units
LFG = Landfill Gas
MMBtu = Million Btu
N/A = Not Applicable
No. = Number
Nos. = Numbers
NMHC = Non-Methane HydroCarbons
NMOC = Non-Methane Organic Compounds

NO_x = Nitrogen Oxides
O₂ = Oxygen
PM = Total Particulate Matter
PM_{2.5} = Particulate Matter less than or equal to 2.5 microns in diameter
PM₁₀ = Particulate Matter less than or equal to 10 microns in diameter
ppm_v = Parts per million, by volume
ppm_{vd} = parts per million, by volume, dry basis
RICE = Reciprocating Internal Combustion Engine
SO₂ = Sulfur Dioxide
TPM = Tons Per Month
TPY = Tons Per consecutive 12-month period ¹
VOC = Volatile Organic Compound
% = Percent
≥ = Greater than or equal to
< = Less than
≤ = Less than or equal to
+ = added to
§ = Section
§§ = Sections

Table 3 Foot Notes:

1. To calculate the amount of a consecutive 12 month rolling period take the current calendar month amount and add it to the previous 11 calendar months total amount.
2. Emission limits listed are for individual emission units.
3. Sources have the option to utilize an oil analysis program as described in § 63.6625(j) in order to extend the specified oil change requirement in Table 2d of this subpart.
4. Emission limits and Heat Input limits represent a combined total for up to five emission units.
5. Greenhouse Gas means any chemical or physical substance that is emitted into the air and that MassDEP may reasonably anticipate will cause or contribute to climate change including, but not limited to: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).
6. Hazardous Air Pollutants are as listed in the 1990 Clean Air Act (CAA) Amendments, Section 112(b).
7. Chart means the Ringelmann Scale for grading the density of smoke, as published by the United States Bureau of Mines and as referred to in the Bureau of Mines Information Circular No. 8333, or any smoke inspection guide approved by the MassDEP.

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to the monitoring/testing, record keeping, and reporting requirements as contained in Tables 4, 5, and 6 below and 310 CMR 7.00 Appendix C (9) and (10) and applicable requirements contained in Table 3:

Table 4	
EU	Monitoring And Testing Requirements
EU-1 EU-2 EU-3 EU-4	1. In accordance with Plan Approval No. 4B04015, one operable oxygen analyzer shall be maintained on-site and record shall be maintained of the stack outlet oxygen (O ₂) levels at least once per week on each engine.
	2. As applicable, and in lieu of oil change required in Table 3, analyze engine oil for Total Acid Number, viscosity, and percent water content as specified at 40 CFR §63.6625(j).
	3. In accordance with Plan Approval No. 4B04015, each engine/generator set shall be continuously monitored for run time and kW produced.
	4. In accordance with Plan Approval No. 4B04015, a LFG flow recorder shall be maintained so that an on-site record of the total volume of LFG (scf) fired by the five (5) engine/generator sets will be available by date and time period.
	5. In accordance with Plan Approval No. 4B04015, the heat input of LFG (Btu) fired in each EU shall be determined by gas chromatograph and/or field measurements for each month and for each consecutive 12-month period.
	6. In accordance with 310 CMR 7.00: Appendix C(9)(b)2., monitor the H ₂ S concentration (ppm _v) of the LFG to be combusted on a monthly basis. The sampling shall be conducted using a protocol and test method(s) that are approved by MassDEP.
	7. In accordance with 310 CMR 7.00: Appendix C(9)(b)2., perform monthly visible emissions observations of each engine exhaust, in accordance with 40 CFR Part 60, Appendix A, Method 22, for a time period no less than fifteen (15) minutes while the engines are in operation.
	8. In accordance with Plan Approval No. 4B04015, the ability of the facility to maintain emission rates at or below approved levels shall be demonstrated to the MassDEP in the future if deemed necessary. Compliance testing, if requested by MassDEP, shall be conducted in accordance with MassDEP's "Guideline for Source Emission Testing" and test methods and procedures contained in 40 CFR Part 60, Appendix A.
EU-5	9. In accordance with Plan Approval No. 4B04015, the facility shall be constructed to accommodate the emission testing requirements contained in 40 CFR Part 60, Appendix A.
	10. In accordance with Plan Approval No. 4B04015, emission testing shall be performed to determine compliance with approved CO, NMOC and NO _x emission limits. Emission testing shall be completed within ninety (90) days from the date the engine commences LFG burning after startup of the facility.
	11. Upon installation the Permittee shall conduct, as applicable, monitoring and performance testing required at 40 CFR Part 60 and 40 CFR Part 63.
	12. In accordance with Plan Approval No. 4B04015, a NO _x /CO optimization/minimization diagnostic emission test program shall be conducted prior to emission testing.

Table 4	
EU	Monitoring And Testing Requirements
EU-6	13. In accordance with 310 CMR 7.18(8)(h), Persons subject to 310 CMR 7.18(8) shall, upon request of the MassDEP, perform or have performed test to demonstrate compliance. Testing shall be conducted in accordance with a method approved by the MassDEP and USEPA.
EU-7	14. In accordance with 40 CFR 60.4206, the Permittee must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205(b) and 60.4202(a)(2) over the entire life of the engine. 15. In accordance with 310 CMR 7.26(42)(d)1.c., and 40 CFR 60.4209(a), the Permittee must install a non-turn-back hour counter. The non-turn-back hour counter shall be operated and maintained in good working order. 16. In accordance with 40 CFR 60.4211(f)(1), the Permittee may operate the emergency stationary ICE for emergency situations with no time limit. 17. In accordance with 40 CFR 60.4211(f)(2)(i), the Permittee may operate the emergency stationary ICE for any combination of the purposes specified below for a maximum of 100 hours per calendar year. (i) Emergency Stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.
	18. In accordance with 40 CFR 60.4211(f)(3), the Permittee may operate the Emergency stationary ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing provided in paragraph (f)(2)(i) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per year for nonemergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. (i) The 50 hours per year for nonemergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: <i>A. The Engine is dispatched by the local balancing authority or local transmission and distribution system operator;</i> <i>B. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.</i> <i>C. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or Guidelines.</i> <i>D. The power is provided only to the facility itself or to support the local transmission and distribution system.</i> <i>E. The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.</i>

Table 4

EU	Monitoring And Testing Requirements
EU-7	19. In accordance with 310 CMR 7.26(42)(e)2., MassDEP may require emission or other monitoring to assure compliance with the requirements of 310 CMR 7.26(42).
	20. In accordance with 310 CMR 7.26(42)(e)3., any testing when required shall comply with the following: a) Tests to certify compliance with emission limitations must be performed in accordance with EPA reference Methods, California Air Resources Board Methods approved by EPA, or equivalent methods as approved by MassDEP and EPA. b) Particulate matter from liquid fuel reciprocating engines shall be determined using Method 8178 D2 of the International Organization for Standardization. c) MassDEP may require emission or other testing to assure compliance with the emission limitations or fuel requirements.
	21. In accordance with 310 CMR 7.26(42)(d)3.a., the engine shall utilize an exhaust stack that discharges so as to not cause a condition of air pollution (310 CMR 7.01(1)). Exhaust stacks shall be configured to discharge the combustion gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted combustion gases. Any emission impacts of exhaust stacks upon sensitive receptors including, but not limited to, people, windows and doors that open, and building fresh air intakes shall be minimized by employing good air pollution control engineering practices. Such practices include without limitation: i) Avoiding locations that may be subject to downwash of the exhaust; and ii) Installing stack(s) of sufficient height in locations that will prevent and minimize flue gas impacts upon sensitive receptors.
EU-8	22. In accordance with Plan Approval SE-13-020, the Permittee shall continuously monitor the pressure in the Blending and Mixing tank to ensure it is maintained at a negative pressure at all times.
	23. In accordance with Plan Approval SE-13-020, the Permittee shall continuously monitor the biogas production rate of the anaerobic digestion system.
	24. In accordance with Plan Approval SE-13-020, if and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13.
Facility-wide	25. In accordance with Plan Approval No. 4B04015 and 310 CMR 7.12, monitor operations such that information may be compiled for the annual preparation of a Source Registration/Emission Statement.
	26. In accordance with AQ14/12-000003-APP, the Permittee shall monitor so that comprehensive and accurate records are maintained onsite to demonstrate compliance with the facility-wide HAP emission limits contained in Table 3. Monitor so that records are compiled for actual emissions of all HAPs emitted for each calendar month and for each consecutive twelve-month period and compiled no later than the 15 th day following each month.
	27. In accordance with 310 CMR 7.13(1) Any person owning, leasing, operating or controlling a facility for which the MassDEP has determined that stack testing is necessary to ascertain compliance with the MassDEP's regulations or design approval provisos shall cause such stack testing: a) to be conducted by a person knowledgeable in stack testing, b) to be conducted in accordance with procedures contained in a test protocol which has been approved by the MassDEP, c) to be conducted in the presence of a representative of the MassDEP when such is deemed necessary, and d) to be summarized and submitted to the MassDEP with analysis and report within such time as agreed to in the approved test protocol.

