EMAILED
9/9/2026

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
STATE STREET COMMONS
100 W. WATER STREET, SUITE 6A
DOVER, DELAWARE 19904

ENGINEERING & COMPLIANCE

PHONE
(302) 739-9402

September 9, 2026

Ameresco Delaware Energy LLC
111 Speen Street, Suite 410
Framingham, MA 01701

ATTENTION: Mr. Harold Stewart
Director, Plant Operations

SUBJECT: **Permit: AQM-001/00247-Renewal (02) Revision (01)**
Draft/Proposed 7 DE Admin. Code 1130 Significant Permit Modification

Dear Mr. Stewart:

The Department has completed processing Ameresco Delaware Energy LLC' s AQM-1001 series significant permit modification application that was submitted on July 7, 2026, with additional information submitted on June 24, 2026, to the Department pursuant to 7 **DE Admin. Code** 1130. The Department has reviewed the submitted information and has prepared the attached Draft/Proposed significant permit modification satisfying the requirements of 7 **DE Admin. Code** 1130.

The attached Draft/Proposed significant permit modification specifies the terms and conditions, Conditions 2 through 6, under which Ameresco Delaware Energy LLC will be permitted to operate the emission units listed in Condition 1. In addition to the emission units listed in Condition 1, Ameresco Delaware Energy LLC will be permitted to operate all activities with air emissions that are not listed in Condition 1 and that are designated as insignificant activities under 7 **DE Admin. Code** 1130 or designated as trivial activities under Appendix "A" of the Department's summary of the July 10, 1995, EPA "White Paper for Streamlined Development of Part 70 Permit Applications," notwithstanding 7 **DE Admin. Code** 1102.

The attached Draft/Proposed significant permit modification covers only the operating permit requirements of 7 **DE Admin. Code** 1102 and 1130. The attached Draft/Proposed significant permit modification does not satisfy future construction permit obligations. Prior to initiating any construction or modification activity Ameresco Delaware Energy LLC must evaluate the applicability of, and, if required, secure necessary construction permit(s) pursuant to 7 **DE Admin. Code** 1102 or 1125, and/or initiate necessary permit revision procedures pursuant to 7 **DE Admin. Code** 1102 and 1130.

The Department will public notice the Draft/Proposed significant permit modification as required by 7 **DE Admin. Code** 1130, Section 7.10 in the News Journal and Delaware State News on Wednesday,

September 9, 2026. The public comment period will be no less than thirty (30) days in accordance with 7 **DE Admin. Code** 1130, Section 7.10.2. The public comment period ends October 9, 2026. Any comments should be brought to the Department's attention on or before October 9, 2026 and mailed to the following address:

State of Delaware - DNREC
State Street Commons
100 West Water Street
Suite 6A
Dover, DE 19904

The Department requests that you mail the original and one (1) copy if you submit comments.

The Draft/Proposed permit is being submitted to EPA for concurrent processing. Please note that the EPA can comment during the 30 day public notice period and can approve or deny the permit during the entire 45 day EPA review period.

If the Department receives significant comments on the Draft/Proposed significant permit modification, comments will be evaluated, responses will be prepared, and the significant permit modification will be revised as necessary. The permit will then be submitted to you and the EPA as Proposed as a standard consecutive forty-five (45) day review period.

Any questions concerning the attached Draft/Proposed significant permit modification may be directed to Melanie Smith or me at (302) 739-9402.

Sincerely,

Jordan G. Matthews, P.E.
Program Manager
Engineering & Compliance Section

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pc: Dover Title V File
Amy Mann
Melanie Smith

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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL
DIVISION OF AIR QUALITY
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100 W. WATER STREET, SUITE 6A
DOVER, DELAWARE 19904

ENGINEERING & COMPLIANCE

PHONE
(302) 739-9402

September 9, 2026

Delaware Solid Waste Authority
1706 E. 12th Street
Wilmington, DE 19809

ATTENTION: Ms. Robin M. Roddy
Chief Operating Officer

SUBJECT: **Permit: AQM-001/00247-Renewal (02) Revision (01)**
Draft/Proposed 7 DE Admin. Code 1130 Significant Permit Modification

Dear Ms. Roddy:

The Department has completed processing Ameresco Delaware Energy LLC' s AQM-1001 series significant permit modification application that was submitted on July 7, 2026, with additional information submitted on June 24, 2026, to the Department pursuant to 7 DE Admin. Code 1130. The Department has reviewed the submitted information and has prepared the attached Draft/Proposed significant permit modification satisfying the requirements of 7 DE Admin. Code 1130.

The attached Draft/Proposed significant permit modification specifies the terms and conditions, Conditions 2 through 6, under which Ameresco Delaware Energy LLC will be permitted to operate the emission units listed in Condition 1. In addition to the emission units listed in Condition 1, Ameresco Delaware Energy LLC will be permitted to operate all activities with air emissions that are not listed in Condition 1 and that are designated as insignificant activities under 7 DE Admin. Code 1130 or designated as trivial activities under Appendix "A" of the Department's summary of the July 10, 1995, EPA "White Paper for Streamlined Development of Part 70 Permit Applications," notwithstanding 7 DE Admin. Code 1102.

The attached Draft/Proposed significant permit modification covers only the operating permit requirements of 7 DE Admin. Code 1102 and 1130. The attached Draft/Proposed significant permit modification does not satisfy future construction permit obligations. Prior to initiating any construction or modification activity Ameresco Delaware Energy LLC must evaluate the applicability of, and, if required, secure necessary construction permit(s) pursuant to 7 DE Admin. Code 1102 or 1125, and/or initiate necessary permit revision procedures pursuant to 7 DE Admin. Code 1102 and 1130.

The Department will public notice the Draft/Proposed significant permit modification as required by 7 DE Admin. Code 1130, Section 7.10 in the News Journal and Delaware State News on Wednesday, September

9, 2026. The public comment period will be no less than thirty (30) days in accordance with 7 DE Admin. Code 1130, Section 7.10.2. The public comment period ends October 9, 2026. Any comments should be brought to the Department's attention on or before October 9, 2026, and mailed to the following address:

State of Delaware - DNREC
State Street Commons
100 West Water Street
Suite 6A
Dover, DE 19904

The Department requests that you mail the original and one (1) copy if you submit comments.

The Draft/Proposed permit is being submitted to EPA for concurrent processing. Please note that the EPA can comment during the 30 day public notice period and can approve or deny the permit during the entire 45 day EPA review period.

If the Department receives significant comments on the Draft/Proposed significant permit modification, comments will be evaluated, responses will be prepared, and the significant permit modification will be revised as necessary. The permit will then be submitted to you and the EPA as Proposed as a standard consecutive forty-five (45) day review period.

Any questions concerning the attached Draft/Proposed significant permit modification may be directed to Melanie Smith or me at (302) 739-9402.

Sincerely,

Jordan G. Matthews
Program Manager
Engineering & Compliance Section

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pc: Dover Title V File
Amy Mann
Melanie Smith

State of Delaware
Department of Natural Resources and Environmental Control
Division of Air Quality

State Street Commons
100 W. Water Street
Suite 6A
Dover, Delaware 19904

7 DE Admin. Code 1130 (Title V) Operating Permit
Facility I.D. Number: 1000100247
Draft/Proposed Permit: AQM-001/00247-Renewal (02) Revision (01)

Effective Date: *Insert Date* Expiration Date: October 6, 2028
Renewal Application Due Date: October 6, 2027

Pursuant to 7 **Del. C.**, Ch 60, Section 6003, 7 **DE Admin. Code** 1102 Section 2.0, and 7 **DE Admin. Code** 1130 Section 7.2, approval by the Department of Natural Resources and Environmental Control ("Department") is hereby granted to operate the emission units listed in Condition 1 of this permit subject to the terms and conditions of this permit.

This approval is granted to:

Permittee/Owner (hereafter referred to as "Company/Owner")	**Permittee/Owner** (hereafter referred to as "Company/Owner")
Ameresco Delaware Energy, LLC 111 Speen Street, Suite 410 Framingham, MA 01701 Responsible Official: Harold Stewart Director of Plant Operations	Delaware Solid Waste Authority 1128 S. Bradford Street Dover, DE 19904 Responsible Officials: Richard P. Watson Chief Executive Officer Robin M. Roddy Chief Operating Officer
Plant Site Location (hereafter referred to as "Facility") Ameresco Delaware Energy-Central	**Plant Mailing Address** Ameresco Delaware Energy-Central
1119 Willow Grove Road Sandtown, DE 19943	See Above

The nature of business of the Facility is Electric Generation. The Standard Industrial Classification code is 4911. The North American Industry Classification System code is 221112.

Melanie A. Smith, P.E./ Date
Engineer
Engineering & Compliance Section
(302) 739-9436

Amy S. Mann, P.E./ Date
Program Administrator
Engineering & Compliance Section
(302) 323-4542

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Condition 1- Emission Unit Identification

*[Reference: 7 **DE Admin. Code** 1130 Section 3.3 dated 11/15/93]*

a. Emission Units Information.

Emission Units	Emission Unit Description
Emission Unit 1	Three (3) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each
Emission Unit 2	Two (2) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each
Emission Unit 3	Temperature Swing Absorption (TSA) Purge Gas Flare

b. 7 DE Admin. Code 1102 Permit Identification.

This table identifies the underlying permits whose provisions have been incorporated into this Title V permit and specifies the reference number that will be used to identify the source of the underlying permit condition throughout this Title V permit.

Reference: Number	Full 7 DE Admin. Code 1102 Permit Designation
APC-2005/0146 (A4)	APC-2005/0146-OPERATION (Amendment 4)(NSPS)(MACT)(PTE)(FE), dated 8/18/23 Landfill gas recovery facility consisting of three (3) GE Jenbacher Model JGS 320 GS-L.L landfill gas generators rated at one (1) megawatt (MW) each
APC-2013/0052 (A1)	Permit: APC-2013/0052-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE)- dated 8/18/23 –Landfill Gas Generator #4 rated at 1 megawatt
APC-2013/0053 (A1)	Permit: APC-2013/0053-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE)- dated 8/18/23 –Landfill Gas Generator #5 rated at 1 megawatt
APC-2013/0054 (A1)	Permit: APC-2013/0054-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE)- dated 8/18/23 – Temperature Swing Absorption (TSA) Purge Gas Flare

Condition 2 - General Requirements

a. Certification.

1. Each document submitted to the Department/EPA as required by this permit shall be certified by a Responsible Official as to truth, accuracy, and completeness. Such certification shall be signed by a Responsible Official and shall contain the following language: "I certify, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete." *[Reference: 7 **DE Admin. Code** 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 8/11/22]*

2. Any report of deviations required under Conditions 3(c)(2)(ii) or 3(c)(2)(iii) that must be submitted to the Department within ten calendar days of discovery of the deviation, may be submitted in the first instance without a certification provided a certification meeting the requirements of Condition 2(a)(1) is submitted to the Department within ten calendar days

Condition 2- General Requirements (Cont.)

thereafter, together with any corrected or supplemental information required concerning the deviation. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.3.3.4 dated 8/11/22]*

3. Each document submitted to the Department/EPA pursuant to this permit shall be sent to the following addresses except as noted in Condition 2(a)(4):

State of Delaware – DNREC Division of Air Quality State Street Commons 100 W. Water Street, Suite 6A Dover, DE 19904 ATTN: Division Director	U.S. Environmental Protection Agency Region III Enforcement and Compliance Assurance Division Air, RCRA and Toxics Branch (3ED21) Four Penn Center 1600 John F. Kennedy Boulevard Philadelphia, PA 19103-2852
No. of Originals: **1** & No. of Copies: **1**	No. of Copies: **1**

4. In lieu of submitting a physical copy of the Compliance Certification report specified in Condition 3(c)(3) of this permit to the EPA, the Owner and/or Operator may, and is encouraged to, submit an electronic copy of the report to ***R3_APD_Permits@epa.gov*** as a PDF document. The signed original annual General Certification report must be submitted to the Department at the address in Condition 2(a)(3).

b. Compliance.

1. The Owner and/or Operator shall comply with all terms and conditions of this permit. Any noncompliance with this permit constitutes a violation of the applicable requirements under the Clean Air Act, and/or 7 **DE Admin. Code** 1100, and is grounds for an enforcement action; for permit termination, revocation, and reissuance or modification; or for denial of a permit renewal. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.1 dated 8/11/22]*

2.
   i. For applicable requirements with which the source is in compliance, the Owner and/or Operator shall continue to comply with such requirements. *[Reference: 7 **DE Admin. Code** 1130 Sections 5.4.8.3.1 dated 11/15/93 and 6.3.3 dated 8/11/22]*

   ii. For applicable requirements that will become effective during the term of this permit, the Owner and/or Operator shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement. *[Reference: 7 **DE Admin. Code** 1130 Sections 5.4.8.3.2 dated 11/15/93 and 6.3.3 dated 8/11/22]*

3. Nothing in Condition 2(b)(1) of this permit shall be construed to preclude the Owner and/or Operator from making changes consistent with Condition 2(m)(3) [Minor Permit Modifications] or Condition 4(a) [Operational Flexibility]. *[Reference: 7 **DE Admin. Code** 1130 Sections 6.8 dated 8/11/22 and 7.5.1.5 dated 8/11/22]*

4. The fact that it would have been necessary to halt or reduce an activity in order to maintain compliance with the terms and conditions of this permit shall not constitute a defense for the Owner and/or Operator in any enforcement action. Nothing in this permit shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in assessing penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continuing operations. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.2 dated 8/11/22]*

Condition 2- General Requirements (Cont.)

5. Reserved.
6. Reserved.
7. Reserved.
8. If required, the schedule of compliance in Condition 5 of this permit is supplemental to and shall not sanction noncompliance with the applicable requirements upon which it is based. *[Reference: 7 **DE Admin. Code** 1130 Section 5.4.8.3.3 dated 11/15/93]*
9. Nothing in this permit shall be interpreted to preclude the use of any credible evidence to demonstrate noncompliance with any term of this permit. *[Reference: 62 FR 8314 dated 2/24/97]*
10. All terms and conditions of this permit are enforceable by the Department and by the U.S. Environmental Protection Agency ("EPA") unless specifically designated as "State Enforceable Only" *[Reference: 7 **DE Admin. Code** 1130 Section 6.2.1 dated 8/11/22]*

c. **Confidentiality**. The Owner and/or Operator may make a claim of confidentiality for any information or records submitted to the Department. However, by submitting a permit application, the Owner and/or Operator waives any right to confidentiality as to the contents of its permit, and the permit contents will not be entitled to protection under 7 **Del. C.**, Ch 60, § 6014. *[Reference: 7 **DE Admin. Code** 1130 Sections 5.1.4 dated 11/15/93, 6.1.3.3.5 dated 8/11/22, and 6.1.7.5 dated 8/11/22]*

1. Confidential information shall meet the requirements of 7 **Del. C.**, Ch 60, § 6014, and 29 **Del. C.**, Ch 100. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.4 dated 11/15/93]*
2. If the Owner and/or Operator submits information to the Department under a claim of confidentiality, the Owner and/or Operator shall also submit a copy of such information directly to the EPA, if the Department requests that the Owner and/or Operator do so. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.4 dated 11/15/93]*

d. **Construction, Installation, or Alteration**. The Owner and/or Operator shall not initiate construction, installation, or alteration of any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department under 7 **DE Admin. Code** 1102, and, when applicable, 7 **DE Admin. Code** No. 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102 Section 2.2. *[Reference: 7 **DE Admin. Code** 1102 Section 2.1 dated 6/11/06 and 7 **DE Admin. Code** 1130 Section 7.2.3 dated 8/11/22]*

e. **Definitions/Abbreviations**. Except as specifically provided for below, for the purposes of this permit, terms used herein shall have the same meaning accorded to them under the applicable requirements of the Clean Air Act and 7 **DE Admin. Code** 1100.

1. "Act" means the Clean Air Act, as amended by the Clean Air Act Amendments of November 15, 1990, 42 U.S.C. 7401 et seq. *[Reference: 7 **DE Admin. Code** 1130 Section 2 dated 8/11/22]*
2. "AP-42" means the Compilation Of Air Pollutant Emission Factors, Fifth Edition, AP-42, dated January 15, 1995, as amended with Supplements and Updates.
3. "CFR" means Code of Federal Regulations.
4. Reserved.
5. Reserved.

Condition 2- General Requirements (Cont.)

6. "Number 2 fuel oil" and "No. 2 fuel oil" means distillate oil.
7. "Reg." and "Regulation" mean the regulations covered under 7 **DE Admin. Code** 1100.
8. "Regulations Governing the Control of Air Pollution" means the codification of those regulations enacted by the Delaware Department of Natural Resources and Environmental Control, in accordance with 7 **Del. C.,** Ch 60, § 6010.
9. "NMOC" means non-methane organic compounds, excluding formaldehyde.

f. Duty to Supplement.

1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the Owner and/or Operator shall promptly submit to the Department such supplementary facts or corrected information. *[Reference: 7 **DE Admin. Code** 1130 Section 5.2 dated 11/15/93]*
2. The Owner and/or Operator shall promptly submit to the Department information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to the release of a corresponding draft permit. *[Reference: 7 **DE Admin. Code** 1130 Section 5.2 dated 11/15/93]*
3. The Owner and/or Operator shall furnish to the Department, upon receipt of a written request and within a reasonable time specified by the Department:
   i. Any information that the Department determines is reasonably necessary to evaluate or take final action on any permit application submitted in accordance with Condition 2(l) or 2(m) of this permit. The Owner and/or Operator may request an extension to the deadline the Department may impose on the response for such information. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.2.3 dated 11/15/93]*
   ii. Any information that the Department requests to determine whether cause exists to modify, terminate, or revoke this permit, or to determine compliance with the terms and conditions of this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.5 dated 8/11/22]*
   iii. Copies of any records required to be kept by this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.5.7 dated 8/11/22]*

g. Emission Trading. No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.9 dated 8/11/22]*

h. Fees. The Owner and/or Operator shall pay fees to the Department consistent with the fee schedule established by the Delaware General Assembly. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.8 dated 8/11/22 and Section 9.0 dated 11/15/93]*

i. Inspection and Entry Requirements. Upon presentation of identification, the Owner and/or Operator shall allow authorized officials of the Department to perform the following:

1. Enter upon the Owner and/or Operator's premises where a source is located or an emissions-related activity is conducted, or where records that must be kept under the terms and conditions of this permit are located. *[Reference: 7 **DE Admin. Code** 1130 Section 6.3.2.1 dated 8/11/22]*
2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.3.2.2 dated 8/11/22]*

Condition 2- General Requirements (Cont.)

3. Inspect, at reasonable times and using reasonable safety practices, any facility, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.3.2.3 dated 8/11/22]*
4. Sample or monitor, at reasonable times, any substance or parameter for the purpose of assuring compliance with this permit or any applicable requirement. *[Reference: 7 **DE Admin. Code** 1130 Section 6.3.2.4 dated 8/11/22]*

j. **Permit and Application Consultation**. The Owner and/or Operator is encouraged to consult with Department personnel before submitting an application or, at any other time, concerning the operation, construction, expansion, or modification of any installation, or concerning the required pollution control devices or system, the efficiency of such devices or system, or the pollution problem related to the installation. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.1.7 dated 11/15/93]*

k. **Permit Availability**. The Owner and/or Operator shall have available at the facility at all times a copy of this permit and shall provide a copy of this permit to the Department upon request. *[Reference: 7 **DE Admin. Code** 1102 Section 8.1 dated 6/1/97]*

l. **Permit Renewal**. This permit expires on **October 6, 2028** except as provided in Condition 2(l)(4) below. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.2 dated 8/11/22]*

1. Applications for permit renewal shall be subject to the same procedural requirements, including those for public participation, affected state comment, and EPA review, that apply to initial permit issuance under 7 **DE Admin. Code** 1130 Section 7.1, except that an application for permit renewal may address only those portions of the permit that the Department determines require revision, supplementing, or deletion, incorporating the remaining permit terms by Reference: from the previous permit. The Department may similarly, in issuing a draft renewal permit or proposed renewal permit, specify only those portions that will be revised, supplemented, or deleted, incorporating the remaining permit terms by Reference. *[Reference: 7 **DE Admin. Code** 1130 Section 7.3.1 dated 8/11/22]*
2. The Owner and/or Operator's right to operate shall cease upon the expiration date unless a timely and complete renewal application has been submitted to the Department no later than **October 6, 2027**. The Owner and/or Operator may submit the renewal application beginning **April 6, 2027**. Early submission within the dates provided above is encouraged. *[Reference: 7 **DE Admin. Code** 1130 Sections 5.1.1.5 dated 11/15/93 and 7.3.2 dated 8/11/22]*
3. The Department shall review each application for completeness and shall inform the applicant within 60 days of receipt if the application is incomplete. Unless the Department requests additional information or otherwise notifies the applicant of incompleteness within 60 days of an application, an application will be deemed complete if it contains the information required by the application form and 7 **DE Admin. Code** 1130 Section 5.4. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.2.1 dated 11/15/93]*
4. If a timely and complete application for a permit renewal is submitted to the Department pursuant to 7 **DE Admin. Code** 1130, Section 5.1.2.4 (dated 11/15/93) and Section 7.3.1 (dated 8/11/22) and the Department, through no fault of the Owner and/or Operator, fails to take final action to issue or deny the renewal permit before the end of the term of this permit, then this permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time. *[Reference: 7 **DE Admin. Code** 1130 Section 7.3.3 dated 8/11/22]*

Condition 2- General Requirements (Cont.)

m. Permit Revision and Termination.

1.
   i. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.3 dated 8/11/22]*

   ii. Except as provided under Condition 2(m)(3) ["Minor Permit Modification"], the filing of a request by the Owner and/or Operator for a permit modification, revocation and reissuance, or termination, or of a modification of planned changes or anticipated noncompliance does not stay any term or condition of this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.3 dated 8/11/22 and 7.5.1.5 dated 8/11/22]*

2. "Administrative Permit Amendment." When required, the Owner and/or Operator shall submit to the Department a request for an administrative permit amendment in accordance with 7 **DE Admin. Code** 1130 Section 7.4. *[Reference: 7 **DE Admin. Code** 1130 Section 7.4 dated 8/11/22]*

3. "Minor Permit Modification." When required, the Owner and/or Operator shall submit to the Department an application for a minor permit modification in accordance with 7 **DE Admin. Code** 1130 Section 7.5.1 and 7.5.2. *[Reference: 7 **DE Admin. Code** 1130 Section 7.5.1 dated 8/11/22 and 7.5.2 dated 8/11/22]*

   i. For a minor permit modification, during the period of time between the time the Owner and/or Operator makes the change or changes proposed in the minor permit modification application and the time that the Department takes action on the application, the Owner and/or Operator shall comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this period the Owner and/or Operator, at its own risk, need not comply with the existing terms and conditions of this permit that it seeks to modify. *[Reference: 7 **DE Admin. Code** 1130 Section 7.5.1.5 dated 8/11/22 and 7.5.2.5 dated 8/11/22]*

   ii. If the Owner and/or Operator fail to comply with its proposed permit terms and conditions during this time period, the existing terms and conditions of this permit may be enforced against the Owner and/or Operator. *[Reference: 7 **DE Admin. Code** 1130 Section 7.5.1.5 dated 8/11/22 and 7.5.2.5 dated 8/11/22]*

4. "Significant Permit Modification." When required, the Owner and/or Operator shall submit to the Department an application for a significant permit modification in accordance with 7 **DE Admin. Code** 1130 Section 7.5.3. *[Reference: 7 **DE Admin. Code** 1130 Section 7.5.3 dated 8/11/22]*

5.
   i. When the Owner and/or Operator is required to meet the requirements under Section 112(g) of the Act or to obtain a preconstruction permit under 7 **DE Admin. Code** 1100, the Owner and/or Operator shall file a complete application to revise this permit within 12 months of commencing operation of the construction or modification. *[Reference: 7 **DE Admin. Code** 1130 Section 5.1.1.4 dated 11/15/93]*

   ii. When the Owner and/or Operator is required to obtain a preconstruction permit, the Owner and/or Operator may submit an application to revise this permit for concurrent processing. The revision request for this permit when submitted for concurrent processing shall be submitted to the Department with the Owner and/or Operator's preconstruction review application or at such later time as the Department may allow. Where this permit would prohibit such construction or change in operation, the Owner and/or Operator shall obtain a

Condition 2- General Requirements (Cont.)

permit revision before commencing operation. *[Reference: 7 **DE Admin. Code** 1102 Sections 11.2.10, 11.5 dated 6/11/06 and 12.4 dated 8/11/22, and 7 **DE Admin. Code** 1130 Section 5.1.1.4 dated 11/15/93]*

iii. Where an application is not submitted for concurrent processing, the Owner and/or Operator shall obtain an operating permit under 7 **DE Admin. Code** 1100 prior to commencing operation of the construction or modification to cover the period between the date operation is commenced and until such time as operation is approved under 7 **DE Admin. Code** 1130. *[Reference: 7 **DE Admin. Code** 1102 Section 2.1 dated 6/11/06]*

6. "Permit Termination." The Owner and/or Operator may at any time apply for termination of this permit in accordance with 7 **DE Admin. Code** 1130 Section 7.8.4 or Section 7.8.5. *[Reference: 7 **DE Admin. Code** 1130 Sections 7.8.4 dated 8/11/22 and 7.8.5 dated 8/11/22]*

n. Permit Transfer.

1. A change in ownership or operational control of this facility shall be treated as an administrative permit amendment where the Department has determined that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new owner has been submitted to the Department. *[Reference: 7 **DE Admin. Code** 1130 Section 7.4.1.4 dated 8/11/22]*

2. In addition to any written agreement submitted by the Owner and/or Operator in accordance with Condition 2(n)(1), the Owner and/or Operator shall have on file at the Department a statement meeting the requirements of 7 **Del. C.,** Ch 79, Section 7902. *This permit condition is state enforceable only*. *[Reference: 7 **Del. C.,** Ch 79 Section 7902 dated 8/28/2007]*

3. The written agreement required in Condition 2(n)(1) of this permit shall be provided to the Department within a minimum of 30 calendar days prior to the specific date for transfer and shall indicate that the transfer is agreeable to both the current and new owner. *[Reference: 7 **DE Admin. Code** 1102 Section 7.1 dated 6/1/97]*

o. Property Rights. This permit does not convey any property rights of any sort, or any exclusive privilege. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.7.4 dated 8/11/22]*

p. Risk Management Plan Submissions.

1. In the event this stationary source, as defined in the State of Delaware 7 **DE Admin. Code** 1201 "Accidental Release Prevention Regulation" Section 4.0, is subject to or becomes subject to Section 5.0 of 7 **DE Admin. Cod**e 1201 (as amended March 11, 2006), the owner or operator shall submit a risk management plan (RMP) to the Environmental Protection Agency's RMP Reporting Center by the date specified in Section 5.10 and required revisions as specified in Section 5.190. A certification statement shall also be submitted as mandated by Section 5.185. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.4 dated 8/11/22, 7 **DE Admin. Code** 1201 as amended March 11, 2006 and Delaware; Approval of Accidental Release Prevention Program, Federal Register Vol. 6, No. 11 pages 30818-22 dated June 8, 2001]*

2. If this stationary source, as defined in 7 **DE Admin. Code** 1201 Section 4.0, is not subject to Section 5.0 but is subject or becomes subject to Section 6.0 (as amended March 11, 2006), the owner or operator shall submit a Delaware RMP to the State of Delaware's Accidental Release Prevention group by the date as specified in Section 6.6.10 and required revisions as specified by Section 6.6.1. *Note: State enforceable only.* *[Reference: 7 **DE Admin. Code** 1201 as amended March 11, 2006]*

Condition 2- General Requirements (Cont.)

q. Protection of Stratospheric Ozone.

When applicable, this Facility shall comply with the following requirements: *[Reference: 40 CFR Part 82 "**Protection of Stratospheric Ozone**" revised as of 7/1/97 and 7 **DE Admin. Code** 1130 Section 2.0 dated 8/11/00]*

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
   i. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a process that uses a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106.
   ii. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
   iii. The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
   iv. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.
2. Any person servicing, maintaining, or repairing appliances, except for motor vehicles, 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 (MVACs) in Subpart B. In addition, Subpart F applies to refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment.
   i. Persons owning appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to §82.154 and §82.156.
   ii. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
   iii. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
   iv. Persons performing maintenance, service, repair, or disposal of appliances must certify with the Administrator pursuant to §82.158 and §82.162.
   v. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to §82.166. ("MVAC-like appliance" as defined at §82.152)
   vi. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to §82.156.
3. 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 Part 82, Subpart F §82.166.
4. If the permittee manufactures, transforms, destroys, 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".

Condition 2- General Requirements (Cont.)

5. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the 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".

   i. 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. These systems are regulated under 40 CFR Part 82, Subpart F.

6. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed as acceptable in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program.

r. **Severability**. The provisions of this permit are severable. If any part of this permit is held invalid, the application of such part to other persons or circumstances and the remainder of this permit shall not be affected thereby and shall remain valid and in effect. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.6 dated 8/11/22]*

Condition 3- Specific Requirements

a. **Emission Limitations Emission Standards, Operational Limitations, and Operational Standards**. The Owner and/or Operator shall comply with the limitations and standards detailed in Condition 3 – Table 1 of this permit. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.1 dated 8/11/22]*

b. **Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping).** The Owner and/or Operator shall maintain records of all required monitoring data and support information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all original strip-chart recordings, where appropriate, for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, the permit may specify that records may be maintained in computerized form. *[Reference: 7 **DE Admin. Code** 1130 Section 6.1.3.2.2 dated 8/11/22]*

1.

   i. Specific Requirements. The Owner and/or Operator shall comply with the operational limitations, monitoring, testing, and record keeping requirements detailed in Condition 3 – Table 1 which are in addition to those in Conditions 3(b)(1)(ii) and 3(b)(2) of this permit. *[Reference: 7 **DE Admin. Code** 1130 Sections 6.1.1 dated 8/11/22, 6.1.3.1 dated 8/11/22, and 6.1.10 dated 8/11/22]*

   ii. General Testing Requirements. Upon written request of the Department, the Owner and/or Operator shall, at the Owner and/or Operator's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records, and submit reports to the Department on the results of such sampling. *[Reference: 7 **DE Admin. Code** 1117 Section 2.2 dated 7/17/84]*

2. General Record Keeping Requirements. The Owner and/or Operator shall record, at a minimum, all of the following information:

   i. If required, for each operating scenario identified in Condition 3 – Table 1 of this permit, a log that indicates the operating scenario under which each particular emission unit is

Condition 3- Specific Requirements (Cont.)

operating. The Owner and/or Operator shall, contemporaneously with changing from one operating scenario to another, record in this log the time at which the operating scenario under which it is operating is changed. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.10 dated 8/11/22]*

ii. The following information to the extent specified in Condition 3 – Table 1 of this permit. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1 dated 8/11/22]*

A. The date, place, and time of the sampling or measurements. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.1 dated 8/11/22]*

B. The dates analyses were performed. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.2 dated 8/11/22]*

C. The Owner and/or Operator or entity that performed the analyses. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.3 dated 8/11/22]*

D. The analytical techniques or methods used. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.4 dated 8/11/22]*

E. The results of such analyses. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.5 dated 8/11/22]*

F. The operating conditions as existing at the time of sampling or measurement. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.2.1.6 dated 8/11/22]*

iii. Reserved.

iv. A copy of the written notice required by Condition 3(c)(2)(iii) for each change made under Condition 4(c) [Operational Flexibility] of this permit shall be maintained with a copy of this permit. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

c. Reporting and Compliance Certification Requirements.

1. Specific Reporting/Certification Requirements. The Owner and/or Operator shall comply with the Reporting/Certification Requirements detailed in Condition 3– Table 1 of this permit, which are in addition to those of Conditions 3(c)(2) and 3(c)(3) of this permit. Each report that contains any deviations from the terms of Condition 3– Table 1 shall identify the probable cause of the deviations and any corrective actions or preventative measures taken. *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 6.1.3.3 dated 8/11/22, 6.1.3.3.3.3 dated 8/11/22, and 6.1.3.3.3.4 dated 8/11/22]*

2. General Reporting Requirements.

i. The Owner and/or Operator shall submit to the Department a report of any required monitoring not later than the first day of August (covering the period from January 1 through June 30 of the current calendar year) and the first day of February (covering the period July 1 through December 31 of the previous calendar year) of each calendar year. Each report shall identify any deviations from the monitoring, record keeping, and reporting requirements under this permit; and the probable cause of the deviations; and any corrective actions or preventative measures taken. If no deviations have occurred, such shall be stated in the report. *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 6.1.3.3.1 dated 8/11/22, 6.1.3.3.2 dated 8/11/22, and 6.1.3.3.3.4 dated 8/11/22]*

ii. In addition to the semiannual monitoring reports required under Condition 3(c)(2)(i), the Owner and/or Operator shall submit to the Department supplemental written reports and/or notices identifying all deviations from permit conditions, probable cause of the deviations, and any corrective actions or preventative measures as follows: *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 6.1.3.3.3.3 dated 8/11/22 and 6.1.3.3.3.4 dated 8/11/22]*

Condition 3- Specific Requirements (Cont.)