Table 4	
EU	Monitoring And Testing Requirements
Facility-wide	28. In accordance with 310 CMR 7.13(2) Any person having control of a facility relative to which the MassDEP determines that stack testing (to ascertain the mass emission rates of air contaminants emitted under various operating conditions) is necessary for the purposes of regulatory enforcement or determination of regulatory compliance shall cooperate with the MassDEP to provide: a) entrance to a location suitable for stack sampling, b) sampling ports at locations where representative samples may be obtained, c) tagging and ladders to support personnel and equipment for performing the tests, d) a suitable power source at the sampling location for the operation of sampling equipment, and e) such other reasonable facilities as may be requested by the MassDEP.
	29. In accordance with 310 CMR 7.00: Appendix C (9)(b), the Permittee shall; a) comply with all emissions monitoring and analysis procedures or test methods required under the applicable requirements, including those promulgated pursuant to 42 U.S.C. 7401, §§ 504(a) and 504(b) or 114(a)(3); b) if the applicable requirement does not require periodic testing or instrumental or non-instrumental monitoring (which may consist of record keeping designed to serve as monitoring), then the Permittee shall perform periodic monitoring sufficient to yield reliable data from the relevant time period that is representative of the source's compliance with the permit. Such monitoring requirements shall assure the use of terms, test methods, units, averaging periods, and other statistical conventions consistent with the applicable requirement. Record keeping provisions may be sufficient to meet the requirements; and c) comply with requirements concerning the use, maintenance and installation of monitoring equipment or methods as the MassDEP deems appropriate.
	30. In accordance with 310 CMR 7.71(1) and Appendix C(9), the Permittee shall establish and maintain data systems or record keeping practices (e.g. fuel use records, SF₆ usage documentation, Continuous Emissions Monitoring System) for greenhouse gas emissions to ensure compliance with the reporting provisions of M.G.L. c. 21N, the Climate Protection and Green Economy Act, St. 2008, c. 298, § 6. (State Only Requirement)

Table 4 Key:

Btu= British thermal units
c. = chapter
CFR = Code of Federal Regulations
CMR = Code of Massachusetts Regulations
CO = Carbon Monoxide
e.g. = for example
EU = Emission Unit
HAP = Hazardous Air Pollutant, as listed in the 1990 Clean Air Act (CAA) Amendments, Section 112(b)
H₂S = Hydrogen Sulfide
ICE = Internal Combustion Engine
kW = kiloWatt
LFG = Landfill Gas
M.G.L. = Massachusetts General Law
NERC = North American Electric Reliability Corporation
NMOC = Non-Methane Organic Compound
NO_x = Nitrogen Oxides
No. = Number
O₂ = Oxygen
ppm_v = parts per million, by volume
scf = standard cubic foot
SF₆ = Sulfur Hexafluoride
SI = Spark Ignition
U.S.C. = United States Code
USEPA = United States Environmental Protection Agency
§ = Section
§§ = Sections

Table 5	
EU	Record Keeping Requirements
EU-1 EU-2 EU-3 EU-4 EU-5	1. In accordance with Plan Approval No. 4B04015, a record of stack oxygen levels, as determined at least weekly during operation, shall be maintained for each engine.
	2. In accordance with Plan Approval No. 4B04015, a copy of the NO _x /CO optimization/minimization program report for each engine shall be maintained on-site.
	3. In accordance with Plan Approval No. 4B04015, a record of the volume of LFG (scf) fired in each engine/generator set for each month and for each consecutive 12 month period shall be maintained on-site. This record shall take into account the total volume of LFG fired by the combined engine/generator sets, and the individual engine/generator set run time and amount of electricity produced.
	4. In accordance with Plan Approval No. 4B04015, the heat input of LFG (Btu) fired in the engine/generator sets for each month and consecutive 12 month period shall be maintained on-site.
	5. In accordance with Plan Approval No. 4B04015, a record of NO _x , CO, NMOC, VOC, PM, and SO ₂ monthly and consecutive 12 month period emission rate records for each engine/generator set shall be maintained on-site.
	6. In accordance with Plan Approval No. 4B04015, a copy of the Standard Operating and Maintenance Procedures for all subject equipment shall be maintained on-site.
	7. In accordance with Plan Approval No. 4B04015, an operation log, or other record keeping system, shall be maintained on-site at a level of detail sufficient to document that the Operation and Emission Limits in Table 3 are not exceeded.
	8. In accordance with 310 CMR 7.00: Appendix C(10)(b), maintain records of the monthly H ₂ S monitoring results to include H ₂ S concentration (ppm _v) in LFG and the corresponding SO ₂ emission calculations.
	9. In accordance with 310 CMR 7.00: Appendix C(10)(b), maintain records of the monthly visible emissions observations to include date and time period of the observations, the result of observations with respect to visible emissions, and a description of the facility operations at the time of the observation.
	10. In accordance with Plan Approval No. 4B04015, all operating and monitoring records, including emission test reports, shall be maintained for the life of the facility; the five most recent years of data/records shall be maintained on-site.
	11. In accordance with 40 CFR 63.6655(a)(2), maintain records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment.
	12. In accordance with 40 CFR 63.6655(a)(5), maintain records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.
	13. In accordance with 40 CFR 63.6655(d), maintain records of manufacturer's emission-related operation and maintenance instructions; or the facility maintenance plan, if developed as allowed at 40 CFR 63, Subpart ZZZZ, Table 6.

Table 5	
EU	Record Keeping Requirements
EU-1 EU-2 EU-3 EU-4 EU-5	14. In accordance with 40 CFR 63.6655(d) and (e), maintain records of the maintenance (and monitoring as specified at §63.6625(j), if applicable) conducted on the stationary RICE in order to demonstrate that the RICE was operated and maintained according the requirements of 40 CFR 63, Subpart ZZZZ, Table 2d and Table 6.
EU-6	15. In accordance with 310 CMR 7.03(6) and 7.18(8)(g), prepare and maintain records sufficient to demonstrate continuous compliance as stated in 310 CMR 7.18(8)(f) and with the monthly solvent usage restriction in 310 CMR 7.03(8). Records shall include, but are not limited to: identity, quantity, formulation and density of solvent(s) used and waste solvent(s) generated.
EU-7	16. In accordance with 310 CMR 7.26(42)(f), the Permittee shall maintain records described in 310 CMR 7.26(42)(f)1. through 4. Such records shall be maintained on site or for remote locations, at the closest facility where records can be maintained and shall be made available to MassDEP or its designee upon request. The owner or operator shall certify that records are accurate and true in accordance with 310 CMR 7.01(2)(a) through (c). 1) Information on equipment type, make and model, and rated power output; 2) A log of operations, including date, time and duration of operation and reason for each start per 310 CMR 7.26(42)(d)1., fuel type and supplier; 3) Purchase orders, invoices, and other documents to substantiate information in the log; 4) Copies of certificates and documents from the manufacturer related to certificates.
EU-8	17. In accordance with Plan Approval SE-13-020, the Permittee shall continuously record the pressure in the Blending and Mixing tank to document it is maintained at negative pressure at all times.
	18. In accordance with Plan Approval SE-13-020, the Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. These records shall be compiled no later than the 15 th day following each month.
	19. In accordance with Plan Approval SE-13-020, the Permittee shall maintain records of monitoring and testing as required by Table 4.
	20. In accordance with Plan Approval SE-13-020, the Permittee shall maintain a copy of the most up-to-date SOMP for the EU(s) approved herein on-site.
	21. In accordance with Plan Approval SE-13-020, the Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed.
	22. In accordance with Plan Approval SE-13-020, the Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation.
Facility-wide	23. In accordance with 310 CMR 7.71 (6) (b) and (c), the Permittee shall keep on site at the facility documents of the methodology and data used to quantify emissions for a period of 5 years from the date the document is created. The Permittee shall make these documents available to MassDEP upon request. (State Only Requirement).

Table 5	
EU	Record Keeping Requirements
Facility-wide	24. In accordance with AQ14/12-000003-APP, the Permittee shall maintain comprehensive and accurate records onsite to demonstrate compliance with the facility-wide HAP emission limits contained in Table 3. A record of all HAPs emitted for each calendar month and for each consecutive twelve-month period shall be maintained on-site. These records shall be compiled no later than the 15 th day following each month.
	25. In accordance with Plan Approval No. 4B04015, a record keeping system shall be established and maintained on-site. All records shall be maintained up-to-date such that the year-to-date information is readily available for MassDEP examination. Record keeping shall, at a minimum, include: a) a record of routine maintenance activities performed on emission unit control and monitoring equipment including, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed; and b) a record of all malfunctions on emission unit control and monitoring equipment shall include, at a minimum: the date and time the malfunctions occurred; a description of the malfunctions and the corrective actions taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the emission unit returned to compliance. All records shall be kept on-site for five (5) years and shall be made available to MassDEP personnel upon request.
	26. In accordance with 310 CMR 7.12, maintain records to facilitate compilation of data for the required Source Registration submittal.
	27. In accordance with 310 CMR 7.12(3)(c), copies of Source Registration and other information supplied to MassDEP, to comply with 310 CMR 7.12, shall be retained by the facility owner/operator for five years from the date of submittal.
	28. In accordance with Plan Approval SE-13-020, the Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request.