A. Reserved.

B. Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery and after activating the appropriate site emergency plan, in the following manner: *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 6.1.3.3.3.3 dated 8/11/22 and 6.1.3.3.3.2 dated 8/11/22]*

1. Emissions that pose an imminent and substantial danger to public health, safety or the environment must be reported by calling the Department's Environmental Emergency Notification and Complaint number (800) 662-8802. *[Reference:* 7 ***DE Admin. Code*** *1130, Section 6.1.3.3.3.2 dated 8/11/22]*

2. Emissions in excess of any permit condition or emissions which create a condition of air pollution but do not pose an imminent and substantial danger to public health, safety or the environment must either be called in to the Environmental Emergency Notification and Complaint number (800) 662-8802 or faxed to (302) 739-2466. The ability to fax notifications to the Department may be revoked by the Department upon written notice to the Company and at the Department's sole discretion. *[Reference:* 7 ***DE Admin. Code*** *1130, Section 6.1.3.3.3.2 dated 8/11/22]*

C. All emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department in a written report pursuant to Condition 3(c)(2)(1) and/or the specific reporting requirements listed in Condition 3 – Table 1 of this permit. *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 6.1.3.3.3.3 dated 8/11/22 and 6.1.3.3.3.4 dated 8/11/22]*

D. Discharges to the atmosphere in excess of any quantity specified in the 7 **DE Admin. Code** 1203 ("**Reporting of a Discharge of a Pollutant or an Air Contaminant**") shall be reported, immediately upon discovery and after activating the appropriate site emergency plan, either in person or to the Department's 24-hour Environmental Emergency Notification and Complaint line (1-800-662-8802). Discharges in compliance with this permit and excess emissions previously reported under Condition 3(c)(2)(ii)(B) of this permit are exempt from this reporting requirement. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.1.3.3.3.5 dated 8/11/22 and* 7 ***DE Admin. Code*** *1203]*

iii. Prior to making a change as provided in Condition 4 [Operational Flexibility] of this permit the Owner and/or Operator shall give written notice to the Department and EPA at least seven calendar days before the change is to be made. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

A. The seven day period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

B. If less than seven calendar days notice is provided because of a need to respond more quickly to such unanticipated conditions, the Owner and/or Operator shall provide notice to the Department and EPA as soon as possible after learning of the need to make the change, together with the reasons why advance notice could not be given. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

C. The written notice shall include all of the following information: *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

Condition 3- Specific Requirements (Cont.)

1. The identification of the affected emission units and a description of the change to be made.
2. The date on which the change will occur.
3. Any changes in emissions.
4. Any permit terms and conditions that are affected, including any new applicable requirements.

iv. The Owner and/or Operator shall submit to the Department an annual emissions statement in accordance with 7 **DE Admin. Code** 1117 Section 7.0 not later than April 30 of each year, or other date as established by the Department, unless an extension by the Department is granted. Such emissions statement shall cover the preceding calendar year. *[Reference:* 7 ***DE Admin. Code*** *1117 Section 7.0 dated 1/11/93]*

v. If required, the Owner and/or Operator shall submit to the Department a progress report for applicable requirements identified in Condition 5 – Table 1 of this permit. Such reports shall be submitted not later than the first day of August (covering the period from January 1 through June 30 of the current calendar year) and the first day of February (covering the period July 1 through December 31 of the previous calendar year) of each calendar year. Each progress report shall include the following: *[Reference:* 7 ***DE Admin. Code*** *1130 Sections 5.4.8 dated 11/15/93 and 6.3.4 dated 8/11/22]*

A. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.4.1 dated 8/11/22]*

B. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.4.2 dated 8/11/22]*

vi. Nothing herein shall relieve the Owner and/or Operator from any reporting requirements under federal, state, or local laws. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.1.3.3.3.5 dated 8/11/22]*

3. General Compliance Certification Requirements.

i. Compliance with terms and conditions of this permit shall be certified to the Department not later than the first day of February of each year unless the terms or conditions in Condition 3– Table 1 of this permit require compliance certifications to be submitted more frequently. Such certification shall cover the previous calendar year and shall be submitted on Form AQM-1001BB. The Compliance Certification shall include the following information: *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.5.1 dated 8/11/22]*

A. The identification of each term or condition of the permit that is the basis of the certification. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.3.5.3.1 dated 8/11/22]*

B. The Owner and/or Operator's current compliance status, as shown by monitoring data and other information reasonably available to the Owner and/or Operator. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.3.5.3.2 dated 8/11/22]*

C. Such certification shall indicate whether compliance was continuous or intermittent during the covered period. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.3.5.3.3 dated 8/11/22]*

D. The methods used for determining the compliance status of the Owner and/or Operator, currently and over the reporting period as required by the monitoring, record keeping, and

Condition 3- Specific Requirements (Cont.)

reporting required under Condition 3. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.5.3.4 dated 8/11/22]*

E. Such other facts as the Department may require to determine the compliance status of the source. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.5.3.5 dated 8/11/22]*

ii. Each compliance certification shall be submitted to the Department and EPA and shall be certified in accordance with Condition 2(a) of this permit. *[Reference: 7* ***DE Admin. Code*** *1130 Section 6.3.5.4 dated 8/11/22]*

iii. Any additional information possessed by the Owner and/or Operator that demonstrates non-compliance with any applicable requirement must also be used as the basis for compliance certifications. *[Reference: 62 FR 8314 dated 2/24/97]*

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
a. Emission Unit No. 1 **Three (3) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each (Engines #1, #2, and #3)**		
1. **Criteria Pollutants**		
i. Emission Standards A. PM emissions shall not exceed 0.3 pound per million BTU heat input, maximum 2-hour average, from any fuel burning equipment. **[Reference 7 DE Admin. Code 1104 Section 2.1, dated 2/1/81 & Permit: APC-2005/0146 (A5) Condition 2.1.3.2]** B. Nitrogen Oxide emissions shall not exceed 2.2 lb/MWh. **[Reference 7 DE Admin. Code. 1144 Section 3.2.2.2, dated 1/11/06 & Permit: APC-2005/0146 (A5) Condition 2.2]** C. Nonmethane Hydrocarbon emissions shall not exceed 0.7 lb/MWh. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permit: APC-2005/0146 (A5) Condition 2.2]** D. Carbon Monoxide emissions shall not exceed 10.0 lb/MWh. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permit: APC-2005/0146 (A5) Condition 2.2]** E. Carbon Dioxide emissions from combustion (excluding pass-through) shall not exceed 1,900 lb/MWh, calculated pursuant to section 8.1 of 7 **DE Admin. Code** 1144. **[Reference 7 DE Admin Code. 1144 Section 3.2.2.2, dated 1/11/06 & Permit: APC-2005/0146 (A5) Condition 2.2]**	v. Compliance Method Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference 7 DE Admin Code 1130 Section 6.1.7.3, dated 8/11/22]** vi. Monitoring The following information shall be continuously monitored: **[Reference Permit APC-2005/0146 (A5) Condition 5.2]** A. All periods of startup, shutdown, malfunction, and maintenance. B. Hours of operation. C. Flow rate to the generators. D. Landfill gas composition including CH_4, CO_2, O_2, and N_2. E. Generator output. F. Operational data (15 minute intervals). G. Air/fuel ratio set points including; electrical output, intake boost pressure, fuel temperature, throttle position, turbocharger bypass position, and gas mixer position. H. Emission alarm data and report operational exceedances;	x. Reporting In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the Company shall submit to the Department the following reports: **[Reference 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** A. A written report of the results of performance tests in accordance with the following general provisions: **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4245 dated 1/18/2008 and Permit: APC-2005/0146 (A5) Condition 4.2]** 1) One (1) original hard copy and one (1) PDF copy of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the addresses in Condition (a)(1)(x)(A)(3). The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]** 2) The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
F. The landfill gas combusted in the generators shall contain no more than 375 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously. **[Reference 7 DE Admin. Code 1144 Section 5.3, dated 1/11/06 & Permit: APC-2005/0146 (A5) Condition 3.1.6]** ii. Emission Limitations A. NOx emissions shall not exceed 1.94 lb/hr per generator. Total NOx emissions from all three generators combined shall not exceed 24.2 tons in any consecutive rolling 52 week period. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.1.1 & 7 DE Admin. Code 1125 Section 2 dated 5/11/99]** B. NOx emissions from the generators shall not exceed 0.60 grams per brake-horse power (bhp) hour except during periods of startup, shutdown, and maintenance. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.1.2]** C. CO emissions shall not exceed 9.69 lb/hr and 40.3 tons per twelve (12) month rolling period per generator. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.2.1]** D. PM emissions shall not exceed 0.55 lb/hr and 2.3 tons per twelve (12) month rolling period per generator. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.3.1]**	I. All operation and maintenance records for the generators. J. Handheld emission recording device and calibration data. K. All parameters established during the most recent stack test. L. Dates of all oil changes along with hours of operation between oil changes. M. Dates of all spark plug inspections along with hours of operation between inspections and whether or not spark plugs were replaced. N. Dates of all hose and belt inspections along with hours of operation between inspections and whether or not hoses and belts were replaced. O. Emission rates, rolling 52-week, and rolling twelve (12) month emissions. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, the following testing shall be completed. A. The Company shall continuously analyze the fuel gas quality for CH_4, CO_2, O_2, and N_2 as it enters the facility through a permanently mounted gas chromatograph. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.16]**	Source Testing Engineer. The Department must observe the test for the results to be considered for acceptance. **[Reference 7 DE Admin. Code 1102 Section 11.7 dated 06/11/2006]** 3) The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original hard copy and one (1) PDF copy of the test report shall be submitted to the addresses below: **[Reference 40 CFR 60.4245 dated 1/18/08 and 7 DE Admin. Code 1130 Section 6.1.3 dated 8/11/22]** Original Hard Copy to: Engineering & Compliance Section Attn: Source Testing Engineer 715 Grantham Lane New Castle, DE 19720 PDF Copy to: Engineering & Compliance Section E-mail of Source Testing Engineer E-mail of Permit Engineer dnrec_daq_stacktest@delaware.gov 4) The final report of the results must meet the following requirements to be considered valid: a) The full report shall include the emissions test report (including raw data from the test) as well as

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
E. SOx emissions shall not exceed 1.84 lb/hr on a daily average and 6.31 tons per twelve (12) month rolling period per generator. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.4.1]** F. NMOC emissions shall not exceed 0.72 lb/hr and 3.0 tons per twelve (12) month rolling period per generator. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.5.1]** G. HAP emissions shall not exceed 2.6 lb/hr and 10.8 tons per twelve (12) month rolling period per generator. **[Reference Permit APC-2005/0146 (A5) Condition 2.1.6.1]** iii. Operational Standards A. The generators shall be designed and operated to reduce NMOC by 98 weight-percent, or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. **[Reference 40 CFR Part 60.752(b)(iii) dated 3/12/96 & Permit: APC-2005/0146 (A5) Condition 3.1.5]** B. Each generator shall be equipped with a non-resettable hour metering device. **[Reference 7 DE Admin Code 1144 Section 6.1.1 dated 1/11/2006 & Permit: APC-2005/0146 (A5) Condition 3.1.9]** C. The generators shall not be used during testing or for maintenance purposes before 5 p.m. on a day that has a Ground Level	B. The NOx analyzer shall be used at least once a week to verify that the engines are operating below the permitted emission limits. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.20]** C. Annual stack testing shall be conducted while operating at 100% load for NOx, CO, NMOCs, and SO_2 using Department approved EPA test methods and general provisions as given in Condition 3 – Table 1(a)(1)(x). **[Reference Permit APC-2005/0146 (A5) Condition 4.1.1]** D. All annual testing required for these engines shall be completed by April 30 of each calendar year. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.2]** E. The NMOC reduction efficiency of 98 weight-percent or less than 20 ppmv, dry basis as hexane at 3% oxygen shall be established by annual stack testing using Department approved EPA test methods. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.3]** F. Fuel quality analysis shall be performed on a weekly basis using methods approved by the Department. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.4]** G. The landfill gas shall be analyzed for hydrogen sulfide concentrations at least once a month using Department approved methods. Gas samples shall be	a summary of the results and statement of compliance or non-compliance with permit conditions; **[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]** b) The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information: **[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]** A) A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings; B) Permit numbers and condition(s) which are the basis for the compliance evaluation; C) Summary of results with respect to each permit condition; and D) Statement of compliance or non-compliance with each permit condition. c) The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness. **[Reference 7 DE**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
Ozone Pollution Forecast or Particle Pollution Forecast of "Code Red" or "Code Orange" as announced by the Department. **[Reference 7 DE Admin Code 1144 Section 4.2 dated 1/11/2006 & Permit: APC-2005/0146 (A5) Condition 3.1.22]** D. The oil and filter in each generator shall be changed every 1,440 hours of operation or annually, whichever comes first. The facility has the option to utilize an oil analysis program as described in Section 63.6625(i) or (j) in order to extend the specified oil change requirement. **[Reference 40 CFR Part 63, Subpart ZZZZ Table 2d dated January 30, 2013]** E. The spark plugs shall be inspected every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. **[Reference 40 CFR Part 63, Subpart ZZZZ Table 2d dated January 30, 2013]** F. All hoses and belts shall be inspected every 1,440 hours of operation or annually, whichever comes first, and replace as necessary. **[Reference 40 CFR Part 63, Subpart ZZZZ Table 2d dated January 30, 2013]** iv. Operational Limitations A. The primary objective of the gas collection system is to minimize the release of landfill gas (LFG) to the atmosphere. The release of LFG to the atmosphere shall not be	taken at the fuel gas delivery point to the facility. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.4]** H. The landfill gas shall be analyzed for hydrogen sulfide (H_2S), methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), and Nitrogen (N_2) concentrations during the annual stack testing using Department approved EPA test methods. Gas samples shall be taken at the fuel gas delivery point to the facility. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.5]** I. The owner or operator shall verify the generators compliance with the emission standards of Condition 3 – Table 1(a)(1)(i)(B through E (inclusive)) by April 30, 2012 and every five years thereafter according to the provisions of Section 7 of 7 **DE Admin. Code** 1144. **[Reference Permit APC-2005/0146 (A5) Condition 4.1.6]** J. Stack testing for formaldehyde shall be conducted for all engines no later than April 30, 2020 and every three years thereafter. viii. Quality Assurance/Quality Control A. The Company shall establish a regular maintenance schedule for the generators based on the manufacturer's guidelines. **[Reference Permit APC-2006/0146 (A5) Condition 3.1.15]**	**Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 8/11/22]** 5) The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. **[Reference 7 DE Admin. Code 1102 Section 11.3 dated 06/11/06]** B. Upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance with the emission and operational requirements shall be based upon the following: **[Reference 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
compromised in order to provide a higher gas quality for the generators. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.1]** B. The LFGR facility shall not be operated without a condensate knockout tank, and a mechanical refrigeration and dehydration system and coalescing filters. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.2]** C. All condensate shall be returned to the landfill's leachate system for proper treatment. **[Reference Permit APC-2005/ 0146 (A4) Condition 3.1.3]** D. The LEANOX Technology on the generators shall be set at the point where emissions of NOx and CO are minimized. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.4]** E. The generators shall only be fueled by landfill gas. **[Reference Permit APC-2005/ 0146 (A5) Condition 3.1.7]** F. Total hours of operation for each generator shall not exceed 8,322 hours in a 52 week rolling period. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.8 & 7 DE Admin. Code 1125 Section 2 dated 5/11/99]** G. The flow rate to the generators shall not exceed the equivalent of 400 scfm at 50% methane per generator. At no time shall the generators be operated with a methane content below 42% on a 24-hour average. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.10]**	B. The gas chromatograph shall be calibrated on a monthly basis per the manufacturer's specifications. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.17]** C. The Company shall maintain a Department approved handheld analyzer onsite that is capable of measuring the NOx emissions of Condition 3 – Table 1(a)(1)(ii)(A) and (B). **[Reference Permit APC-2005/0146 (A5) Condition 3.1.18]** D. The NOx analyzer shall be calibrated and maintained according to the manufacturer's specifications. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.19]** ix. <u>Record Keeping</u> In addition to the requirements of Condition 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the following information: **[Reference 7 DE Admin Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22 and Permit APC-2005/0146 (A5) Conditions 5.14, 5.15, 5.16, 5.17, and 5.18]** A. Calibration records for all flow meters. B. Landfill gas test information, including test protocol, raw data and final report. C. All landfill gas analyses. D. Performance testing measurements, stack testing measurements conducted for	A. All periods of operation including startup, shutdown, malfunction, maintenance and normal periods of operation shall be included for emission calculations and hours of operation. **[Reference Permit APC-2005/0146 (A5) Condition 2.3]** B. Emissions for NOx and CO shall be calculated based on the lb/hr emission limits in Condition 3 – Table 1(a)(1)(ii) and hours of operation including idling time. All other emissions shall be calculated based on actual data when available and Department approved emission factors. **[Reference Permit APC-2005/0146 (A5) Condition 2.4]** C. The rolling 52 week total emissions for NOx shall be calculated and recorded each week in a log using the lb/hr emission limit and the hours of operation. **[Reference Permit APC-2005/0146 (A5) Condition 5.3]** D. The rolling twelve (12) month total emissions shall be calculated and recorded each month in a log using the most recent stack test data for NMOC (subtracting the most recent stack test data for formaldehyde), amount of gas combusted, H_2S and methane concentrations, Department approved emission factors, and good engineering assumptions. **[Reference Permit APC-2005/0146 (A5) Condition 5.4]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
H. The units shall not be operated below 60% load except during periods of startup, shutdown, or maintenance. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.11]** I. The system shall be operated with a Data Acquisition and Handling System (DAHS). **[Reference Permit APC-2005/0146 (A5) Condition 3.1.12]** J. The DAHS shall alarm whenever the value of an indicator parameter falls outside its acceptable range. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.13]** K. Any changes to parameters and ranges established for the DAHS require Department approval. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.14]** L. In the event that the LFGR facility cannot accept the landfill gas, the existing flare system shall be started and operated to maintain the landfills requirements within one hour of the LFGR facility shutdown. **[Reference Permit APC-2005/0146 (A5) Condition 3.1.23]**	compliance demonstration, stack testing measurements conducted for Department determination purposes, and process and control equipment operating parameters sustained during stack testing shall be maintained in a file. **[Reference Permit APC-2005/0146 (A5) Condition 5.14]** E. The Company shall keep a copy of the initial notification for the generators to be made available for inspection, upon request, for the life of the affected source. **[Reference Permit APC-2005/0146 (A5) Condition 5.15]** F. All the information monitored in accordance with Condition 3 - Table 1(b)(vi) and (vii). G. Emission rates, rolling 52-week, and rolling twelve (12) month emissions.	E. Emissions from the generators shall be calculated at least once a month and included in the emission cap of the most recent version of Permit: **AQM-001/00068**. **[Reference 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** F. Compliance with the emission and operational requirements shall be based upon record keeping. **[Reference 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** G. Any noncompliance with the restrictions of Condition 3 – Table 1(a)(ii)(A) shall be considered as a violation of the requirements of 7 **DE Admin. Code** 1125, *Requirements for Preconstruction Review*, and shall subject the facility to be reviewed under 7 **DE Admin. Code** 1125 as though construction had not yet commenced on the facility. **[Reference Permit APC-2005/0146 (A5) Condition 2.5]** H. The owner shall certify according to the provisions of 7 **DE Admin. Code** 1144 Section 7 that the generators meet the provisions of 7 **DE Admin. Code** 1144. **[Reference Permit APC-2005/0146 (A5) Condition 6.6]**
b. Emission Unit No. 2 **Two (2) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each (Engines #4 and #5)**		
1. **Criteria Pollutants**		
i. Emission Standards	v. Compliance Method	x. Reporting