Table 5 Key:

Btu = British thermal units
CFR= Code of Federal Regulations
CMR = Code of Massachusetts Regulations
CO = Carbon Monoxide
EU = Emission Unit
HAP = Hazardous air pollutant, as listed in the 1990 Clean Air Act (CAA) Amendments, Section 112(b)
H₂S = Hydrogen Sulfide
LFG = Landfill Gas
MassDEP = Massachusetts Department of Environmental Protection
NMOC = Non-Methane organic compounds
NO_x = Nitrogen Oxides
No.= Number
PM = Particulate Matter
ppm_v = parts per million, by volume
RICE = Reciprocating Internal Combustion Engine
scf = standard cubic foot
SO₂ = Sulfur Dioxide
VOC = Volatile Organic Compounds
§= Section

Table 6	
EU	Reporting Requirements
EU-1 EU-2 EU-3 EU-4 EU-5	1. In accordance with Plan Approval No. 4B04015, revisions to the Final Standard Operating and Maintenance Procedures shall be submitted to the MassDEP within seven (7) days from their initial use.
	2. In accordance with Plan Approval No. 4B04015, the MassDEP's Permit Chief for the Bureau of Air and Waste at this office must be notified by telephone or electronic mail within 24 hours, and with written notification within ten (10) days, after occurrence of any upsets or malfunctions to the facility equipment, air pollution control equipment, or monitoring equipment which result in an excess emission to the air and/or a condition of air pollution.
	3. In accordance with Plan Approval No. 4B04015, notification to the MassDEP, in writing, shall be made within 10 days from the date that EU-5 commences LFG or digester gas burning.
	4. In accordance with Plan Approval 4B04015 and 310 CMR 7.12, the Permittee shall submit a Source Registration/Emission Statement Form to MassDEP on an annual basis.
	5. In accordance with Plan Approval No. 4B04015, a stack test protocol shall be submitted to the MassDEP at least 30 days prior to the commencing of compliance testing. The final emission report shall be submitted to the MassDEP within 30 days from completion of on-site testing.
Facility-wide	6. In accordance with 310 CMR 7.13(1) and 7.13(2), if determined by MassDEP that stack testing is necessary to ascertain compliance with the Department's regulations or design approval provisos, the Permittee shall cause such stack testing to be summarized and submitted to MassDEP as prescribed in the agreed to pretest protocol.
	7. In accordance with 310 CMR 7.00: Appendix C(10)(c)., the Permittee shall report a summary of all monitoring data and related supporting information to MassDEP at least every six months (January 30 and July 30 of each calendar year).
	8. In accordance with General Condition 10 of this Permit, the Permittee shall submit the Annual Compliance report to MassDEP and USEPA by January 30 of each year.
	9. In accordance with 310 CMR 7.00: Appendix C (10)(f), the Permittee shall promptly report to the MassDEP all instances of deviations from permit requirements. This report shall include the deviation itself, including those attributable to upset conditions as defined in the permit, the probable cause of the deviation, and any corrective actions or preventative measures taken.
	10. Submit Annual Compliance report to MassDEP and USEPA by January 30 of each year and as required by General Condition 10 of this Permit.
	11. In accordance with 310 CMR 7.00: Appendix C (10)(h), all required reports must be certified by a responsible official consistent with 310 CMR 7.00: Appendix C (5)(c).
	12. Unless otherwise noted ^(Note 1) , all notifications and reporting required by this Operating Permit shall be sent to: Department of Environmental Protection Bureau of Air and Waste Southeast Regional Office 20 Riverside Drive Lakeville, MA 02347 ATTN: Chief, Air Permitting Telephone: (508) 946-2770 Electronic mail address: sero.air@mass.gov
	13. In accordance with 310 CMR 7.71(5), the Permittee shall electronically submit and certify by April 15 th of each year a greenhouse gas emissions report to MassDEP. (State Only Requirement).

Table 6 Key:

EU = Emission Unit
CMR = CMR = Code of Massachusetts Regulations
MassDEP = Massachusetts Department of Environmental Protection
USEPA = United States Environmental Protection Agency
No. = Number
LFG = Landfill Gas

Table 6 Note:

(1) The annual Source Registration/Emission Statement shall be submitted to the MassDEP office specified in the instructions.

C. GENERAL APPLICABLE REQUIREMENTS

The Permittee shall comply with all generally applicable requirements contained in 310 CMR 7.00 et seq. and 310 CMR 8.00 et. seq., when subject.

D. REQUIREMENTS NOT CURRENTLY APPLICABLE

The Permittee is currently not subject to the following requirements:

Table 7	
Regulation	Reason
310 CMR 7.16: Reduction of Single Occupant Commuter Vehicle Use	Facility is below employee threshold.
40 CFR Part 64: Compliance Assurance Monitoring	Facility has no subject emission units

Table 7 Key:

CFR = Code of Federal Regulations

CMR = Code of Massachusetts Regulations

5. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to and shall comply with the following special terms and conditions that are not contained in Table 3, 4, 5, and 6:

Table 8	
EU	Special Terms and Conditions
EU-5	1. In accordance with AQ14/12-000003-APP, at the time of installation of EU-5, the Permittee shall notify MassDEP, evaluate the installation according to applicable State and Federal regulations (such as, but not limited to 40 CFR Part 63 Subpart ZZZZ, and 40 CFR Part 60 Subpart JJJJ), and propose to modify the Operating Permit as necessary.
EU-7	2. In accordance with 310 CMR 7.26(42)(b)3., the Permittee shall obtain from the supplier a statement that a certificate of conformity has been obtained from the USEPA. Pursuant to 40 CFR 89.105 as in effect October 23, 1998, any engine certified under the USEPA non-road standards is automatically certified to operate as an emergency engine pursuant to 310 CMR 7.26(42).
EU-8	3. In accordance with Plan Approval SE-13-020, in the event that the engines at the facility are not operational, all digested gas from the anaerobic digester system shall be routed to the flare.
Facility-wide	4. Emission Units EU-1 through EU-5 construction shall be consistent with the Equipment and Design Schedule in Plan Approval Nos. 4B04015 and SE-13-020 as follows: <u>Engine/Electric Generator Sets</u> Manufacturer Caterpillar (or equiv.) Model No. 3516 (or equiv.) Max. Heat Input 10.07 MMBtu/hr/engine @ 900 kW Fuel Landfill Gas / Digester Gas Maximum Output 900 kW/generator Nominal Output 825 kW/generator Max. Stack Exit Temperature 960 °F Stack Material Steel Stack Height 30 feet above ground Stack Exit Diameter 12 inches Silencer Manufacturer EM Products (or equiv.) Silencer Model No. JCS12-X2608 (or equiv.) <u>Approximate Facility Location</u> UTM Coordinates 334925 East, 4620880 North (Zone 19) Latitude/Longitude North 41° 43' 28", West 70° 59'
	5. Emission units EU-1 through EU-4 are subject to the requirements of 40 CFR 63.1-15, Subpart A, "General Provisions" [as indicated in Table"8" to Subpart ZZZZ of 40 CFR 63] except §§ 63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), 63.9(g) and 63.9(h) as specified at § 63.6645(a)(5). Compliance with all applicable provisions therein is required.
	6. In accordance with Plan Approval No. 4B04015, there shall be no direct release or bypass of landfill gas from the facility to the ambient air.
	7. In accordance with Plan Approval No. 4B04015, sound impacts shall not exceed 10 dB(A) above background and shall not cause a puretone condition as defined in the MassDEP's DAQC Policy No. 90-001. (State Only Requirement)

Table 8	
EU	Special Terms and Conditions
Facility-wide	8. In accordance with Plan Approval No. 4B04015, MassDEP personnel shall be provided immediate access to the plant site, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.
	9. In accordance with Plan Approval No. 4B04015, if any nuisance condition(s) should be generated by the operation of this facility, immediate appropriate steps shall be taken to abate the nuisance condition(s).

Table 8 Key:

CFR = Code of Federal Regulations
dB(A) = decibels weighted for the “A” scale
hr = hour
MMBtu = Million British Thermal Units
° = degrees
' = minutes
“ = seconds
°F = degrees Fahrenheit
@ = at
equiv. = equivalent

DAQC = Division of Air Quality Control
EU = Emission Unit
kW = kilowatt
No. = Number
UTM = Universal Transverse Mercator
§ = Section
§§ = Sections
USEPA = United States Environmental Protection Agency
CMR = Code of Massachusetts Regulations
max. = maximum

6. ALTERNATIVE OPERATING SCENARIOS

The Permittee did not request alternative operating scenarios in its Operating Permit application.

7. EMISSIONS TRADING

A. INTRA-FACILITY EMISSION TRADING

The Permittee did not request intra-facility emissions trading in its Operating Permit application.

B. INTER-FACILITY EMISSION TRADING

The Permittee did not request inter-facility emissions trading in its Operating Permit application.

8. COMPLIANCE SCHEDULE

The Permittee has indicated that the Facility is in compliance and shall remain in compliance with the applicable requirements contained in Sections 4 and 5.

In addition, the Permittee shall comply with any applicable requirements that become effective during the Permit term.

GENERAL CONDITIONS FOR OPERATING PERMIT

9. FEES

The Permittee has paid the permit application processing fee and shall pay the annual compliance fee in accordance with the fee schedule pursuant to 310 CMR 4.00.

10. COMPLIANCE CERTIFICATION

All documents submitted to the MassDEP shall contain certification by the responsible official of truth, accuracy, and completeness. Such certification shall be in compliance with 310 CMR 7.01(2) and contain the following language:

"I certify that I have personally examined the foregoing and am familiar with the information contained in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

The "Operating Permit Reporting Kit" contains instructions and the Annual Compliance Report and Certification and the Semi-Annual Monitoring Summary Report and Certification. The "Operating Permit Reporting Kit" is available to the Permittee via the MassDEP's web site, <http://www.mass.gov/dep/air/approvals/aqforms.htm#op>.

A. Annual Compliance Report and Certification

The Responsible Official shall certify, annually for the calendar year, that the facility is in compliance with the requirements of this Operating Permit. The report shall be postmarked or delivered by January 30 to the MassDEP and to the Air Compliance Clerk, U.S. Environmental Protection Agency - New England Region. The report shall be submitted in compliance with the submission requirements below.

The compliance certification and report shall describe:

- 1) the terms and conditions of the Permit that are the basis of the certification;
- 2) the current compliance status and whether compliance was continuous or intermittent during the reporting period;
- 3) the methods used for determining compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods; and
- 4) any additional information required by the MassDEP to determine the compliance status of the source.

B. Semi-Annual Monitoring Summary Report and Certification

The Responsible Official shall certify, semi-annually on the calendar year, that the Facility is in compliance with the requirements of this Permit. The report shall be postmarked or delivered by January 30 and July 30 to MassDEP. The report shall be submitted in compliance with the submission requirements below.

The compliance certification and report shall describe:

- 1) the terms and conditions of the Permit that are the basis of the certification;
- 2) the current compliance status during the reporting period;
- 3) the methods used for determining compliance, including a description of the monitoring, record keeping, and reporting requirements and test methods;
- 4) whether there were any deviations during the reporting period;
- 5) if there are any outstanding deviations at the time of reporting, and the Corrective Action Plan to remedy said deviation;
- 6) whether deviations in the reporting period were previously reported;
- 7) if there are any outstanding deviations at the time of reporting, the proposed date of return to compliance;
- 8) if the deviations in the reporting period have returned to compliance and date of such return to compliance; and
- 9) any additional information required by the MassDEP to determine the compliance status of the source.

11. NONCOMPLIANCE

Any noncompliance with a permit condition constitutes a violation of 310 CMR 7.00: Appendix C and the Clean Air Act, and is grounds for enforcement action, for Permit termination or revocation, or for denial of an Operating Permit renewal application by the MassDEP and/or EPA. Noncompliance may also be grounds for assessment of administrative or civil penalties under M.G.L. c.21A, §16 and 310 CMR 5.00; and civil penalties under M.G.L. c.111, §142A and 142B. This Permit does not relieve the Permittee from the obligation to comply with any other provisions of 310 CMR 7.00 or the Act, or to obtain any other necessary authorizations from other governmental agencies, or to comply with all other applicable Federal, State, or Local rules and regulations, not addressed in this Permit.

12. PERMIT SHIELD

- A. This Facility has a permit shield provided that it operates in compliance with the terms and conditions of this Permit. Compliance with the terms and conditions of this Permit shall be deemed compliance with all applicable requirements specifically identified in Sections 4, 5, 6, and 7, for the emission units as described in the Permittee's application and as identified in this Permit.

Where there is a conflict between the terms and conditions of this Permit and any earlier approval or Permit, the terms and conditions of this Permit control.

- B. The MassDEP has determined that the Permittee is not currently subject to the requirements listed in Section 4, Table 7.
- C. Nothing in this Permit shall alter or affect the following:
 - 1) the liability of the source for any violation of applicable requirements prior to or at the time of Permit issuance.
 - 2) the applicable requirements of the Acid Rain Program, consistent with 42 U.S.C. §7401, §408(a); or
 - 3) the ability of EPA to obtain information under 42 U.S.C. §7401, §114 or §303 of the Act.

13. ENFORCEMENT

The following regulations found at 310 CMR 7.02(8)(h) Table 6 for wood fuel, 7.04(9), 7.05(8), 7.09 (odor), 7.10 (noise), 7.18(1)(b), 7.70, 7.71, 7.72, 7.74, 7.75 and any condition(s) designated as "state only" are not federally enforceable because they are not required under the Act or under any of its applicable requirements. These regulations and conditions are not enforceable by the EPA. Citizens may seek equitable or declaratory relief to enforce these regulations and conditions pursuant to Massachusetts General Law Chapter 214, Section 7A

All other terms and conditions contained in this Permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the MassDEP, EPA and citizens as defined under the Act.

A Permittee shall not claim as a defense in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

14. PERMIT TERM

This Permit shall expire on the date specified on the cover page of this Permit, which shall not be later than the date 5 years after issuance of this Permit.

Permit expiration terminates the Permittee's right to operate the facility's emission units, control equipment or associated equipment covered by this Permit, unless a timely and complete renewal application is submitted at least 6 months before the expiration date.

15. PERMIT RENEWAL

Upon the MassDEP's receipt of a complete and timely application for renewal, this Facility may continue to operate subject to final action by the MassDEP on the renewal application.

In the event the MassDEP has not taken final action on the Operating Permit renewal application prior to this Permit's expiration date, this Permit shall remain in effect until the MassDEP takes final action on the renewal application, provided that a timely and complete renewal application has been submitted in accordance with 310 CMR 7.00: Appendix C(13).

16. REOPENING FOR CAUSE

This Permit may be modified, revoked, reopened, and reissued, or terminated for cause by the MassDEP and/or EPA. The responsible official of the Facility may request that the MassDEP terminate the facility's Operating Permit for cause. The MassDEP will reopen and amend this Permit in accordance with the conditions and procedures under 310 CMR 7.00: Appendix C(14).

The filing of a request by the Permittee for an Operating Permit revision, revocation and reissuance, or termination, or a notification of a planned change or anticipated noncompliance does not stay any Operating Permit condition.

17. DUTY TO PROVIDE INFORMATION

Upon the MassDEP's written request, the Permittee shall furnish, within a reasonable time, any information necessary for determining whether cause exists for modifying, revoking and reissuing, or terminating the Permit, or to determine compliance with the Permit. Upon request, the Permittee shall furnish to the MassDEP copies of records that the Permittee is required to retain by this Permit.

18. DUTY TO SUPPLEMENT

The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the Facility after the date a complete renewal application was submitted but prior to release of a draft permit.

The Permittee shall promptly, on discovery, report to the MassDEP a material error or omission in any records, reports, plans, or other documents previously provided to the MassDEP.

19. TRANSFER OF OWNERSHIP OR OPERATION

This Permit is not transferable by the Permittee unless done in accordance with 310 CMR 7.00: Appendix C(8)(a). A change in ownership or operation control is considered an administrative permit amendment if no other change in the Permit is necessary and provided that a written agreement containing a specific date for transfer of Permit responsibility, coverage and liability between current and new Permittee, has been submitted to the MassDEP.

20. PROPERTY RIGHTS

This Permit does not convey any property rights of any sort, or any exclusive privilege.

21. INSPECTION AND ENTRY

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow authorized representatives of the MassDEP, and EPA to perform the following:

- A. Enter upon the Permittee's premises where an operating permit source activity is located or emissions-related activity is conducted, or where records must be kept under the conditions of this Permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and
- D. Sample or monitor at reasonable times any substances or parameters for the purpose of assuring compliance with the Operating Permit or applicable requirements as per 310 CMR 7.00 Appendix C(3)(g)(12).

22. PERMIT AVAILABILITY

The Permittee shall have available at the Facility, at all times, a copy of the materials listed under 310 CMR 7.00: Appendix C(10)(e) and shall provide a copy of the Operating Permit, including any amendments or attachments thereto, upon request by the MassDEP or EPA.

23. SEVERABILITY CLAUSE

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

24. EMERGENCY CONDITIONS

The Permittee shall be shielded from enforcement action brought for noncompliance with technology based¹ emission limitations specified in this Permit as a result of an emergency². In order to use emergency as an affirmative defense to an action brought for noncompliance, the Permittee shall demonstrate the affirmative defense through properly signed, contemporaneous operating logs, or other relevant evidence that:

- A. an emergency occurred and that the Permittee can identify the cause(s) of the emergency;
- B. the permitted Facility was at the time being properly operated;
- C. during the period of the emergency, the Permittee took all reasonable steps as expeditiously as possible, to minimize levels of emissions that exceeded the emissions standards, or other requirements in this Permit; and
- D. the Permittee submitted notice of the emergency to the MassDEP within two (2) business days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emission, and corrective actions taken.

If an emergency episode requires immediate notification to the Bureau of Waste Site Cleanup/Emergency Response, immediate notification to the appropriate parties should be made as required by law.

25. PERMIT DEVIATION

Deviations are instances where any permit condition is violated and not reported as an emergency pursuant to section 24 of this Permit. Reporting a permit deviation is not an affirmative defense for action brought for noncompliance. Any reporting requirements listed in Table 6 of this Operating Permit shall supersede the following deviation reporting requirements, if applicable.

The Permittee shall report to the MassDEP's Regional Bureau of Air and Waste the following deviations from permit requirements, by telephone, by fax or by electronic mail (e-mail), within three (3) days of discovery of such deviation:

- A. Unpermitted pollutant releases, excess emissions or opacity exceedances measured directly by CEMS/COMS, by EPA reference methods or by other credible evidence, which are ten percent (10%) or more above the emission limit.

¹ Technology based emission limits are those established on the basis of emission reductions achievable with various control measures or process changes (e.g., a new source performance standard) rather than those established to attain health based air quality standards.

² An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation would require immediate corrective action to restore normal operation, and that causes the source to exceed a technology based limitation under the Permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operations, operator error or decision to keep operating despite knowledge of any of these things.