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
A. PM emissions shall not exceed 0.3 pound per million BTU heat input, maximum 2-hour average, from any fuel burning equipment. **[Reference 7 DE Admin. Code 1104 Section 2.1, dated 2/1/81 & Permits : APC-2013/0052 (A2) and APC-2013/0053 (A2) Condition 2.5]** B. Nitrogen Oxide emissions shall not exceed 2.2 lb/MWh. **[Reference 7 DE Admin. Code. 1144 Section 3.2.2.2, dated 1/11/06 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.1.4]** C. Nonmethane Hydrocarbon emissions shall not exceed 0.7 lb/MWh. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.3.3]** D. Carbon Monoxide emissions shall not exceed 10.0 lb/MWh. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.2.3]** E. Carbon Dioxide emissions from combustion (excluding pass-through) shall not exceed 1,900 lb/MWh calculated pursuant to section 8.1 of 7 **DE Admin**. **Code** 1144. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.6.3]** ii. Emission Limitations	Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference 7 DE Admin. Code 1130 Section 6.1.7.3, dated 8/11/22]** vi. Monitoring The following information shall be continuously monitored: **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4245 dated 1/18/2008 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Conditions 4.1.11 and 5.3]** A. All periods of startup, shutdown, malfunction, and maintenance. B. Hours of operation. C. Flow rate to the generators. D. Landfill gas composition including CH_4, CO_2, O_2, and N_2. E. Generator output. F. Operational data (15 minute intervals). G. Air/fuel ratio set points including; electrical output, intake boost pressure, fuel temperature, throttle position, turbocharger bypass position, and gas mixer position. H. Emission alarm data and report operational exceedances; I. All operation and maintenance records for the generators. J. Handheld emission recording device and calibration data.	In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the Company shall submit to the Department the following: **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** A. A written report of the results of performance tests in accordance with the following general provisions: **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4245 dated 1/18/2008 and Permits: APC-2013/ 0052 (A2) & APC-2013/ 0053 (A2) Condition 4.3]** 1) One (1) original hard copy and one (1) PDF copy of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the addresses in Condition (b)(1)(x)(A)(3). The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]** 2) The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the Source Testing Engineer. The Department must observe the test for the results to be considered for

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
A. NO_x emissions shall not exceed 1.94 lb/hr per generator. Total NOx emissions from the two generators combined shall not exceed 16.99 tons per twelve (12) month rolling period. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.1 & 7 DE Admin. Code 1125 Section 2 dated 5/11/99]** B. NO_x emissions from the generators shall not exceed 0.60 grams per brake-horse power (bhp) hour except during periods of startup, shutdown, and maintenance. **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4233(e) dated 1/18/2008 and 40 CFR Part 63 Subpart ZZZZ dated 1/30/2013 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.1.3]** C. CO emissions shall not exceed 9.69 lb/hr per generator. Total CO emissions from both generators shall not exceed 84.88 tons per twelve (12) month rolling period. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.2]** D. CO emissions from the generators shall not exceed 5.0 grams per brake-horse power (bhp) hour. **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4233(e) dated 1/18/2008 40 CFR Part 63 Subpart ZZZZ dated 1/30/2013 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.2.4]** E. $PM_{2.5}$ emissions shall not exceed 0.52 lb/hr per generator. Total $PM_{2.5}$ from both generators shall not exceed 4.58 tons per	K. All parameters established during the most recent stack test. L. Emission rates and rolling twelve (12) month emissions. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, the Company shall: A. Conduct a performance test of the landfill gas generators within 90 days of start-up to demonstrate compliance. **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4243(b) dated 1/18/2008 and Permits : APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.1]** B. Continuously analyze the fuel gas quality for CH_4, CO_2, O_2, and N_2 as it enters the facility through a permanently mounted gas chromatograph. **[Reference Permits : APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 5.3.4]** C. The NOx analyzer shall be used at least once a week to verify that the engines are operating below the permitted emission limits. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.10]** D. Conduct a performance test of the landfill gas generators annually or every 8,760 hours, whichever comes first. The stack testing shall be conducted while	acceptance. **[Reference 7 DE Admin. Code 1102 Section 11.7 dated 06/11/2006]** 3) The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original hard copy and one (1) PDF copy of the test report shall be submitted to the addresses below: **[Reference 40 CFR 60.4245 dated 1/18/08 and 7 DE Admin. Code 1130 Section 6.1.3 dated 8/11/22]** Original Hard Copy to: Engineering & Compliance Section Attn: Source Testing Engineer 715 Grantham Lane New Castle, DE 19720 PDF Copy to: Engineering & Compliance Section E-mail of Source Testing Engineer E-mail of Permit Engineer dnrec_daq_stacktest@delaware.gov 4) The final report of the results must meet the following requirements to be considered valid: a) The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-compliance with permit conditions;

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
twelve (12) month rolling period. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.4]** F. SO_x emissions shall not exceed 1.84 lb/hr per generator. Total SO_x emissions from both generators shall not exceed 13.29 tons per twelve (12) month rolling period. **[Reference Permits : APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.5]** G. NMOC emissions shall not exceed 0.72 lb/hr per generator. Total NMOC from both generators shall not exceed 6.32 tons per twelve (12) month rolling period. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.3]** H. NMOC emissions from the generators shall not exceed 1.0 gram per brake-horse power (bhp) hour. **[Reference 40 CFR Part 60 Subpart JJJJ Section 60.4233(e) dated 1/18/2008 40 CFR Part 63 Subpart ZZZZ dated 1/30/2013 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.3.4]** I. HAPs emissions shall not exceed 2.6 lb/hr per generator. Total HAPs emissions from both generators shall not exceed 22.78 tons per twelve (12) month rolling period. **[Reference Permits : APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.7]** J. Carbon Dioxide emissions shall not exceed 1803 lb/hr per generator. Total CO_2 emissions from both generators shall not exceed 15,789 tons per twelve (12) month	operating at 100% load for NO_x, CO, NMOCs, SO_2, and CO_2 using Department approved EPA test methods and general provisions as given in Condition 4.3. **[Reference 40 CFR Part 60 Subpart JJJJ Section 4243(b)(2)(ii) dated 1/18/2008 and Permits : APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.2]** E. All annual testing required for these engines shall be completed by April 30 of each calendar year. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.3]** F. The NMOC reduction efficiency of 98 weight-percent or less than 20 ppmv, dry basis as hexane at 3% oxygen shall be established by annual stack testing using Department approved EPA test methods. **[Reference Permits APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.4]** G. The landfill gas shall be analyzed for hydrogen sulfide concentrations at least once a month using Department approved methods. Gas samples shall be taken at the fuel gas delivery point to the facility.. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.5]** H. The landfill gas shall be analyzed for hydrogen sulfide (H_2S), methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), and Nitrogen (N_2) concentrations during the	**[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]** b) The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information: **[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]** A) A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings; B) Permit numbers and condition(s) which are the basis for the compliance evaluation; C) Summary of results with respect to each permit condition; and D) Statement of compliance or non-compliance with each permit condition. c) The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness. **[Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
rolling period. **[Reference 7 DE Admin. Code 1144 Section 3.2.2.2, dated 1/11/06 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.1.6]** iii. Operational Standards A. The generators shall be designed and operated to reduce NMOC by 98 weight-percent, or reduce the outlet NMOC concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen. **[Reference 40 CFR Part 60.752(b)(iii) dated 3/12/96 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.9]** B. Each generator shall be equipped with a non-resettable hour metering device. **[Reference 7 DE Admin. Code 1144 Section 6.1.1 dated 1/11/2006 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.4]** C. The landfill gas electric generators may operate at any time, except as restricted by Condition 3 Table 1 (b)(1)(iii)(D). **[Reference 7 DE Admin. Code 1144 Section 4.3 dated 1/11/2006 , Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.1]** D. The generators shall not be used during testing or for maintenance purposes before 5 p.m. on a day that has a Ground Level Ozone Pollution Forecast or Particle Pollution Forecast of "Code Red" or "Code	annual stack testing using Department approved EPA test methods. Gas samples shall be taken at the fuel gas delivery point to the facility. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.7].** I. The results of performance testing shall certify the emission standards of this permit in pounds of emissions per engine megawatt-hour (lb/MWh) and in g/bhp-hr at the load conditions specified by the applicable EPA Reference Methods, California Air Resources Board methods, or equivalent test methods approved by the Department. 1) EPA Reference Methods, California Air Resources Board Methods, or equivalent testing shall be used to certify nitrogen oxide, non-methane hydrocarbon, carbon monoxide, and carbon dioxide test results. 2) Testing shall meet the requirements of 40 CFR 60.4244 and 60.754(d). **[Reference 7 DE Admin. Code 1144 Section 7.0 dated 1/11/2006 , Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.6]** J. The results of performance testing must demonstrate to the Department's	5) The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. **[Reference 7 DE Admin. Code 1102 Section 11.3 dated 06/11/06]** B. Upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance with the emission and operational requirements shall be based upon the following: **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** A. All periods of operation including startup, shutdown, malfunction, maintenance and normal periods of operation shall be

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
Orange" as, announced by the Department. **[Reference 7 DE Admin. Code 1144 Section 4.2 dated 1/11/2006, Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.2]** E. The owner or operator shall keep a maintenance plan and records conducted of maintenance, and must, to the extent practicable, maintain and operate the engines in a manner consistent with good air pollution control practice for minimizing emissions. **Reference 40 CFR Part 63, Subpart JJJJ, Section 60.4243(a)(2)(iii) dated 1/18/2008 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.8]** iv. Operational Limitations A. The primary objective of the gas collection system is to minimize the release of landfill gas (LFG) to the atmosphere. The release of LFG to the atmosphere shall not be compromised in order to provide a higher gas quality for the generators. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.11]** B. The LFGR facility shall not be operated without a condensate knockout tank, and a mechanical refrigeration and dehydration system and coalescing filters. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.12]**	satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. **[Reference 7 DE Admin. Code 1102 Section 11.3 dated 6/11/06 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.3.5]** K. Stack testing for formaldehyde shall be conducted for all engines no later than April 30, 2020, and every three years thereafter. **[Reference Permits: APC-2013/ 0052 (A2) & APC-2013/ 0053 (A2) Condition 4.1.13]** viii. Quality Assurance/Quality Control A. The Company shall establish a regular maintenance schedule for the generators based on the manufacturer's guidelines. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.21]** B. The gas chromatograph shall be calibrated on a monthly basis per the manufacturer's specifications. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22]** C. The Company shall maintain a Department approved handheld analyzer	included for emission calculations and hours of operation. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.3]** B. Emissions of NOx and CO shall be calculated based upon the lb/hr emission limits in Condition 3 – Table 1(b)(1)(ii) and hours of operation including idling time. All other emissions shall be calculated based on actual data when available and Department approved emission factors. **[Reference 7 DE Admin. Code 1130 Section 6.1.1 dated 8/11/22 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.8]** C. The rolling twelve (12) month total emissions shall be calculated and recorded each month in a log using the most recent stack test data for NMOC (subtracting the most recent stack test data for formaldehyde), amount of gas combusted, H_2S and methane concentrations, Department approved emission factors, and good engineering assumptions. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 5.6]** D. Emissions from the generators shall be calculated at least once a month and included in the emission cap of the most recent version of **Permit: AQM-001/ 00068**. **[Reference 7 DE Admin Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
C. All condensate shall be returned to the landfill's leachate system for proper treatment. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.13]** D. The LEANOX Technology on the generators shall be set at the point where emissions of NOx and CO are minimized. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.14]** E. The generators shall only be fueled by landfill gas. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.15]** F. The flow rate to the generators shall not exceed the equivalent of 400 scfm at 50% methane per generator. At no time shall the generators be operated with a methane content below 42% on a 24-hour average. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.16]** G. The units shall not be operated below 60% load except during periods of startup, shutdown, or maintenance. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.17]** H. The system shall be operated with a Data Acquisition and Handling System (DAHS). **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.18]** I. The DAHS shall alarm whenever the value of an indicator parameter falls outside its	onsite that is capable of measuring the NOx emissions of Condition 3 – Table 1(b)(1)(ii)(A) and (B). **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22]** D. The NOx analyzer shall be calibrated and maintained according to the manufacturer's specifications. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22]** ix. Record Keeping In addition to the requirements of Condition 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the following information: **[Reference 7 DE Admin Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 5.4]** A. A copy of the landfill gas generator manufacturer's recommended maintenance schedule; B. All routine and non-routine maintenance on the landfill gas generators; C. The results of all performance tests on the landfill gas generators; D. The results of visible emissions; E. Records of the results of the NO_X emissions tests conducted in g/hp-hr and lb/hr; F. Records of landfill gas quality reports;	E. Compliance with the emission and operational requirements shall be based upon record keeping. **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** F. Any noncompliance with the restrictions of Condition 3 – Table 1(b)(1)(ii)(A) shall be considered as a violation of the requirements of 7 **DE Admin. Code** 1125, *Requirements for Preconstruction Review*, and shall subject the facility to be reviewed under 7 **DE Admin. Code** 1125 as though construction had not yet commenced on the facility. **[Reference 7 DE Admin. Code 1125 Section 1.8 dated 2/11/12 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 2.9]** G. Emissions of nitrogen oxides, nonmethane hydrocarbons, particulate matter, carbon monoxide, and carbon dioxide from the landfill gas electric generators shall be certified in pounds of emissions per megawatt hour (lb/MWh) at International Organization for Standardization (ISO) conditions or at the load conditions specified by the applicable testing methods 7 **DE Admin. Code** 1144. Compliance with this regulation shall be demonstrated through testing using the applicable EPA Reference Methods, California Air Resources Board methods,