- B. Exceedances of parameter limits established by this Operating Permit or other approvals, where the parameter limit is identified by the Permit or approval as surrogate for an emission limit.
- C. Exceedances of Permit operational limitations directly correlated to excess emissions.
- D. Failure to capture valid emissions or opacity monitoring data or to maintain monitoring equipment as required by statutes, regulations, this Operating Permit, or other approvals.
- E. Failure to perform QA/QC measures as required by this Operating Permit or other approvals for instruments that directly monitor compliance.

For all other deviations, three (3) day notification is waived and is satisfied by the documentation required in the subsequent Semi-Annual Monitoring Summary and Certification. Instructions and forms for reporting deviations are found in the MassDEP Bureau of Air and Waste Air Operating Permit Reporting Kit, which is available to the Permittee via the MassDEP's web site,

<http://www.mass.gov/dep/air/approvals/aqforms.htm#op>.

This report shall include the deviation, including those attributable to upset conditions as defined in the Permit, the probable cause of such deviations, and the corrective actions or preventative measures taken.

Deviations that were reported by telephone, fax or electronic mail (e-mail) within 3 days of discovery, said deviations shall also be submitted in writing via the Operating Permit Deviation Report to the regional Bureau of Air and Waste within ten (10) days of discovery. For deviations, which do not require 3-day verbal notification, follow-up reporting requirements are satisfied by the documentation required in the aforementioned Semi-Annual Monitoring Summary and Certification.

26. OPERATIONAL FLEXIBILITY

The Permittee is allowed to make changes at the Facility consistent with 42 U.S.C. §7401, §502(b)(10) not specifically prohibited by the Permit and in compliance with all applicable requirements provided the Permittee gives the EPA and the MassDEP written notice fifteen (15) days prior to said change; notification is not required for exempt activities listed at 310 CMR 7.00: Appendix C(5)(h) and (i). The notice shall comply with the requirements stated at 310 CMR 7.00: Appendix C(7)(a) and will be appended to the Facility's Permit. The permit shield allowed for at 310 CMR 7.00: Appendix C(12) shall not apply to these changes.

27. MODIFICATIONS

- A. Administrative Amendments - The Permittee may make changes at the Facility which are considered administrative amendments pursuant to 310 CMR 7.00: Appendix C(8)(a)1., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(b).
- B. Minor Modifications - The Permittee may make changes at the Facility which are considered minor modifications pursuant to 310 CMR 7.00: Appendix C(8)(a)2., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(d).

- C. Significant Modifications - The Permittee may make changes at the Facility which are considered significant modifications pursuant to 310 CMR 7.00: Appendix C(8)(a)3., provided they comply with the requirements established at 310 CMR 7.00: Appendix C(8)(c).
- D. No permit revision shall be required, under any approved economic incentives program, marketable permits program, emission trading program and other similar programs or processes, for changes that are provided in this Operating Permit. A revision to the Permit is not required for increases in emissions that are authorized by allowances acquired pursuant to the Acid Rain Program under Title IV of the Act, provided that such increases do not require an Operating Permit revision under any other applicable requirement.

28. OZONE DEPLETING SUBSTANCES

This section contains air pollution control requirements that are applicable to this Facility, and the United States Environmental Protection Agency enforces these requirements.

- A. The Permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
 - 1) All containers containing a class I or class II substance that is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to 40 CFR 82.106.
 - 2) The placement of the required warning statement must comply with the requirements of 40 CFR 82.108.
 - 3) The form of the label bearing the required warning statement must comply with the requirements of 40 CFR 82.110.
 - 4) No person may modify, remove or interfere with the required warning statement except as described in 40 CFR 82.112.
- B. The Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVAC) in Subpart B:
 - 1) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices of 40 CFR 82.156.
 - 2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment of 40 CFR 82.158.
 - 3) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - 4) Persons disposing of small appliances, MVACs and MVAC-like appliances (as defined in 40 CFR 82.152) must comply with recordkeeping requirements of 40 CFR 82.166.
 - 5) Persons owning commercial or industrial process refrigeration equipment must comply with the

leak repair equipment requirements of 40 CFR 82.156.

- 6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
- C. If the Permittee manufactures, transforms, imports or exports a class I or class II substance, the Permittee is subject to all the requirements as specified in 40 CFR Part 82, Subpart A, "Production and Consumption Controls".
- D. If the Permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, "Servicing of Motor Vehicle Air Conditioners". The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo or system used on passenger buses using HCFC-22 refrigerant.
- E. The Permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, "Significant New Alternatives Policy Program".

29. PREVENTION OF ACCIDENTAL RELEASES

This section contains air pollution control requirements that are applicable to this Facility and the United States Environmental Protection Agency enforces these requirements.

This Facility is subject to the requirements of the General Duty Clause, under 112(r)(1) of the CAA Amendments of 1990. This clause specifies that owners or operators of stationary sources producing, processing, handling or storing a chemical in any quantity listed in 40 CFR Part 68 or any other extremely hazardous substance have a general duty to identify hazards associated with these substances and to design, operate and maintain a safe facility, in order to prevent releases and to minimize the consequences of accidental releases which may occur.

APPEAL CONDITIONS FOR OPERATING PERMIT

This Permit is an action of the MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing within 21 days of issuance of this Permit. In addition, any person who participates in any public participation process required by the Federal Clean Air Act, 42 U.S.C. §7401, §502(b)(6) or under 310 CMR 7.00: Appendix C(6), with respect to the MassDEP's final action on operating permits governing air emissions, and who has standing to sue with respect to the matter pursuant to federal constitutional law, may initiate an adjudicatory hearing pursuant to Chapter 30A, and may obtain judicial review, pursuant to Chapter 30A, of a final decision therein.

If an adjudicatory hearing is requested, the Facility must continue to comply with all existing federal and state applicable requirements to which the Facility is currently subject, until a final decision is issued in the case or the appeal is withdrawn. During this period, the application shield shall remain in effect, and the Facility shall not be in violation of the Act for operating without a Permit.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts which are the grounds for the request, and the relief sought. Additionally, the request must state why the Permit is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to The Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

The Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

The request will be dismissed if the filing fee is not paid unless the appellant is exempt or granted a waiver as described below.

The filing fee is not required if the appellant is a city or town (or municipal agency) county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

The MassDEP may waive the adjudicatory hearing filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

NMOCs Report



October 22, 2024

Letter Report

Manager, Air Permitting
USEPA REGION 1 – New England
5 Post Office Square, Suite 100
Boston, MA 02109-3912

196343

Subject: Compliance confirmation with USEPA 40 CFR 60, Subpart XXX regulation Non-methane organic compounds (NMOCs) annual report, 2024 Greater New Bedford Regional Refuse Management District
Crapo Hill Landfill, Dartmouth, Massachusetts

Dear Air Compliance Clerk,

On behalf of the Greater New Bedford Regional Refuse Management District (the District), Brown and Caldwell submits this letter report in accordance with the New Source Performance Standards (NSPS) for municipal solid waste (MSW) landfills contained in 40 CFR Part 60, Subpart XXX. Specifically, this letter report provides the uncontrolled emission rate of non-methane organic compounds (NMOCs) from the Crapo Hill Landfill for the year 2024.

The NMOCs emission rate was estimated in accordance with the methodology contained in USEPA 40 CFR 60, Subpart XXX Standards of Performance for Municipal Solid Waste Landfills regulation, which updated and replaced 40 CFR 60, Subpart WWW. The NSPS regulations require calculation of the annual uncontrolled NMOCs emission rate for landfills that have a maximum landfill design capacity for waste disposal of greater than or equal to 2.5 million megagrams (Mg).

In accordance with the Subpart XXX regulation, Brown and Caldwell used the Tier 2 test results in the USEPA LandGEM model to calculate uncontrolled emissions of NMOCs. Based upon the data from the Crapo Hill Landfill, the uncontrolled NMOCs for 2024 is calculated to be **7.9 metric tons** as shown attached. The 7.9 metric tons of uncontrolled NMOCs is significantly less than the Subpart XXX threshold of 34 metric tons. Therefore, Brown and Caldwell finds that the Crapo Hill Landfill is only subject to the reporting requirements for the Design Capacity modifications and uncontrolled NMOC emissions under Subpart XXX. All other requirements under Subpart XXX are not applicable to the Crapo Hill Landfill so long as the uncontrolled emissions of NMOCs continue to be less than the 34 metric ton threshold.

In accordance with the Tier 2 methodology under 40 CFR Part 60, Subpart XXX, the following was performed.

Sampling

In accordance with EPA Methods 3C and 25C, three samples of landfill gas (LFG) were collected from the landfill gas header system downstream from the landfill gas blower on September 11, 2024. Three 6-liter Summa canisters, each at an initial vacuum of 30 inches of mercury, were connected to a sampling port in the LFG header. LFG samples were extracted at a flow rate of approximately 1,200 milliliters per minute over a 5-minute period. The Summa canisters were sent to Atmospheric Analysis & Consulting, Inc. (AAC) in Ventura, California for laboratory analysis.

Analyses

AAC conducted (1) EPA method 3C analysis for the concentration of fixed gases including hydrogen, oxygen, nitrogen, carbon monoxide, carbon dioxide, and methane and (2) EPA Method 25C analysis for NMOCs (as carbon) concentration contained in the LFG prior to control.