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
acceptable range. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.19]** J. Any changes to parameters and ranges established for the DAHS require Department approval. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.20]** K. In the event that the LFGR facility cannot accept the landfill gas, the existing flare system shall be started and operated to maintain the landfills requirements within one hour of the LFGR facility shutdown. **[Reference 7 DE Admin. Code 1130 Sections 6.0 dated 8/11/22]** L. The landfill gas combusted in the electric generators shall contain no more than 375 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously. **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.3]** M. The owner or operator shall continuously analyze the fuel gas quality for CH_4, CO_2, O_2, and N_2 as it is delivered to the owner and/or operator of the landfill gas generators through a permanently mounted gas chromatograph. The gas chromatograph used to analyze the fuel quality shall be calibrated and maintained	G. A copy of the initial notification for the generators to be made available for inspection, upon request, for the life of the affected source; **[Reference Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 5.15]** H. Documentation from the engine manufacturer that the engines meet the emission standards in 40 CFR Part 60 Subpart JJJJ or test results that demonstrate that the engines meet these emission standards; I. All the information monitored in accordance with Condition 3 - Table 1(b)(vi) and Condition 3 - Table 1(b)(vii); and J. Performance testing measurements, stack testing measurements conducted for compliance demonstration, stack testing measurements conducted for Department determination purposes, and process and control equipment operating parameters sustained during stack testing shall be maintained in a file. **[Reference: 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 and Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 5.14]** K. Emission rates and rolling twelve month emissions.	or equivalent test methods approved by the Department. If the design of a certified generator is modified, the generator will need to be re-certified. Certification means that a generator meets the required emissions standards of this regulation and can be installed, as supplied, for use as a distributed generator. With respect to nitrogen oxides, nonmethane hydrocarbons, carbon monoxide, and carbon dioxide, test results from EPA Reference Methods, California Air Resources Board methods, or equivalent testing may be used to verify this certification. Test results shall be provided upon request to the Department. A statement attesting to certification shall be displayed on the nameplate of the unit or on a label attached to the unit with the following text: This generator has met the standards defined by 7 **DE Admin. Code** 1144 and is certified as meeting applicable emission levels when it is maintained and operated in accordance with the supplier's instructions. **[Reference 7 DE Admin. Code 1144 Section 7 dated 1/11/2006 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 7.4]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
according to the manufacturer's specifications. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.6]** N. The owner or operator shall maintain a Department approved handheld analyzer on site that is capable of measuring NO_X emissions. The NO_X analyzer shall be calibrated and maintained according to the manufacturer's specifications. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.7]** O. The owner or operator shall follow the maintenance schedule recommended by the landfill gas generator manufacturer. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.5]** P. The landfill gas generators shall be operated within the operating range established during the most recent performance test demonstrating compliance. **[Reference 7 DE Admin. Code 1130 Section 6 dated 8/11/22 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 3.1.10]**		
c. Temperature Swing Absorption (TSA) Purge Gas Flare		
1. **Criteria Pollutants & HAPs**		
i. Emission Standards	v. Compliance Methods	x. Reporting

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
The flare shall be designed for and operated with no visible emissions, except for periods not to exceed a total of five (5) minutes during any two (2) consecutive hours. **[Reference Permit: APC-2013/0054 (A2) Condition 3.2.1 and 40 CFR Section 60.18 dated 1/21/86].** ii. Emission Limitations A. NO_X emissions from the TSA purge gas flare shall not exceed 0.66 pounds per hour and 2.90 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.1]** B. CO emissions from the TSA purge gas flare shall not exceed 2.21 pounds per hour and 9.68 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.2]** C. NMOC emissions from the TSA purge gas flare shall not exceed 0.65 pounds per hour and 2.83 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.3]** D. $PM_{2.5}$ emissions from the TSA purge gas flare shall not exceed 0.74 pounds per hour and 3.25 tons per twelve (12) month rolling period.	Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference 7 DE Admin. Code 1130 Section 6.1.7.3 dated 8/11/22]** vi. Monitoring The Company shall monitor the following: A. The presence of a flare flame shall be monitored at all times using a thermocouple or any other equivalent device to detect the presence of a flame. **[Reference 40 CFR Part 60.18(f)(2) dated 1/21/86 &Permit: APC-2013/0054 (A2) Condition 4.2.6].** B. A flow meter shall be used to continuously monitor and record the gas flow rate to the flare. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.2]** C. The flare flame monitoring equipment shall be inspected monthly. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.7 and 40 CFR Part 60.18 dated 1/21/86 and 40 CFR 60.756(c) dated 3/12/96]** D. Emission rates and rolling twelve (12) month emissions. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, the TSA flare shall meet the following requirements: **[Reference 40 CFR Part 60.18 dated 1/21/86 and 40 CFR Part 60.756(c)]**	In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the Company shall submit to the Department the following reports: **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** A. A written report of the results of performance tests in accordance with the following general provisions: **[Reference Permit APC-2013/0054 (A2) Condition 4.3]** 1) One (1) original hard copy and one (1) PDF copy of the test protocol shall be submitted a minimum of forty-five (45) days in advance of the tentative test date to the addresses in Condition (c)(1)(x)(A)(3). The tests shall be conducted in accordance with the State of Delaware and Federal Requirements. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84]** 2) The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the Source Testing Engineer. The Department must observe the test for the results to be considered for acceptance. **[Reference 7 DE Admin. Code 1102 Section 11.7 dated 06/11/2006]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.4] E. SO_2 emissions from the TSA purge gas flare shall not exceed 1.42 pounds per hour and 5.81 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.5]** F. CO_2 emissions from the TSA purge gas flare shall not exceed 2,243 pounds per hour and 9,824 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.6]** G. HAP emissions from the TSA purge gas flare shall not exceed 0.29 pounds per hour and 1.29 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.7]** H. HCl emissions from the TSA purge gas flare shall not exceed 0.08 pounds per hour and 0.35 tons per twelve (12) month rolling period. **[Reference 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 & Permit: APC-2013/0054 (A2) Condition 2.2.8]** iii. Operational Standards	A. Within ninety days of startup the owner and/or operator shall conduct a performance test and furnish the Department with a written report of the results of such performance test in accordance with the requirements of Condition 3 Table 1(c)(1)(x). **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.1]** B. Initial performance testing for the flow meter shall be demonstrated by passing the tests given in 40 CFR 60 Appendix B, Performance Specification 6. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.2.1]** C. The required testing shall be completed and the report submitted within 150 days of startup. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.2.2]** D. The performance of the flow monitor shall be demonstrated at least once each calendar year by passing the calibration drift tests given in 40 CFR Part 60 Appendix B, Performance Specification 6. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.2.3]** E. The owner and/or operator shall notify the Department at least thirty (30) days prior to any flow monitor test to give the Department the opportunity to witness the test. **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.2.4]**	3) The final results of the testing shall be submitted to the Department within sixty (60) days of the test completion. One (1) original hard copy and one (1) PDF copy of the test report shall be submitted to the addresses below: **[Reference 40 CFR 60.4245 dated 1/18/08 and 7 DE Admin. Code 1130 Section 6.1.3 dated 8/11/22]** Original Hard Copy to: Engineering & Compliance Section Attn: Source Testing Engineer 715 Grantham Lane New Castle, DE 19720 PDF Copy to: Engineering & Compliance Section E-mail of Source Testing Engineer E-mail of Permit Engineer dnrec_daq_stacktest@delaware.gov 4) The final report of the results must meet the following requirements to be considered valid: a) The full report shall include the emissions test report (including raw data from the test) as well as a summary of the results and statement of compliance or non-compliance with permit conditions; **[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
A. The flare shall be designed and operated to reduce NMOCs by at least 98 weight-percent. **[Reference 40 CFR Part 60.756(c)(2) dated 3/12/96 and Permit: APC-2013/0054 (A2) Condition 3.2.2]** B. The flare shall be operated with a flame present at all times. **[Reference 40 CFR Part 60.18(c)(2) dated 1/21/86 and Permit: APC-2013/0054 (A2) Condition 3.2.3]** C. The owner and/or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame. **[Reference 40 CFR Part 60.756(c)(1) dated 3/12/96 and Permit: APC-2013/0054 (A2) Condition 3.2.4]** D. The owner and/or operator shall install, calibrate, maintain, and operate a device that records flow to, or bypass of, the flare. **[Reference 40 CFR Part 60.756(c)(2) dated 3/12/96 and Permit: APC-2013/0054 (A2) Condition 3.2.5]** E. The owner and/or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a gas flow rate measuring device that shall	F. The owner or operator shall conduct an initial performance evaluation to demonstrate compliance with Condition 3 Table-1 (c)(1)(iii)(F). **[Reference Permit: APC-2013/0054 (A2) Condition 4.2.3]** 1) Initial performance testing for the flare gas heat content and exit velocity shall be performed as part of the flow meter demonstration required by Condition 3 Table-1 (c)(1)(vii)(B). 2) The net heating value of the gas being combusted in the flare shall be calculated using the method given in 40 CFR 60, Subpart A, 60.18(f)(3). 3) The required testing shall be completed and the report submitted within 150 days of startup. viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to the requirements of Conditions 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall keep up-to-date readily accessible, records of the following information: A. Documentation from the manufacturer that includes at a minimum, the recommended	b) The owner or operator shall supplement the report from the emissions testing firm with a summary of results that includes the following information: **[Reference 7 DE Admin. Code 1117 Section 2.6 dated 07/17/1984]** A) A statement that the owner or operator has reviewed the report from the emissions testing firm and agrees with the findings; B) Permit numbers an condition(s) which are the basis for the compliance evaluation; C) Summary of results with respect to each permit condition; and D) Statement of compliance or non-compliance with each permit condition. c) The Test Report shall be certified by a Responsible Official as to truth, accuracy, and completeness. **[Reference 7 DE Admin. Code 1130 Section 5.6 dated 11/15/93 and 6.3.1 dated 8/11/22]** 5) The results must demonstrate to the Department's satisfaction that the emission unit is operating in

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
record the flow to the control device every fifteen minutes. **[Reference 40 CFR Part 60.756(c)(2) dated 3/12/96 and Permit: APC-2013/0054 (A2) Condition 3.2.6]** F. The owner and/or operator shall adhere to the flare gas heat content specifications in 40 CFR Part 60, Subpart A, Section 60.18(c) and the flare exit gas velocity specifications in 40 CFR Part 60, Subpart A, Section 60.18 (c). **Reference 40 CFR Part 60.18 dated 1/21/86 and Permit: APC-2013/0054 (A2) Condition 3.2.7]** G. The flare shall be operated at all times when emissions may be vented to it. **[Reference 40 CFR Part 60.18(c)(6)(e) dated 1/21/86 and Permit: APC-2013/0054 (A2) Condition 3.2.8]** H. In the event the flare is inoperable and all of the landfill gas cannot be sent to other control devices, the following actions shall be taken: **[Reference 40 CFR Part 60.18(b) dated 1/21/86 and Permit: APC-2013/0054 (A2) Condition 3.2.9]** 1) All valves in the collection system contributing to the venting of the gas to the atmosphere shall be closed within one (1) hour. **[Reference Permit APC-2013/0054 (A2) Condition 3.2.9]** iv. Operational Limitations	operating parameters and maintenance schedule for the system. **[Reference: 7 DE Admin. Code 30 Sections 6 dated 8/11/22 and Permit: APC-2013/0054 (A2) Condition 5.5.1]** B. The following information shall be recorded and maintained in a log. Any written log shall be initialed. The log shall include details addressing any deficiencies noted and the corrective actions taken: 1) Periods of operation for the flare; 2) The reason the flare is in operation; 3) The daily flow of gas to the flare; 4) The daily visible emissions log. **[Reference: 7 DE Admin. Code 1130 Section 6 dated 8/11/22 and Permit: APC-2013/0054 (A2) Condition 5.5.2]** C. The owner and/or operator shall also maintain copies of the following: 1) Data showing flame presence; 2) Inspections of flare flame monitoring equipment; 3) Flare velocity and gas BTU content data; 4) Method 22 observations; 5) A copy of Method 22; 6) A statement of qualifications of personnel performing Method 22 and qualitative emission observations;	compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action. **[Reference 7 DE Admin. Code 1102 Section 11.3 dated 06/11/06]** B. Upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain records and submit reports to the Department on the result of such sampling. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, the Company shall: A. Method 22 of Appendix A 40 CFR Part 60, shall be used to determine compliance with the visible emissions provision of Condition 3 – Table 1(c)(1)(i). **[Reference 40 CFR Part 60.18(f)(1) dated 1/21/86]** B. The net heating value of the gas being combusted in the flare shall be calculated using the method specified in 40 CFR Part 60.18(f)(3). **[Reference 40 CFR Part**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
A. The owner and/or operator shall install, calibrate, maintain, and operate an automatic control system to notify the flare operator of flare failure, upset, or breakdown. **[Reference Permit: APC-2013/0054 (A2) Condition 3.2.10]** B. The flow rate of landfill gas to the flare shall not exceed 350 scfm of landfill gas at 50% methane. **[Reference Permit : APC-2013/0054 (A2) Condition 3.2.11]**	7) Calibration records for all flow meters; and 8) Landfill gas test information, including test protocol, raw data and the final report. **[Reference: 7 DE Admin. Code 1130 Section 6 dated 8/11/22 and Permit: APC-2013/ 0054 (A2) Condition 5.5.3]** D. The rolling twelve month total emissions from the TSA Purge Gas Flare shall be calculated and recorded each month in a log for each of the following pollutants using the amount of gas combusted, NMOC, H_2S, and methane concentrations, Department approved emission factors, and good engineering assumptions. 1) Carbon Monoxide; 2) Particulate Matter; 3) Sulfur Oxides; 4) Nitrogen Oxides; 5) Non-Methane Organic Compound; and 6) Hazardous Air Pollutants. **[Reference: 7 DE Admin. Code 1130 Section 6 dated 8/11/22 and Permit: APC-2013/0054 (A2) Condition 5.6]** E. Performance testing measurements, stack testing measurements conducted for compliance demonstration, stack testing measurements conducted for Department determination purposes, and process and control equipment operating parameters	**60.18(f)(3) dated 1/21/86 & Permit :APC-94/0758 Condition 4.7.3]** C. The actual exit velocity of the flare shall be determined by the method specified in 40 CFR Part 60.18(f)(4). **[Reference 40 CFR Part 60.18(f)(4) dated 1/21/86 & Permit: APC-2013/0054 (A2) Condition 3.2.7]** D. The maximum permitted velocity, Vmax, shall be determined by the equation specified in 40 CFR Part 60.18(f)(5). **[Reference 40 CFR Part 60.18(f)(5) dated 1/21/86]** E. Compliance with the operational standards and limitations shall be based upon record keeping. **[Reference: 7 DE Admin. Code 30 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** F. Compliance with the emission limitations of Condition 3 – Table 1(c)(1)(ii) shall be demonstrated each month based on the amount of gas combusted, actual NMOC and methane concentrations, approved emission factors and good engineering assumptions. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22 and Permit: APC-2013/0054 (A2) Condition 5.7]** G. Emissions from the flare shall be calculated at least once a month and included in the facility wide emission cap of the most recent version of Permit: **AQM-001-00068**. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22].**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	sustained during stack testing shall be maintained in a file. **[Reference: 7 DE Admin. Code 1130 Section 6.1 dated 8/11/22 and Permit: APC-2013/0054 (A2) Condition 5.14]**	H. Emissions shall be calculated based on manufacturer's emission factors, actual data when available and Department approved emission factors. **[Reference: 7 DE Admin. Code 1104 Section 2.1 dated 2/1/81 and Permit : APC-2013/0054 (A2) Condition 2.4]** I. All periods of operation including startup, shutdown, malfunction, maintenance and normal periods of operation shall be included for emission calculations and hours of operation. **[Reference Permit: APC-2013/0054 (A2) Condition 2.3]** J. The rolling twelve (12) month total emissions shall be calculated and recorded each month in a log using the amount of gas combusted, NMOC, H2S, and methane concentration, Department approved emission factors, and good engineering assumptions. **[Reference Permits: APC-2013/0054 (A2) Condition 5.6]** K. Any noncompliance with the restrictions of Condition 3 – Table 1(c)(1)(ii)(A) shall be considered as a violation of the requirements of 7 **DE Admin. Code** 1125, *Requirements for Preconstruction Review*, and shall subject the facility to be reviewed under 7 **DE Admin. Code** 1125 as though construction had not yet commenced on the facility. **[Reference 7 DE Admin. Code 1125 Section 1.8 dated 2/11/12 and**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
		Permit: APC-2013/0054 (A2) Condition 2.9]
d. Facility Wide		
1. **Criteria Pollutants & HAPs**		
i. Emission Standards None. ii. Emission Limitations All emission from equipment associated with this permit shall be included in the emissions cap of the most recent version of Permit: **AQM-001/00068** **[Reference: 7 DE Admin. Code 1130 Section 6.1.1 and 6.2.1 dated 8/11/22]** iii. Operational Standards At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determinations of whether acceptable operating procedures are being used will be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the	v. Compliance Methods Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3, dated 8/11/22]** vi. Monitoring The Company shall monitor the following: **[Reference: 7 DE Admin. Code 1130 Section 6.1.3.1.2 and 6.2.1 dated 8/11/22]** For each month: A. The monthly emissions of NOx, CO, PM, NMOCs, SOx, and HAPS from the facility. B. The rolling 12 month emissions of NOx, CO, PM, NMOCs, SOx, and HAPs from the facility. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, upon written request of the Department, the owner or operator shall, at the Company's expense, sample the emissions of, or fuel used by, an air contaminant emission source, maintain	x. Reporting In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the owner or operator shall submit an updated BACT analysis for formaldehyde emissions with the application to renew this permit. In regard to the siloxane removal system, only the feasibility of technologies proven in a commercial application to be capable of improving the siloxane removal efficiency of the system will be considered in the BACT analysis. **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** xi. Compliance Certification **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** In addition to that required by Condition 3(c)(3) of this permit, compliance with the emission limitations of Condition 3 – Table 1(d)(1)(ii) shall be demonstrated each month based on the amount of gas combusted, actual NMOC, actual H_2S concentrations, actual methane concentrations, approved emission factors and good engineering assumptions.

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	**Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)**	**Reporting and Compliance Certification**
source. **[Reference 7 DE Admin. Code 1101 Section 3 dated 2/1/81 and 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 3.4 & Permit: APC-2005/0146 (A5) Condition 3.2]** iv. Operational Limitations None.	records and submit reports to the Department on the result of such sampling. **[Reference 7 DE Admin. Code 1117 Section 2.2 dated 7/17/84 and Permits: APC-2013/0052 (A1) & APC-2013/0053 (A2) Condition 4.4]** viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to that required by Conditions 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the monitoring required by Condition 3 Table-1 (d)(1)(vi).	
2. **MACT Requirements**		
i. Emission Standards None ii. Emission Limitations None. iii. Operational Standards The Company shall develop and implement a written startup, shutdown and malfunction plan (SSM) that describes, in detail, procedures for operating and maintaining the collection and control system and the control monitoring	v. Compliance Methods Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3 dated 8/11/22]** vi. Monitoring The Company shall monitor the time, date, and length of all SSM and any actions taken at such times. **[Reference 40 CFR Part 63.10(b)(2) dated 3/16/94 & Permit: APC-2005/0146 (A5) Condition 5.6 & Permits: APC-2013/0052 (A2) &**	x. Reporting In addition to the requirements of Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the Company shall: **[Reference 40 CFR Part 63.10(d)(5) dated 3/16/94 & Permit: APC-2005/0146 (A5) Condition 6.5 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 6.9]** A. Submit a SSM report semiannually. 1) If actions taken during a SSM are consistent with the procedures specified in the SSM Plan, the owner or

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
system (CMS) during periods of SSM and a program of corrective action for malfunctioning process and air pollution control equipment according to the provisions of 40 CFR Part 63.6(e)(3). **[Reference 40 CFR Part 63 Subpart AAAA §63.1960 dated 1/16/03 & Permit: APC-2005/0146 (A5) Condition 3.1.21 & Permits: APC-2013 /0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 3.3]** iv. Operational Limitations None.	**APC-2013/0053 (A1) & APC-2013/0054 (A2) Condition 4.1.12]** vii. Testing That required by Condition 3(b)(1)(ii) of this permit. viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to the requirements of Condition 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall: **[Reference 40 CFR Part 63.10(b)(2) dated 3/16/94]** A. Keep the written SSM Plan on record to be made available for inspection, upon request, for the life of the affected source. **[Reference Permit: APC-2005/0146 (A5) Condition 5.7 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.7]** B. Keep previous versions of the SSM Plan on record if the SSM Plan is revised, for a period of 5 years after each revision to the plan. **[Reference Permit: APC-2005/ 0146 (A5) Condition 5.8 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/ 0054 (A2) Condition 5.8]** C. Maintain records of the occurrence and duration of each SSM of operation, and of the air pollution control equipment. **[Reference Permit: APC-2005/0146 (A5)**	operator shall state such information in the report. 2) The SSM report shall consist of a letter, containing the name, title, and signature of the responsible official certifying to its accuracy. 3) The SSM report shall be delivered or postmarked by the 30th day following the end of each calendar half. 4) Anytime an action taken by an owner or operator during a SSM is not consistent with the procedures specified in the SSM plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event. 5) The immediate report shall consist of a telephone call or facsimile transmission within 2 working days after commencing actions. 6) The letter shall contain the name, title and signature of the responsible official certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSM plan, and whether any excess emissions and/or parameter monitoring

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	Condition 5.9 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.9] D. Record all maintenance performed on the air pollution control equipment. **[Reference Permit: APC-2005/0146 (A5) Condition 5.10 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.10]** E. Record actions taken during periods of SSM (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSM Plan. **[Reference Permit: APC-2005/0146 (A5) Condition 5.11 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.11]** F. Maintain all information necessary to demonstrate conformance with the affected source's SSM Plan when all actions taken during periods of SSM are consistent with the procedures specified in such plan. **[Reference Permit: APC-2005/0146 (A5) Condition 5.12 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.12]** G. Record each period during which a CMS is malfunctioning or inoperative. **[Reference Permit: APC-2005/0146 (A5) Condition 5.13 & Permits: APC-2013/0052 (A2) & APC-**	exceedances are believed to have occurred. **[Reference 40 CFR Part 63 Subpart AAAA dated 1/16/2003]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance with the operational standards shall be based on record keeping. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	2013/0053 (A2) & APC-2013/0054 (A2) Condition 5.13]	
3. Visible Emissions		
i. Emission Standards No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than twenty (20%) percent opacity for an aggregate of more than three (3) minutes in any one (1) hour or more than fifteen (15) minutes in any twenty-four (24) hour period. **[Reference 7 DE Admin. Code 1114 Section 2.1 dated 7/17/84 & Permit: APC-2005/0146 (A5) Condition 2.6 & Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 2.6]** ii. Emission Limitations None. iii. Operational Standards None. iv. Operational Limitations None.	v. Compliance Methods Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3, dated 8/11/22]** vi. Monitoring A. At a minimum, for emission unit 1, the Company shall monitor visible emissions once each calendar year. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22].** B. Once a month generators #4 and #5 shall be observed for the presence or absence of visible emissions for at least five minutes while the equipment is operating. The five minute observation window must start as soon as generator power is stabilized. Compliance with this condition shall be demonstrated by the maintenance of a bound log of visible emissions. If visible emissions are observed during the five minute observation period, the owner or operator shall take actions per the manufacturer's	x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance with the emission standards shall be based on the following: **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]** A. Compliance with the emission standard of Condition 3 – Table 1(d)(3)(i) shall be based upon record keeping. B. The Company shall certify compliance at least once each calendar year with Condition 3 – Table 1(d)(3)(i) by conducting testing in accordance with Condition 3 – Table 1(d)(3)(vii.)

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	recommendations to correct the problem as soon as possible. After corrective actions are taken, the owner or operator shall observe visible emissions while the equipment is next operated or tested. If visible emissions still persist, these steps (observe, correct, document) shall be repeated until visible emissions are not observed. **[Reference 7 DE Admin. Code 1130 Sections 6 dated 8/11/22 Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.8]** C. The procedure outlined in Condition 3 Table-1 (d)(vi)(B) does not require that the opacity of the emissions be determined. Since the procedure requires only the determination of whether visible emissions occur and does not require the determination of opacity levels, observer certification according to the procedures of EPA Reference Method 9 (40 CFR 60, Appendix A) is not required. However, it is necessary that the observer is educated on the general procedures for determining the presence of visible emissions. At a minimum, the observer must be trained and knowledgeable regarding the effects on visibility of emissions caused by background contrast, ambient lighting, observer	

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	position relative to lighting, wind, and the presence of uncombined water (condensing water vapor). **[Reference 7 DE Admin. Code 1130 Sections 6 dated 8/11/22 Permits: APC-2013/0052 (A2) & APC-2013/0053 (A2) Condition 4.1.9]** D. For Emission Unit 3, the facility shall monitor visible emissions in accordance with the following**: [Reference 40 CFR Part 60.18(f)(1) dated 1/21/86 & Permit: APC-2013/0054 (A2) Condition 4.2.5]** 1. Each day that the flare is in operation, the Company shall conduct a qualitative observation (Similar to Method 22) during a continuous five (5) minute period while the flare is operating. 2. If any visible emissions are detected, the Company shall conduct an inspection in accordance with 40 CFR Part 60 Appendix A Method 22 *Visual Determination of the Fugitive Emissions from Material Sources and Smoke Emissions from Flares* or report the visible emissions to the Department. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, the Company shall: A. Conduct an annual Reference Method 9 visible emissions test in accordance with	

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	7 **DE Admin Code** 1120, Section 1.5.3 for Emission Unit 1. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22]** B. The opacity requirements of Condition 3 Table-1(c)(1)(i) for the flare shall be determined using Reference Method 22 from 40 CFR Part 60, Appendix A, dated 7/1/07. The observation period is 2 hours. One (1) visible emissions determination shall be conducted within sixty (60) days of installation of the flare and then once every year. If visual emissions are determined to be in excess of the limitation, the owner or operator shall take all means necessary to minimize emissions and to operate the flare without visible emissions. The term "all means necessary" may include but is not limited to shutting down the flare. **[Reference 40 CFR Part 60.18(f)(1) dated 1/21/86 & Permit: APC-2013/0054 (A2) Condition 4.2.4]** viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to the requirements of Conditions 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the	

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	information monitored in accordance with Condition 3 – Table 1(d)(3)(vi). **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22]**	
4. Operations/Maintenance		
i. Emission Standards None. ii. Emission Limitations None. iii. Operational Standards All structural and mechanical components of the equipment covered by this permit shall be maintained in proper operating condition and such equipment shall be operated at all times in a manner consistent with good air pollution control practice. **[Reference: 7 DE Admin. Code 1101 Section 3 dated 2/1/81, 7 DE Admin. Code 1102 Section 11.6 dated 6/1/97 and Permits: APC-2005/0146 (A5) Condition 3.3 and Permits: APC-2013/0052 (A2), APC-2013/0053 (A2) & APC-2013/0054 (A2) Condition 3.5]** iv. Operational Limitations None.	v. Compliance Methods Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3, dated 8/11/22]** vi. Monitoring **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22]** A. Each month, the Company shall monitor the operational standards of Condition 3 – Table 1(d)(4)(iii), monitor all of the maintenance performed on equipment covered by this permit, and update records as needed. vii. Testing In addition to that required by Condition 3(b)(1)(ii) of this permit, the owner or operator shall sample raw and treated landfill gas for siloxane content and speciation of the siloxanes once per quarter. The analysis shall quantify the following siloxane compounds: Trimethyl silanol (TMS), L2, D3, L3, D4, L4,	x. Reporting In addition to that required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit, the owner or operator shall submit the results of the siloxane sampling required by Condition 3 Table 1 (d)(4)(vii) semiannually. **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance with the operational standard of Condition 3 – Table 1(d)(4)(iii) shall be demonstrated by adherence to good engineering operations and work practices, and based upon record keeping for the proper operation and maintenance of the equipment covered by this permit. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	D5, L5, and D6.viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to the requirements of Condition 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the information monitored in accordance with Condition 3 – Table 1(d)(4)(vi). **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.1 dated 8/11/22]**	
5. State Enforceable Only – Odors		
i. Emission Standards The Company shall not cause or allow the emission of odorous air contaminants such as to cause a condition of air pollution. **[Reference: 7 DE Admin. Code 1119 Section 2.1 dated 2/1/81, Permits: APC-2013/0052 (A2), APC-2013/0053 (A2), APC-2013/0054 (A2) & Permit: APC-2005/0146 (A5) Condition 2.7]** ii. Emission Limitations None. iii. Operational Standards None. iv. Operational Limitations None.	v. Compliance Methods Compliance with the standards and limitations will be demonstrated by adherence to the appropriate monitoring, testing, QA/QC, and recordkeeping requirements. **[Reference: 7 DE Admin. Code 1130 Section 6.1.7.3 dated 8/11/22]** vi. Monitoring The Company shall conduct a landfill gas odor survey of the entire boundary of the landfill gas recovery facility once per quarter. If a landfill gas odor sufficient to cause or create a condition of air pollution is detected, the Company shall: A. Take immediate action to correct the landfill gas odor problem; and B. Conduct a landfill gas odor survey of the entire boundary of the landfill gas	x. Reporting That required by Conditions 2(a), 2(b)(9), 2(f)(3), 3(b)(1)(ii), and 3(c)(2) of this permit. **[Reference 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.2.1 dated 8/11/22]** xi. Compliance Certification In addition to that required by Condition 3(c)(3) of this permit, compliance is demonstrated if the Company has no knowledge to the contrary and has no prior history of exceedances. **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.2.3 and 6.3.1 dated 8/11/22]**

Condition 3 – Table 1: Specific Requirements (continued)

Emission Limitations, Emission Standards, Operational Limitations, and Operational Standards	Compliance Determination Methodology (Monitoring, Testing, QA/QC Procedures, and Record Keeping)	Reporting and Compliance Certification
	recovery facility once per week, and take action until a landfill gas odor survey results in no detection of a landfill gas odor. vii. Testing That required by Condition 3(b)(1)(ii) of this permit. viii. Quality Assurance/Quality Control None. ix. Record Keeping In addition to that required by Conditions 3(b)(1)(ii) and 3(b)(2) of this permit, the Company shall maintain records of the monitoring performed in Condition 3 – Table 1(d)(5)(vi). **[Reference: 7 DE Admin. Code 1130 Sections 6.1.3.1.2 and 6.2.2 dated 8/11/22]**	

Condition 4- Operational Flexibility

a. In addition to the operational flexibility specifically provided in the terms and conditions detailed in Condition 3 – Table 1 of this permit, the Owner and/or Operator is authorized to make any changes within the facility which contravenes the terms and conditions of this permit without a permit revision if the change:

1. Is not a modification or otherwise prohibited under any provision of Title I of the Act or the State Implementation Plan (SIP); and *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8 dated 8/11/22]*
2. Does not involve a change in any compliance schedule date; and *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8 dated 8/11/22]*
3. Does not result in a level of emissions exceeding the emissions allowable under this permit, whether expressed herein as a rate of emissions or in terms of total emissions. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8 dated 8/11/22]*

b. Before making a change under the provisions of Condition 4(a) of this permit, the Owner and/or Operator shall provide advance written notice to the Department and to the EPA in accordance with Condition 3(c)(2)(iii) of this permit. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

c. The Owner and/or Operator shall keep records of any changes made under Condition 4 of this permit in accordance with Condition 3(b)(2)(iv) of this permit. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.8.1 dated 8/11/22]*

Condition 5- Compliance Schedule

This permit does not contain a compliance schedule. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.3.3 dated 8/11/22]*

Condition 6. Permit Shield.