Calculations

- The site specific NMOC concentration results from EPA Method 25C were converted from carbon to hexane basis in accordance with 40 CFR Part 60.764 – “Test methods and procedures”.
- The site-specific NMOC concentration results were used in the USEPA Landfill Gas Emissions Model (LandGEM), Version 3.02 together with the USEPA recommended input values to calculate uncontrolled NMOC quantities contained in LFG in 2024. The USEPA recommended conventional input values included waste input rates from 1995 through 2023, methane generation rate (k) of 0.05 year⁻¹, potential methane generation capacity (L_0) of 170 cubic meter of methane per Mg waste, and the site specific NMOC concentrations in LFG of 94 ppmv as hexane, and a methane content of LFG of 50 percent.

The results of the measurement, analyses and calculations are as follows:

- The estimated uncontrolled NMOC emissions for 2024 are **7.9 Mg** as shown in Exhibit 1 in the USEPA LandGEM report.
- The average of three samples show uncontrolled NMOCs concentration is 94 ppmv, as hexane, corrected to 50-percent methane content in LFG as previously documented herein.

As noted previously, because the uncontrolled NMOC emissions are below the 34 Mg per year threshold as calculated by the Tier 2 methodology, the Crapo Hill Landfill is not subject to the controls, monitoring, and most of the reporting requirements under the NSPS for MSW landfills contained in 40 CFR Part 60, Subpart XXX. However, in accordance with 40 CFR Part 60, Subpart XXX 60.767(b)(1)(ii), the District is required to retest, calculate, and report the uncontrolled NMOC mass emission for the site-specific uncontrolled NMOC concentration every 5 years.

Please contact me directly at 508. 819.1444 or akirschner@brwnald.com with any questions.

Very truly yours,

Brown and Caldwell

A handwritten signature in blue ink, appearing to read 'Alan Kirschner', with a stylized, cursive script.

Alan Kirschner
Sr. Director, Client Services

cc: Thomas Cushing, MDEP Air
Mark Dakers, MDEP Solid Waste

Attachments (3)

- Attachment A: LandGEM Report
- Attachment B: NMOC_Analysis
- Attachment C: NMOC Laboratory Report

Attachment A: LandGEM Report



Summary Report

Landfill Name or Identifier: Crapo Hill Landfill, Massachusetts

Date: Wednesday, October 16, 2024

Description/Comments:

About LandGEM:

First-Order Decomposition Rate Equation:

$$Q_{CH_4} = \sum_{i=1}^n \sum_{j=0.1}^1 k L_o \left(\frac{M_i}{10} \right) e^{-k t_{ij}}$$

Where,

Q_{CH_4} = annual methane generation in the year of the calculation ($m^3/year$)

i = 1-year time increment

n = (year of the calculation) - (initial year of waste acceptance)

j = 0.1-year time increment

k = methane generation rate ($year^{-1}$)

L_o = potential methane generation capacity (m^3/Mg)

M_i = mass of waste accepted in the i^{th} year (Mg)

t_{ij} = age of the j^{th} section of waste mass M_i accepted in the i^{th} year (*decimal years*, e.g., 3.2 years)

LandGEM is based on a first-order decomposition rate equation for quantifying emissions from the decomposition of landfilled waste in municipal solid waste (MSW) landfills. The software provides a relatively simple approach to estimating landfill gas emissions. Model defaults are based on empirical data from U.S. landfills. Field test data can also be used in place of model defaults when available. Further guidance on EPA test methods, Clean Air Act (CAA) regulations, and other guidance regarding landfill gas emissions and control technology requirements can be found at <http://www.epa.gov/ttnatw01/landfill/landflpg.html>.

LandGEM is considered a screening tool — the better the input data, the better the estimates. Often, there are limitations with the available data regarding waste quantity and composition, variation in design and operating practices over time, and changes occurring over time that impact the emissions potential. Changes to landfill operation, such as operating under wet conditions through leachate recirculation or other liquid additions, will result in generating more gas at a faster rate. Defaults for estimating emissions for this type of operation are being developed to include in LandGEM along with defaults for conventional landfills (no leachate or liquid additions) for developing emission inventories and determining CAA applicability. Refer to the Web site identified above for future updates.

Input Review

LANDFILL CHARACTERISTICS

Landfill Open Year	1995	
Landfill Closure Year (with 80-year limit)	2029	
Actual Closure Year (without limit)	2029	
Have Model Calculate Closure Year?	No	
Waste Design Capacity	3,850,000	<i>short tons</i>

MODEL PARAMETERS

Methane Generation Rate, k	0.050	<i>year⁻¹</i>
Potential Methane Generation Capacity, L ₀	170	<i>m³/Mg</i>
NMOC Concentration	94	<i>ppmv as hexane</i>
Methane Content	50	<i>% by volume</i>

GASES / POLLUTANTS SELECTED

Gas / Pollutant #1:	NMOC
Gas / Pollutant #2:	
Gas / Pollutant #3:	
Gas / Pollutant #4:	

WASTE ACCEPTANCE RATES

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
1995	87,033	95,737	0	0
1996	99,952	109,947	87,033	95,737
1997	100,641	110,705	186,986	205,684
1998	104,388	114,827	287,627	316,389
1999	98,951	108,846	392,015	431,216
2000	105,646	116,210	490,966	540,062
2001	103,140	113,454	596,611	656,272
2002	104,545	115,000	699,751	769,726
2003	101,436	111,580	804,297	884,726
2004	103,369	113,706	905,733	996,306
2005	103,934	114,327	1,009,102	1,110,012
2006	96,437	106,081	1,113,036	1,224,339
2007	92,205	101,425	1,209,473	1,330,420
2008	86,110	94,721	1,301,678	1,431,845
2009	85,316	93,848	1,387,787	1,526,566
2010	89,478	98,426	1,473,104	1,620,414
2011	71,507	78,658	1,562,582	1,718,840
2012	90,314	99,345	1,634,089	1,797,498
2013	88,569	97,426	1,724,403	1,896,843
2014	84,853	93,339	1,812,972	1,994,269
2015	97,120	106,832	1,897,826	2,087,608
2016	92,824	102,107	1,994,945	2,194,440
2017	96,939	106,633	2,087,769	2,296,546
2018	95,988	105,587	2,184,708	2,403,179
2019	90,729	99,802	2,280,696	2,508,766
2020	89,494	98,443	2,371,425	2,608,568
2021	86,075	94,683	2,460,919	2,707,011
2022	79,754	87,729	2,546,994	2,801,693
2023	65,542	72,096	2,626,747	2,889,422
2024	100,000	110,000	2,692,289	2,961,518
2025	100,000	110,000	2,792,289	3,071,518
2026	100,000	110,000	2,892,289	3,181,518
2027	100,000	110,000	2,992,289	3,291,518
2028	100,000	110,000	3,092,289	3,401,518
2029	0	0	3,192,289	3,511,518
2030	0	0	3,192,289	3,511,518
2031	0	0	3,192,289	3,511,518
2032	0	0	3,192,289	3,511,518
2033	0	0	3,192,289	3,511,518
2034	0	0	3,192,289	3,511,518

WASTE ACCEPTANCE RATES (Continued)

Year	Waste Accepted		Waste-In-Place	
	(Mg/year)	(short tons/year)	(Mg)	(short tons)
2035	0	0	3,192,289	3,511,518
2036	0	0	3,192,289	3,511,518
2037	0	0	3,192,289	3,511,518
2038	0	0	3,192,289	3,511,518
2039	0	0	3,192,289	3,511,518
2040	0	0	3,192,289	3,511,518
2041	0	0	3,192,289	3,511,518
2042	0	0	3,192,289	3,511,518
2043	0	0	3,192,289	3,511,518
2044	0	0	3,192,289	3,511,518
2045	0	0	3,192,289	3,511,518
2046	0	0	3,192,289	3,511,518
2047	0	0	3,192,289	3,511,518
2048	0	0	3,192,289	3,511,518
2049	0	0	3,192,289	3,511,518
2050	0	0	3,192,289	3,511,518
2051	0	0	3,192,289	3,511,518
2052	0	0	3,192,289	3,511,518
2053	0	0	3,192,289	3,511,518
2054	0	0	3,192,289	3,511,518
2055	0	0	3,192,289	3,511,518
2056	0	0	3,192,289	3,511,518
2057	0	0	3,192,289	3,511,518
2058	0	0	3,192,289	3,511,518
2059	0	0	3,192,289	3,511,518
2060	0	0	3,192,289	3,511,518
2061	0	0	3,192,289	3,511,518
2062	0	0	3,192,289	3,511,518
2063	0	0	3,192,289	3,511,518
2064	0	0	3,192,289	3,511,518
2065	0	0	3,192,289	3,511,518
2066	0	0	3,192,289	3,511,518
2067	0	0	3,192,289	3,511,518
2068	0	0	3,192,289	3,511,518
2069	0	0	3,192,289	3,511,518
2070	0	0	3,192,289	3,511,518
2071	0	0	3,192,289	3,511,518
2072	0	0	3,192,289	3,511,518
2073	0	0	3,192,289	3,511,518
2074	0	0	3,192,289	3,511,518