This permit does not provide a permit shield and shall not be presumed to provide such a shield. *[Reference:* 7 ***DE Admin. Code*** *1130 Section 6.6.3 dated 8/11/22]*

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pc: Dover Title V File

Attachment "A"- Revision History

Date	Number	Revision Type	Description	Pages Revised
6/6/2013	AQM-001/00247	Initial Permit	Initial Permit	All
1/13/2014	AQM-001/00247 (Revision 1)	AA	DSWA RO information changed	Cover Page
5/5/2014	AQM-001/00247 (Revision 2)	AA	Add Engine #4, Engine #5, and the TSA flare to the permit.	2; 3; 24-46
10/26/2015	AQM-001/00247 (Revision3)	SPM	Reduce the monitoring frequency for engines #4 and #5	25
4/15/2019	AQM-001/00247 (Renewal 1)	Permit Renewal	Permit Renewal	All
4/24/2020	AQM-001/00247 (Renewal 1) Revision 1)	SPM	Ameresco RO changed; change Gen. 4 and 5 to rolling twelve month records; corrects NMOC and HAP for Gen. 1-3	All
1/20/2023	AQM-001/00247 (Renewal 1) Revision 2)	AA	EU 1 & 2 CO2 excludes pass-through, updates references and standard permit language	17, 23
10/6/20023	AQM-001/00247 (Renewal 2)	Permit Renewal	Permit Renewal	All
DATE	AQM-001/00247 (Renewal 2)	SPM	Change SOx limits to reflect 375 ppmv average annual TRS.	17-19, 24-25, 28, 31

REVIEW MEMORANDUM
7 DE Admin. Code 1130 (TITLE V) OPERATING PERMIT

Ameresco Delaware Energy, LLC
111 Speen Street, Suite 410
Framingham, MA 01701
DRAFT/PROPOSED Permit: AQM-001/00247-Renewal (02) Revision (01)
Delaware Solid Waste Authority
Central Solid Waste Management Center
1107 Willow Grove Rd.
Sandtown, DE 19943

TO: Amy S. Mann, P.E. ASM

FROM: Melanie A. Smith, P.E. MAS

DATE: August 28, 2026

BACKGROUND

Ameresco Delaware Energy LLC operates an existing landfill gas-to-energy facility at the Central Solid Waste Management Center (DSWA- Central). The existing plant consists of five (5) GE Jenbacher Model JGS 320 GS-LL 1,468 HP landfill-gas fueled engine generators (Emission Units 1 and 2), and one (1) Abutec open flare (Emission Unit 3, Temperature Swing Absorption (TSA) purge gas flare). They are subject to 7 DE Admin. Code 1130 because they are a major source of NOx, CO, HAP, and CO_2.

The power generating facility constructed by Ameresco and the existing landfill at Sandtown owned by DSWA constitute a single source for purposes of permitting under the Clean Air Act. The facilities belong to the same industrial grouping, are located on contiguous property, and are under common control; therefore, the two facilities are treated as a single source for purposes of regulation under the Act. The Department issued separate Title V Permits; one for the landfill gas recovery facility and one for the landfill. Two Title V Permits were issued in order to separate responsibilities since DSWA has some control over Ameresco's operation since they supply gas to the facility, but Ameresco has no control over daily operation of the landfill. The landfill permit was issued solely to DSWA and the landfill gas recovery facility permit was issued to both DSWA and Ameresco. This memorandum will address only the equipment associated with the landfill gas recovery facility owned by Ameresco.

The Companies are current with Title V fees. Confidentiality has not been requested.

This facility does not fall into an Equity Focus Area. The legal ad will be translated to Haitian Creole for qualifying for a Language Isolation (Limited English) Neighborhood.

CORRESPONDENCE CHRONOLOGY

Date/Correspondence	Subject
July 7, 2026 email from Stevia Smith	SPM application
June 24, 2026 letter from Robin Roddy, COO, DSWA	Agrees with application and does not anticipate a need to increase facility-wide emission limit in DSWA's TV permit

EMISSION POINT AND EMISSION UNIT IDENTIFICATION

The following have been identified as emission points and emission units subject to the Title V operating program:

Emission Unit ID	Emission Point ID	Emission Unit Description
1		**Three GE Jenbacher landfill gas generators rated at 1 MW each**
2		**Two GE Jenbacher landfill gas generators rated at 1 MW each**
3		**Temperature Swing Absorption (TSA) Purge Gas Flare**

EXISTING 7 DE Admin. Code 1102 PERMITS

Permit Number and Date	Permitted Equipment
APC-2005/0146-OPERATION (A4)(NSPS)(MACT)(PTE)(FE) dated 8/18/23	Landfill gas recovery facility consisting of three (3) GE Jenbacher Model JGS 320 GS-L.L landfill gas generators rated at one (1) megawatt (MW) each
APC-2013/0052-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE) dated 8/18/23	Landfill Gas Generator #4 rated at 1 megawatt
APC-2013/0053-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE) dated 8/18/23	Landfill Gas Generator #5 rated at 1 megawatt
APC-2013/0054-OPERATION (Amendment 1)(NSPS)(GACT) (MNSR)(FE) dated 8/18/23	Temperature Swing Absorption (TSA) Purge Gas Flare

REGULATORY REVIEW/TECHNICAL REVIEW/COMPLIANCE METHODOLOGY

Ameresco Delaware Central is approaching the 12-month rolling average limit of 245 ppm total reduced sulfur (TRS) in its landfill gas engine fuel. This value was requested by Ameresco in an application dated September 25, 2012. It was an alternative total sulfur limit to 170 ppmv total sulfur pursuant to 7 **DE Admin. Code** 1144 Section 5.3, which states:

Waste, landfill, or digester gases combusted in a generator on or after April 11, 2006 shall contain no more than ten grains total sulfur per 100 dry standard cubic feet (170 ppmv total sulfur) on a daily average. An alternative total sulfur limit for waste, landfill, or digester gases shall be allowed based upon a case-by -case determination.

Ameresco has recently monitored H_2S concentrations up to 300 ppmv during weekly routine field readings. Ameresco calculates the TRS concentration by multiplying the measured H_2S factor by an adjustment factor determined from annual lab sampling. The current H_2S to TRS adjustment factor is 1.02. Given that the LFG H_2S concentrations will continue to fluctuate due to increased LFG volumes from newer waste and decreased LFG volumes from older waste, Ameresco anticipates that H_2S levels may continue to exceed the existing permitted limits in the future. Therefore, in order to avoid violation of its Title V permit, Ameresco is requesting to increase its permitted sulfur limits. Ameresco believes that an annual average limitation of 375 ppm provides the latitude necessary for Ameresco to continue to operate in compliance with its permit. A value of 375 ppm provides a buffer of approximately 15% over the highest H_2S ppm measurement in the last 12 months. Ameresco is requesting the following:

- No change to its instantaneous LFG TRS limit of 400 ppmv.
- No change to the current lb/hr SOx limit for engines 4 & 5 at 1.84 lb/hr.
- The engine 4 & 5 rate of 1.84 lb/hr be applied to engines 1, 2, and 3 (currently limited to 1.39 lb/hr).
- The tons/12-month SOx limits for all engines to be increased to reflect use of 375 ppmv annual average TRS.
- The lb/hr SOx limit for the enclosed flare be increased to reflect use of the existing maximum instantaneous permit limit of 400 ppm TRS.
- The tons (RT12) limit for the enclosed flare be increased to reflect use of 375 ppm annual average TRS.

Current permit conditions were proposed by Ameresco as an alternate limit to 7 DE Admin. Code 1144 Section 5.3.

Ameresco is proposing an alternate limit of 375 ppmv (annual average TRS concentration).

As stated in DSWA's Title V **Permit: AQM-001/-00068-Renewal (04)** and the joint Ameresco and DSWA Title V **Permit: AQM-001/00247-Renewal (02)**, emissions from the Ameresco plant and flare must be included in the facility-wide emission limits reported by DSWA for the Central Solid Waste Management Center (CSWMC). The Significant Permit Modification for Ameresco increases sulfur oxide (SOx) emission limits for all engines and the Ameresco flare. For the reasons outlined below, DSWA has determined that no change to the facility-wide emission limits is required.

Ameresco has a Plant consisting of five (5) Jenbacher engines (nameplate capacity 2,000 scfm) and one (1) Abutec Temperature Swing Absorption (TSA) Purge Gas Flare (nameplate capacity 350 scfm). DSWA has one (1) Shaw LFG Specialties Combustion Flare (nameplate capacity 3,550 scfm) and multiple smaller devices considered insignificant activities. All of these named emission units (excluding insignificant activities) run on landfill gas generated by and collected from the landfill (located at the same facility) owned by DSWA.

To run all seven of the above-mentioned emission units simultaneously at maximum capacity would require 5,900 scfm of landfill gas. The landfill owned by DSWA does not generate this amount of landfill gas and will not generate this amount for the foreseeable future. Based on data from the past year, DSWA expects an average flow of 2,000 – 2,500 scfm to be collected from the landfill. Therefore, in keeping with previously approved facility-wide emission calculations, DSWA will use a maximum of 3,550 scfm of landfill gas (the higher of the DSWA and Ameresco nameplate capacities) to determine the Potential-to-Emit from the facility. With this information, two operational scenarios will be considered:

1. 0 scfm being routed to the Ameresco Plant and Flare and 3,550 scfm being routed to the DSWA Flare.
2. 2,350 scfm being routed to the Ameresco Plant and Flare and the remaining 1,200 scfm being routed to the DSWA Flare.

The DSWA Flare currently has a SOx emission limit of 59.65 tons/year based on 400 ppm H_2S in the landfill gas. DSWA is not requesting any changes to this emission limit.

The Ameresco Plant and Flare currently have a combined SOx emission limit of 24.12 tons/year based on 245 ppm H_2S in the landfill gas. In Ameresco's application, the Company is requesting an increase to a

combined 38.08 tons/year based on 375 ppm H_2S in the landfill gas.

The current facility-wide emission limit for SOx as listed in DSWA's Title V Permit is 59.65 tons/year.

Operational Scenario #1 results in a 59.65 tons/year SOx emission limit regardless of the increase requested in the application.

Operational Scenario #2 currently results in a 44.28 tons/year SOx emission limit. Operational Scenario #2 will result in a 58.25 tons/year SOx emission limit should the request in Ameresco's application be approved.

Because Operational Scenario #1 remains the higher of the two potential emission limits, DSWA does not anticipate a need to increase the facility-wide emission limit as listed in their Title V permit. DSWA does approve of the requested increase for the Ameresco emission units as outlined in their application. This analysis of the facility-wide emission limit inclusive of the requested increase will be included in DSWA's Title V Renewal 5 Application.

Emissions were calculated using Equations 3, 4, and 7 from AP-42 Section 2.4, Municipal Solid Waste Landfills, dated August 2024, see below.

Equation 3

$Q_P = 1/F \; Q_{CH4} \times C_P/(1x10^6)$

Where:

Q_P= Emission rate of pollutant P, m^3/yr

F= Fraction by volume of CH_4 in landfill gas from measurement data for the current reporting year, if available (fraction, dry basis, corrected to 0% oxygen); otherwise, use the default of 0.5

Q_{CH4}= CH_4 generation rate, m^3/yr (from equation 1 or LandGEM)

C_P= Concentration of P in landfill gas, ppmv

Equation 4

$$UM_P = Q_P \times \frac{MW_P \times 1 \text{ atm}}{(8.205 \times 10^{-5} \frac{m^3 \text{ atm}}{\text{Gmol}^\circ\text{K}})(1000 \text{ g/kg})(273 + T^\circ\text{K})}$$

Where:

UM_P= Uncontrolled mass emissions of pollutant P, kg/yr

MW_P= Molecular wweight of P, g/gmol

Q_P= Emission rate of P, m^3/yr

T= Temperature of landfill gas, °C

Equation 7

$$CM_{SO2} = UM_S \times \frac{\eta_{col}}{100} \times 2.0$$

Where:

CM_{SO2}= Controlled mass emissions of SO_2, kg/yr

UM_S= Uncontrolled mass emissions of reduced sulfur compounds as sulfur, kg/yr

η_{col}= Efficiency of the landfill gas collection system, percent

2.0= ratio of the molecular weight of SO_2 to the molecular weight of S

Emission Unit 1
400 scfm x 60 min x 8322 hr/yr x 375 ppm x 32 g/mol x 2 (MW SO_2/MW S) x 1 atm x 2.205 lb/kg=
35.3147 ft^3/m^3 x 10^6 x 0.00008205 m^3 atm/gmol K x 1000 g/kg (273 +16 C)

12,622 lb(RT12) SO_2
6.31 T(RT12) x 3= 18.93 T(RT12) SO_2 total for three engines

Hourly rate based on 400 ppm H_2S and a landfill gas heat content of 420 BTU/scf:
Lb/MMBTU= $\frac{400 \text{ ppm x } 64 \text{ lb/lbmol x lbmol } SO_2/\text{lbmol S x lbmol}/379 \text{ ft}^3}{420 \text{ BTU/scf}}$ = 0.1608 lb/MMBTU
0.1608 lb/MMBTU x 11.43 MMBTU/hr= 1.84 lb/hr SO_2

Emission Unit 2
400 scfm x 60 min x 8760 hr/yr x 375 ppm x 32 g/mol x 2 (MW SO_2/MW S) x 1 atm x 2.205 lb/kg=
35.3147 ft^3/m^3 x 10^6 x 0.00008205 m^3 atm/gmol K x 1000 g/kg (273 +16 C)

13,286 lb(RT12) SO_2
6.64 T(RT12) x 2= 13.29 T(RT12) SO_2 total for two engines

Hourly rate based on 400 ppm H_2S and a landfill gas heat content of 420 BTU/scf:
Lb/MMBTU= $\frac{400 \text{ ppm x } 64 \text{ lb/lbmol x lbmol } SO_2/\text{lbmol S x lbmol}/379 \text{ ft}^3}{420 \text{ BTU/scf}}$ = 0.1608 lb/MMBTU
0.1608 lb/MMBTU x 11.43 MMBTU/hr= 1.84 lb/hr SO_2

Emission Unit 3
350 scfm x 60 min x 8760 hr/yr x 375 ppm x 32 g/mol x 2 (MW SO_2/MW S) x 1 atm x 2.205 lb/kg=
35.3147 ft^3/m^3 x 10^6 x 0.00008205 m^3 atm/gmol K x 1000 g/kg (273 +16 C)

11,625 lb(RT12) SO_2
5.81 T(RT12) SO_2

Hourly rate based on 400 ppm S:
350 scfm x 60 min x 400 ppm x 32 g/mol x 2 (MW SO_2/MW S) x 1 atm x 2.205 lb/kg= 1.42 lb/hr SO_2
35.3147 ft^3/m^3 x 10^6 x 0.00008205 m^3 atm/gmol K x 1000 g/kg (273 +16 C)

Changes to Renewal 2

Condition No.	Renewal 2	Renewal 2 Rev. 1
(a)(1)(i)(F)	The landfill gas combusted in the generators shall contain no more than 245 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously.	The landfill gas combusted in the generators shall contain no more than 375 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously.
(a)(1)(ii)(E)	SOx emissions shall not exceed 1.39 lb/hr on a daily average and 3.54 tons per twelve (12) month rolling period per generator.	SOx emissions shall not exceed 1.84 lb/hr on a daily average and 6.31 tons per twelve (12) month rolling period per generator.

Condition No.	Renewal 2	Renewal 2 Rev. 1
(a)(1)(vi)(O)		Emission rates, rolling 52-week, and rolling twelve (12) month emissions.
(a)(1)(ix)(G)		Emission rates, rolling 52-week, and rolling twelve (12) month emissions.
(b)(1)(ii)(F)	SOx emissions shall not exceed 1.84 lb/hr per generator. Total SOx emissions from both generators shall not exceed 9.90 tons per twelve (12) month rolling period.	SOx emissions shall not exceed 1.84 lb/hr per generator. Total SOx emissions from both generators shall not exceed 13.29 tons per twelve (12) month rolling period.
(b)(1)(iv)(L)	The landfill gas combusted in the electric generators shall contain no more than 245 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously.	The landfill gas combusted in the electric generators shall contain no more than 375 ppmv total sulfur on an annual average and no more than 400 ppmv total sulfur instantaneously.
(b)(1)(vi)(L)		Emission rates and rolling twelve (12) month emissions.
(b)(1)(ix)(K)		Emission rates and rolling twelve (12) month emissions.
(c)(1)(ii)(E)	SO_2 emissions from the TSA purge gas flare shall not exceed 1.34 pounds per hour and 3.60 tons per twelve (12) month rolling period.	SO_2 emissions from the TSA purge gas flare shall not exceed 1.42 pounds per hour and 5.81 tons per twelve (12) month rolling period.
(c)(1)(vi)(D)		Emission rates and rolling twelve (12) month emissions.