Results

Year	NMOC					
	(Mg/year)	(m ³ /year)	(av ft ³ /min)	(Mg/year)	(m ³ /year)	(av ft ³ /min)
1995	0	0	0	0	0	0
1996	4.875E-01	1.360E+02	9.138E-03	0.000E+00	0.000E+00	0.000E+00
1997	1.024E+00	2.856E+02	1.919E-02	0.000E+00	0.000E+00	0.000E+00
1998	1.537E+00	4.289E+02	2.882E-02	0.000E+00	0.000E+00	0.000E+00
1999	2.047E+00	5.711E+02	3.837E-02	0.000E+00	0.000E+00	0.000E+00
2000	2.501E+00	6.979E+02	4.689E-02	0.000E+00	0.000E+00	0.000E+00
2001	2.971E+00	8.289E+02	5.569E-02	0.000E+00	0.000E+00	0.000E+00
2002	3.404E+00	9.496E+02	6.381E-02	0.000E+00	0.000E+00	0.000E+00
2003	3.824E+00	1.067E+03	7.167E-02	0.000E+00	0.000E+00	0.000E+00
2004	4.205E+00	1.173E+03	7.883E-02	0.000E+00	0.000E+00	0.000E+00
2005	4.579E+00	1.277E+03	8.583E-02	0.000E+00	0.000E+00	0.000E+00
2006	4.938E+00	1.378E+03	9.256E-02	0.000E+00	0.000E+00	0.000E+00
2007	5.237E+00	1.461E+03	9.817E-02	0.000E+00	0.000E+00	0.000E+00
2008	5.498E+00	1.534E+03	1.031E-01	0.000E+00	0.000E+00	0.000E+00
2009	5.712E+00	1.594E+03	1.071E-01	0.000E+00	0.000E+00	0.000E+00
2010	5.912E+00	1.649E+03	1.108E-01	0.000E+00	0.000E+00	0.000E+00
2011	6.125E+00	1.709E+03	1.148E-01	0.000E+00	0.000E+00	0.000E+00
2012	6.226E+00	1.737E+03	1.167E-01	0.000E+00	0.000E+00	0.000E+00
2013	6.429E+00	1.793E+03	1.205E-01	0.000E+00	0.000E+00	0.000E+00
2014	6.611E+00	1.844E+03	1.239E-01	0.000E+00	0.000E+00	0.000E+00
2015	6.764E+00	1.887E+03	1.268E-01	0.000E+00	0.000E+00	0.000E+00
2016	6.978E+00	1.947E+03	1.308E-01	0.000E+00	0.000E+00	0.000E+00
2017	7.158E+00	1.997E+03	1.342E-01	0.000E+00	0.000E+00	0.000E+00
2018	7.352E+00	2.051E+03	1.378E-01	0.000E+00	0.000E+00	0.000E+00
2019	7.531E+00	2.101E+03	1.412E-01	0.000E+00	0.000E+00	0.000E+00
2020	7.672E+00	2.140E+03	1.438E-01	0.000E+00	0.000E+00	0.000E+00
2021	7.799E+00	2.176E+03	1.462E-01	0.000E+00	0.000E+00	0.000E+00
2022	7.900E+00	2.204E+03	1.481E-01	0.000E+00	0.000E+00	0.000E+00
2023	7.962E+00	2.221E+03	1.492E-01	0.000E+00	0.000E+00	0.000E+00
	7.941E+00	2.215E+03	1.488E-01	0.000E+00	0.000E+00	0.000E+00
2025	8.113E+00	2.264E+03	1.521E-01	0.000E+00	0.000E+00	0.000E+00
2026	8.278E+00	2.309E+03	1.552E-01	0.000E+00	0.000E+00	0.000E+00
2027	8.434E+00	2.353E+03	1.581E-01	0.000E+00	0.000E+00	0.000E+00
2028	8.583E+00	2.395E+03	1.609E-01	0.000E+00	0.000E+00	0.000E+00
2029	8.725E+00	2.434E+03	1.635E-01	0.000E+00	0.000E+00	0.000E+00
2030	8.299E+00	2.315E+03	1.556E-01	0.000E+00	0.000E+00	0.000E+00
2031	7.894E+00	2.202E+03	1.480E-01	0.000E+00	0.000E+00	0.000E+00
2032	7.509E+00	2.095E+03	1.408E-01	0.000E+00	0.000E+00	0.000E+00
2033	7.143E+00	1.993E+03	1.339E-01	0.000E+00	0.000E+00	0.000E+00
2034	6.795E+00	1.896E+03	1.274E-01	0.000E+00	0.000E+00	0.000E+00
2035	6.463E+00	1.803E+03	1.212E-01	0.000E+00	0.000E+00	0.000E+00
2036	6.148E+00	1.715E+03	1.152E-01	0.000E+00	0.000E+00	0.000E+00
2037	5.848E+00	1.632E+03	1.096E-01	0.000E+00	0.000E+00	0.000E+00
2038	5.563E+00	1.552E+03	1.043E-01	0.000E+00	0.000E+00	0.000E+00
2039	5.292E+00	1.476E+03	9.919E-02	0.000E+00	0.000E+00	0.000E+00
2040	5.034E+00	1.404E+03	9.435E-02	0.000E+00	0.000E+00	0.000E+00
2041	4.788E+00	1.336E+03	8.975E-02	0.000E+00	0.000E+00	0.000E+00
2042	4.555E+00	1.271E+03	8.538E-02	0.000E+00	0.000E+00	0.000E+00
2043	4.332E+00	1.209E+03	8.121E-02	0.000E+00	0.000E+00	0.000E+00
2044	4.121E+00	1.150E+03	7.725E-02	0.000E+00	0.000E+00	0.000E+00

Attachment B: NMOC Analysis

Methane and Non-methane Organic Compounds Analysis Results
 Greater New Bedford Regional Refuse Management District
 Crapo Hill Landfill
 300 Samuel Barnet Blvd.
 New Bedford, MA 02745

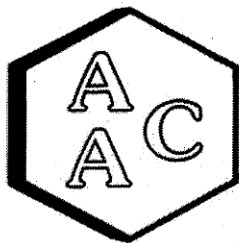
Report date 27-Sep-24
 Sample date 11-Sep-24

Sample #	NMOCs concentration in landfill gas		
	as carbon ppmv	as hexane ppmv	as hexane ppmv corrected to 50 % methane
1	488	81	83
2	567	95	97
3	595	99	102
Average			94

Component in landfill gas Sample #	Fixed gases concentration in landfill gas					
	Methane, %	Carbon dioxide, %	Carbon monoxide %	Nitrogen %	Oxygen %	Hydrogen %
1	49.1	32.9	<0.2	16.6	1.4	<1.6
2	48.6	32.6	<0.2	17.2	1.6	<1.6
3	48.4	32.4	<0.2	17.6	1.7	<1.6

CNBE SCADA readings						
Pre-sample	48.7	34.1		16.4	0.8	
Post-sample	48.4	33.9		16.9	0.8	

Attachment C: NMOC Laboratory Report



Atmospheric Analysis & Consulting, Inc.

CLIENT : Brown & Caldwell
PROJECT NAME : Crapo Hill NMOC
PROJECT NO. : 196343
AAC PROJECT NO. : 242209
REPORT DATE : 09/27/2024

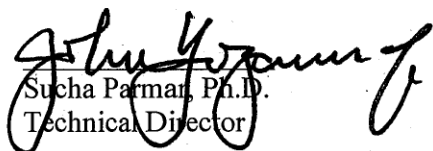
On September 18th 2024, Atmospheric Analysis & Consulting, Inc. received three (3) Six-Liter Summa Canisters for Fixed Gases analysis by EPA 3C and TNMOC analysis by EPA 25C. Upon receipt, the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.	Return Pressure (mmHg)
BC-Can 1-20240911	242209-64164	844.7
BC-Can 2-20240911	242209-64165	837.2
BC-Can 3-20240911	242209-64166	856.4

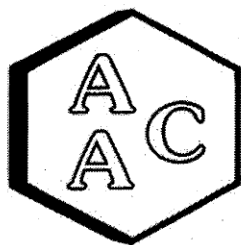
This analysis is performed in accordance with AAC's Quality Manual. Test results apply to the sample(s) as received. For detailed information pertaining to specific EPA, NCASI, ASTM and SCAQMD accreditations (Methods & Analytes), please visit our website at www.aaclab.com.

I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. No problems were encountered during receiving, preparation, and/or analysis of these samples. The Technical Director or his/her designee, as verified by the following signature, has authorized release of the data.

If you have any questions or require further explanation of data results, please contact the undersigned.


Sucha Parmar, Ph.D.
Technical Director

This report consists of 6 pages.



Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Brown & Caldwell
PROJECT NO. : 242209
MATRIX : AIR

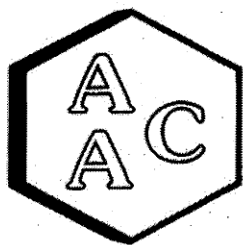
SAMPLING DATE : 09/11/2024
RECEIVING DATE : 09/18/2024
ANALYSIS DATE : 09/24/2024
REPORT DATE : 09/27/2024

EPA 3C

Client ID	BC-Can 1-20240911	BC-Can 2-20240911	BC-Can 3-20240911
AAC ID	242209-64164	242209-64165	242209-64166
Can Dilution Factor	1.55	1.57	1.59
Analyte	Result	Result	Result
H ₂	< 1.6 %	< 1.6 %	< 1.6 %
O ₂	1.4 %	1.6 %	1.7 %
N ₂	16.6 %	17.2 %	17.6 %
CO	< 0.2 %	< 0.2 %	< 0.2 %
CO ₂	32.9 %	32.6 %	32.4 %
CH ₄	49.1 %	48.6 %	48.4 %

All fixed gases have been normalized to 100% on a dry basis

Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac x Canister Dil. Fac



Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Client : Brown & Caldwell
Project No. : 242209
Matrix : AIR
Units : ppmC

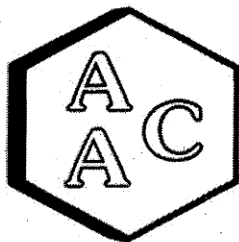
Sampling Date : 09/11/2024
Receiving Date : 09/18/2024
Analysis Date : 09/24/2024
Report Date : 09/27/2024

EPA 25C

Reporting Limit: 3.0 ppmC		Canister Dilution Factor	Analysis Dilution Factor	TNMOC*	SRL (RL x DF's)
Client Sample ID	AAC ID				
BC-Can 1-20240911	242209-64164	1.55	1.00	488	4.66
BC-Can 2-20240911	242209-64165	1.57	1.00	567	4.70
BC-Can 3-20240911	242209-64166	1.59	1.00	595	4.77

Sample Reporting Limit (SRL) is equal to Reporting Limit x Analysis Dil. Fac x Canister Dil. Fac.

*Total Non-Methane Organic Carbon



Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 09/24/2024

Analyst : DM/SS

Units : %

Instrument ID : GC-TCA #2

Calb Date : 01/24/2024

Reporting Limit : 0.1%

I - Opening Continuing Calibration Verification - EPA 3C

AAC ID	Analyte	H ₂	O ₂	N ₂	CH ₄	CO	CO ₂
CCV	Spike Conc	10.0	9.9	19.9	10.0	10.0	10.0
	Result	10.4	10.0	21.5	10.0	9.9	9.6
	% Rec *	103.9	100.4	107.7	100.8	98.7	96.2

II - Method Blank - EPA 3C

AAC ID	Analyte	H ₂	O ₂	N ₂	CH ₄	CO	CO ₂
MB	Concentration	ND	ND	ND	ND	ND	ND

III - Laboratory Control Spike & Duplicate - EPA 3C

AAC ID	Analyte	H ₂	O ₂	N ₂	CH ₄	CO	CO ₂
Lab Control Standards	Sample Conc	0.0	0.0	0.0	0.0	0.0	0.0
	Spike Conc	10.0	9.9	19.9	10.0	10.0	10.0
	LCS Result	9.9	10.0	21.5	10.0	9.8	9.5
	LCSD Result	9.6	9.9	21.2	10.0	9.8	9.5
	LCS % Rec *	98.3	101.0	108.1	100.4	98.4	95.9
	LCSD % Rec *	95.6	100.1	106.4	100.4	98.0	95.6
	% RPD ***	2.8	0.9	1.6	0.1	0.4	0.3

IV - Sample & Sample Duplicate - EPA 3C

AAC ID	Analyte	H ₂	O ₂	N ₂	CH ₄	CO	CO ₂
242230-64270	Sample	0.0	0.1	2.1	13.1	0.0	9.3
	Sample Dup	0.0	0.1	2.1	13.1	0.0	9.3
	Mean	0.0	0.1	2.1	13.1	0.0	9.3
	% RPD ***	0.0	5.9	2.3	0.0	0.0	0.2

V - Matrix Spike & Duplicate- EPA 3C

AAC ID	Analyte	H ₂	N ₂	CH ₄	CO	CO ₂
242230-64270	Sample Conc	0.0	1.1	6.6	0.0	4.6
	Spike Conc	10.0	10.1	10.0	10.0	10.0
	MS Result	11.0	13.0	16.2	9.6	13.9
	MSD Result	10.1	12.5	16.4	9.6	14.0
	MS % Rec **	110.0	118.9	97.0	95.5	92.8
	MSD % Rec **	100.4	113.5	98.7	96.1	94.5
	% RPD ***	9.1	4.7	1.7	0.6	1.8

VI - Closing Continuing Calibration Verification - EPA 3C

AAC ID	Analyte	H ₂	O ₂	N ₂	CH ₄	CO	CO ₂
CCV	Spike Conc	10.0	9.9	19.9	10.0	10.0	10.0
	Result	9.5	10.1	22.1	10.0	9.9	9.6
	% Rec *	94.6	101.5	110.7	101.0	98.7	96.5

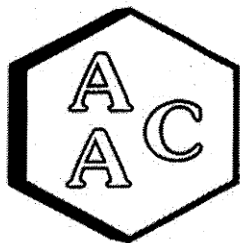
* Must be 85-115%

** Must be 75-125%

*** Must be < 25%

ND = Not Detected

<RL = less than Reporting Limit



Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Analysis Date : 09/24/2024

Analyst : DM/SS

Units : ppmv

Instrument ID : GCTCA#2-FID

Calibration Date : 08/31/2023

I - Opening Calibration Verification Standard - Method 25C

Analyte	xRF	DRF	%RPD*
Propane	7.5673	7.2772	3.9

II - TNMOC Response Factor - Method 25C

Analyte	xRF	CV RF	CV dp RF	CV tp RF	Average RF	% RPD***
Propane	7.5673	7.2772	7.1374	7.5751	7.3299	3.2

III - Ethene & Ethane - Method 25C

AAC ID	Analyte	Result
10ppm Ethane	Ethene	10.41
	Ethane	10.76

IV - Method Blank - Method 25C

AAC ID	Analyte	Sample Result
MB	TNMOC	0.00

V - Laboratory Control Spike & Duplicate - Method 25C

AAC ID	Analyte	Spike Added	LCS	LCSD	LCS % Rec **	LCSD % Rec **	% RPD***
LCS/LCSD	Propane	52.1	49.1	52.2	94.3	100.1	6.0

VI - Closing Calibration Verification Standard - Method 25C

Analyte	xCF	dCF	%RPD*
Propane	7.5673	7.8694	3.9

xCF - Average Calibration Factor from Initial Calibration Curve

dCF - Daily Calibration Factor

* Must be <15%

** Must be 90-110 %

*** Must be <20%

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

[illegible]

Exhibit 9:
RECs Agreements

Confirmation Letter #5

This Confirmation Letter describes a transaction between Buyer and Seller for the sale, purchase and Delivery of Renewable Energy Certificates (“**RECs**”) pursuant to and in accordance with the terms of the Renewable Energy Certificate Purchase and Sale Agreement between the Parties dated December 4, 2019 (the “**Agreement**”) and constitutes part of and is subject to the terms and provisions of the Agreement. Provided, that, to the extent there is a conflict between a provision of the Agreement and this Confirmation Letter, the terms of this Confirmation Letter shall control for the purposes of this transaction.

Initially capitalized terms used and not otherwise defined herein are defined in the Agreement.

Basic Commercial Terms:

Trade Date:	November 21, 2023
Transaction Reference:	32747
Seller:	CommonWealth New Bedford Energy LLC
Buyer:	3Degrees Group, Inc.
Facility:	Greater New Bedford LFG Utilization Project
Eligible Renewable Resource Type:	Landfill Gas
Geography:	Massachusetts
Minimum Online Date:	N/A See Facility
Period Type [Generation, Reporting]:	Generation
Time Period:	January 01, 2024 - December 31, 2024
Product Quantity (REC):	1) 675 2) 5,000 3) 15,000
Contract Price (\$/REC):	1) [REDACTED] USD 2) [REDACTED] USD 3) [REDACTED] USD

Product Specific Terms:

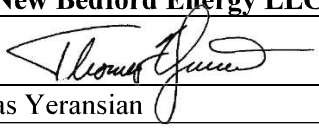
Applicable Standard(s):	1) MA Class I as defined in 225 CMR 14.00 (Class I) 2 and 3) Class I as defined in Conn. Gen. Stat. § 16-245a et seq.; MA Class I as defined in 225 CMR 14.00 (Class I); R.I. Gen. Laws § 39-26-1 et seq.; Maine Class I as defined in CMR 65-407-311; Maine Class IA as defined in CMR 65-407-311
Environmental Attributes retained by Seller, if any:	None except Seller shall retain full title to, interest, rights and claim over all environmental attributes associated with the destruction, by the Facility, of methane contained in the landfill gas.
Media Rights Conferred [yes, no]	No

Delivery Terms:

Delivery Date:	On or before June 1, 2025
Delivery Obligation [Firm, Unit Contingent, Project Contingent]:	1) Unit Contingent - 100% of the Facility output during the Time Period. 2) Unit Contingent - 100% of the Facility output during the Time Period. 3) Firm
Applicable Tracking System:	NEPOOL GIS
Buyer Tracking Account Name:	3Degrees Group, Inc.

Attestation Form:	None - Tracking System only
Buyer Delivery Contact [Name, Email]:	Trade Operations, Settlements@3Degrees.com
Seller Delivery Contact [Name, Email]:	Thomas Yeransian, tyeransian@crmex.com

The Parties agree to the transaction set forth herein and each Party represents that the person signing this Confirmation Letter on its behalf is authorized to execute on behalf of the Party for whom they sign.

3Degrees Group, Inc.		CommonWealth New Bedford Energy LLC	
Signature		Signature	
Name	Jan Kang	Name	Thomas Yeransian
Title	General Counsel	Title	Managing Member
Date	November 22, 2023	Date	November 22, 2023