AERSCREEN Modeling
The effects of air contaminant emissions from the generator stacks on the public health, safety, and welfare were assessed using Department criteria. The criteria assume no adverse effect when the Maximum Downwind Concentration (MDC) at the property boundary line and beyond is less than the significant impact level (SIL) for each air contaminant emitted and over each applicable averaging period. The MDC of each air contaminant was computed using AERSCREEN air dispersion modeling.

In utilizing AERSCREEN, the engine stacks were treated as point sources. Point source variables in AERSCREEN are air contaminant emission rates (lb/H), stack height (ft), stack inside diameter (feet), stack gas exit velocity (ft/s) or air flow rate (cfm), stack gas exit temperature (˚F), receptor height above ground level (ft), and whether the source is located in an urban or rural location. Using the National Land Cover Database, 2016 Summary Tool for Air Dispersion Modeling, the area is predominantly grassland, therefore, the rural option was selected. The nearest property line is 342 m away. Values input for the stack parameters were the following:

Stack Height (ft)	Stack Diameter (ft)	Gas Flow Rate (acfm)	Exit Gas Temperature (°F)
32′	1.15′	8027	954

Since the five stacks are close together, the merged stack analysis provides a conservative estimate of the maximum modeled concentrations from multiple sources. According to EPA guidance on screening procedures for estimating the air quality impact of stationary sources (link below), if sources emit the same pollutant from several stacks that are within 100 meters of each other and share similar parameters, these emissions can be analyzed as if they are coming from a single representative stack.

The merged stack parameter consolidates the modeling of pollutants emitted from multiple similar stacks by assuming that all emissions discharge from a single representative (worst-case) stack. Similar stacks are defined as those situated less than 100 meters apart, emitting the same pollutants, and having stack heights and gas exit velocities that differ by no more than 20%.

If the other stacks are similar, emissions can be modeled as originating from a single stack. The five stacks are identical.

AERSCREEN ANALYSIS AND COMPARISON TO SILs				
POLLUTANT	**MDC ($\mu g/m^3$)**	**Averaging Period**	**SIL ($\mu g/m^3$)**	**MDC < SIL?**
SO_2 9.20 lb/hr	75.55	1-hour	7.9	No
	75.55	3-hour	25	No
	45.33	24-hour	5	No
	7.555	Annual	1.0	No

SO_2 MDC exceeds SIL for the one hour, three hour, twenty-four hour, and annual averaging periods. As a result, additional analysis was required. In cases such as these, the EPA has approved the use of a cumulative impact analysis. This analysis is only required for the pollutants and averaging periods that did not meet the SILs criteria.

In the cumulative impact analysis, the MDC for each pollutant during each failed averaging period is added to a background concentration for the pollutant over the same averaging period, and compared to the NAAQS for that pollutant and averaging period. As long as the summed MDC and background concentration for each pollutant and each averaging period are less than the associated NAAQS, public health and safety are presumed to be protected.

The MDC for the 1-hr and annual averaging periods was used to establish an equivalent "background concentration" for SO_2. The MDC from the generator model was summed with the background concentration for each averaging period to assess the cumulative impact, and compared that concentration against the NAAQS for SO_2 for each averaging period in the table below:

Pollutant	**Emission Rate (lb/hr)**	**Averaging Period**	**MDC (mg/m^3)**	**Background Concentration (mg/m^3)**	**Cumulative Impact (mg/m^3)**	**NAAQS (mg/m^3)**	**Cumulative Impact< NAAQS?**
SO_2	9.20	1-hour	0.07555	0.0516	0.1272	0.1965	Yes
		3-hour	0.07555	0.0204	0.09595	N/A	N/A
		24-hour	0.04533	0.0031	0.0484	N/A	N/A
		Annual	0.00755	0.0004	0.0080	0.0262	Yes

The merged stack analysis indicates public health and safety are protected.

APPLICABLE REGULATIONS
There are no changes to regulations.

Emission Unit No. 1: Three (3) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each, constructed in 2007
Emission Unit No. 2: Two (2) GE Jenbacher landfill gas generators rated at one (1) megawatt (MW) each, constructed in 2014
Emission Unit No. 3: Temperature Swing Absorption (TSA) Purge Gas Flare, 350 scfm

7 **DE Admin. Code** 1102 – Permits: The generators and flare emit more than ten pounds per day of air contaminants and must have a permit to operate.

7 **DE Admin. Code** 1104, *Particulate Emissions from Fuel Burning Equipment*,
Emission Unit 1 (engines 1, 2, 3) have a rated heat input of 11.43 mmBTU/hr and are subject to the emission limitation of 0.3 lb/mmBTU of particulate emissions. Particulate matter emissions are calculated at 0.55 pounds per hour. This results in a particulate matter emission concentration of 0.048 lb/mmBTU; in compliance with this emission limitation.

Emission Unit 2 (engines 4 and 5) have a rated heat input of 11.43 mmBTU/hr and are subject to the emission limitation of 0.3 lb/mmBTU of particulate emissions. Particulate matter emissions are calculated at 0.52 pounds per hour. This results in a particulate matter emission concentration of 0.045 lb/mmBTU; in compliance with this emission limitation.

7 **DE Admin. Code** 1114, *Visible Emissions*, applies and requires that "No person shall cause or allow the emission of visible air contaminants and/or smoke from a stationary or mobile source, the shade or appearance of which is greater than 20 percent opacity for an aggregate of more than 3 minutes in any 1 hour or more than 15 minutes in any 24 hour period." This requirement has been included in the permit. Compliance shall be demonstrated by conducting an annual RM9 for Emission Unit 1, monthly RM22 observations for Emission Unit 2, and daily qualitative RM22 for Emission Unit 3. Emission Unit 3 also has a two hour RM22 annually.

7 **DE Admin. Code** 1119, *Control of Odorous Air Contaminants*, applies and requires that Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution. Compliance shall be demonstrated based upon the Company having no contradictory knowledge of any citizen odor complaint, and through a satisfactory review of complaint history by the Department. This emission requirement has been placed in the permit.

7 **DE Admin. Code** 1120*, New Source Performance Standards,* Section 28 of this regulation applies to Municipal Waste Landfills and incorporates 40 CFR Part 60 Subpart XXX by reference. There is one applicable requirement since the generators and flare will burn landfill gas. See the discussion below.

7 **DE Admin. Code** 1125, *Requirements for Preconstruction Review*
Emission Unit 1 (engines 1, 2, 3)
The facility took federally enforceable limitations to maintain emissions below the 25 ton per year major source threshold and Non-attainment New Source Review significance threshold for NOx in Kent County

and avoid the emissions offset provisions of this regulation. The Company limited NOx emissions to 24.2 tons in any 52 week rolling period, performs annual stack testing to verify emission factors, and limits the hours of operations on each generator to 8,322 in a 52 week rolling period. These limitations are included in the permit. The Company does have the option to install a CEM to go to a rolling twelve month NOx emission basis.

Section 4-Minor New Source Review did not apply to the three (3) generators since the Department received the application for these generators on March 3, 2005, before the applicability date (August 11, 2005) of this section.

Emission Unit 2 (engines 4 and 5) and Emission Unit 3 (TSA flare)
Sections 2 and 3 of this regulation (Major New Source Review) do not apply as these generators and the flare are not a major source of air contaminants. Section 4 of this regulation (Minor New Source Review) does apply to the landfill gas generators. Each landfill gas generator is certified by the manufacturer to meet 0.60 g of NO_x per bhp-hr. A review of the RACT/BACT/LAER Clearinghouse at the time of the installation indicated that recent installations of similar engines are permitted at 0.6 g/bhp-hr.
Each generator in this emission unit has the potential to emit more than five tons of HAPs, and therefore, is subject to MNSR. This was unknown to the Department since formaldehyde emissions were not included in the construction permit application. Ameresco submitted a BACT analysis dated November 21, 2016 to comply with the requirements of this section. The Department accepted Ameresco's submittal and determined that the use of an oxidation catalyst on a landfill gas engine was technically and economically infeasible. Catalyst manufacturers require siloxane concentrations less than 100 ppb (or 0.1 ppm). The LFG combusted in the engines at Central has siloxane concentrations up to 1.18 ppm. This would result in more frequent catalyst replacement and lower average pollutant removal efficiencies than Ameresco facilities in California. Good combustion practices were considered BACT. Ameresco is required to update their BACT analysis when the permit is renewed.

Section 1: Technically Feasible Add-on Control Options
The Company included a letter dated March 29, 2023 in the application to update the BACT analysis for formaldehyde. The RACT/BACT/LAER Clearinghouse for VOC controls from Landfill/Biogas/Digester Gas Engine greater than 500 bhp was searched for 2013 through 2023. Of the six facilities identified, the Tajiguas Landfill in Santa Barbara County was the only one that identified an oxidation catalyst as BACT for VOCs. Santa Barbara County Air Pollution Control District published its BACT Guidelines for Landfill Gas Fired Engines on January 15, 2019. Reactive Organic Compound BACT is achieved through gas pretreatment and an oxidation catalyst.

As discussed in previous BACT submittals (November 21, 2016, June 26, 2017, September 27, 2017, January 17, 2018, and October 2, 2018), these controls are technically feasible and may also control formaldehyde emissions to a limited extent. Oxidation catalysts have been in use at Ameresco Keller Canyon LLC (Keller) and Ameresco Half Moon Bay LLC (Half Moon Bay) facilities in California. There are important differences between the engines and gas pretreatment systems at Keller and Ameresco- Central that were addressed in the letter from Ameresco dated June 26, 2017. The discussion has been updated below to include information about Half Moon Bay.

- The Keller and Half Moon Bay plants operate a robust siloxane removal system. The Keller plant utilizes a TSA carbon-based system with an overall reduction efficiency of 99%. The Half Moon Bay plant utilizes the same TSA carbon-based system with an overall reduction efficiency of 98%.

Ameresco Central uses a TSA aluminum-based system with an overall reduction efficiency of 84% based on quarterly lab analyses from 2019 through 2023. This is a decrease from the 92% reduction efficiency calculated in Ameresco's letter dated October 2, 2018. Siloxane concentration at the TSA outlet increased from an average of 0.56 ppmv as Si to an average of 0.97 ppmv as Si.

The difference in siloxane reduction efficiency will result in additional catalyst fouling and hence, more frequent maintenance and replacement. It should be noted that the costs to upgrade and/or install the siloxane removal systems have not been factored into the cost analysis and therefore, the results should be conservative.

- Ameresco is unaware of any technology currently available that is capable of removing siloxane levels to the extent (i.e., concentration) and length of time necessary to accommodate operation of the oxidation catalyst without significant catalyst fouling. The carbon-based TSA media system utilized at Keller and Half Moon Bay is no longer produced.

- In addition to siloxanes, the hydrogen sulfide (H_2S) present in landfill gas is a catalyst poison and leads to the inactivation of oxidation catalysts. The sulfur in the combustion off gas is bound to the catalyst, thus blocking the reactions that are supposed to take place. In order to be conservative, a six-month catalyst life has been utilized for the oxidation catalyst cost analysis. Due to the H_2S content at Ameresco Central, it is likely that the catalyst will be changed out a minimum of four times per year.

Section 2: Oxidation Catalyst Cost Effectiveness
The BACT Cost Analysis presented in the letter from Ameresco dated January 18, 2018, has been adjusted to account for inflation (2022) and increased catalyst costs which have exceeded the rate of inflation. The calculated cost per ton of formaldehyde reduction is $28,309 at Ameresco Central. This is an increase of $5,447 since the last analysis. Installation of an oxidation catalyst for formaldehyde control at Ameresco Central is not cost effective and cannot be considered BACT at this time. Good combustion practices are BACT.

7 **DE Admin. Code** 1144, *Control of Stationary Generator Emissions*, is applicable to the generators. The following emission standards apply for new distributed generators that use landfill gas:

Pollutant	**Emission Standards (lb/MWh)**
Nitrogen Oxides	2.2
*Nonmethane Hydrocarbons	0.7
Carbon Monoxide	10.0
Carbon Dioxide	1,900

*NMOC emission calculations to demonstrate compliance with this standard should exclude formaldehyde emissions

An additional operational limitation is that no distributed generator shall be used during testing or for maintenance purposes before 5 p.m. on a day which has a Ground Level Ozone Pollution Forecast or Particle Pollution Forecast of "Code Red" or "Code Orange" as announced by the Department.

A fuel requirement that landfill gas combusted in a generator on or after April 11, 2006, shall contain no more than ten grains total sulfur per 100 dry standard cubic feet (170 ppmv total sulfur) on a daily average

is applicable. An alternative total sulfur limit for landfill gas shall be allowed based upon a case-by-case determination. The SO_2 annual limit is based on 245 ppmv H_2S and landfill gas heating value of 420 BTU/scf. The SO_2 hourly limit is based on 400 ppmv H_2S.

Record keeping and reporting requirements require that the owner monitor the monthly and yearly amounts of fuel, or fuels, consumed by the generators. Yearly fuel consumption shall be calculated and recorded each calendar month by recording the current calendar month's fuel consumption and adding it to those of the previous eleven consecutive months. A non-resettable hour metering device shall be used by the owner to continuously monitor the monthly and yearly operating hours for each of the generators. Yearly operating hours are calculated on a consecutive rolling 52-week period for Engines 1, 2, and 3 to calculate NOx emissions. All other emissions for Engines 1, 2, and 3, and all emissions for Engines 4 and 5 and the TSA Flare are based on a rolling twelve month total hours.

To ensure continuing compliance with the emissions limitations, the owner or operator shall verify a distributed generator's compliance with the emission standards every five years. This verification may be accomplished by following a maintenance schedule that the manufacturer certifies will ensure continued compliance with the required standards, by third party testing of the distributed generator using appropriate test methods to demonstrate that the distributed generator still meets the required emission standards, or by some other means as proven to the Department. Compliance with the regulation shall be demonstrated through testing using the applicable EPA Reference Methods, California Air Resources Board methods, or equivalent test methods approved by the Department if: a supplier is seeking to certify that one of its generators meets the provisions of this regulation; an owner owns a generator that is not certified or verified; or an owner of a generator is seeking to reverify the generator via third party testing. All of the generators are tested every year to assure compliance for NOx, CO, NMOCs, SO_2 and CO_2. Stack testing for formaldehyde is conducted every three years.

40 **CFR** Part 60, Subpart XXX, *New Source Performance Standards and Compliance Times for Municipal Solid Waste Landfills,* Although this regulation is applicable to landfills, the requirements of Section 60.752(b)(iii)(B) are included in Ameresco's permit. The landfill gas that the generators are burning is supplied by the CSWMC which is currently subject to the requirements of this subpart. As a result, the generators are considered control devices and are required to reduce nonmethane organic compounds (NMOC) by no less than 98 weight-percent or 20 ppmv, dry basis as hexane at 3% oxygen. The generators and flare shall be operated within the parameter ranges established during Department approved performance testing to demonstrate compliance with this requirement.

40 **CFR** Part 63, Subpart ZZZZ, *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines,* this regulation establishes emission limitations and operating limitations for HAPs emitted from reciprocating internal combusting engines located at major and area sources of HAP emissions. Ameresco-Central is a major source of HAPs, however, per Section 63.6600(d) owners of LFG reciprocating internal combusting engines with a site rating of more than 500 HP located at a major source of HAP emissions are not subject to the emission or operating limitations. The Department will keep all the existing requirements that Ameresco was subject to as an area source.

Please note the definition of an existing stationary RICE under this regulation:

For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the

stationary RICE before December 19, 2002.

For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

Generators 1, 2, and 3 used to be considered existing when Ameresco was classified as an area source of HAPs. Now as a major source of HAPs all five generators are classified as new under this regulation. A new stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

§63.6645(f)
If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with § 63.6590(b), your notification should include the information in § 63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion.

§63.6625(c)
This section requires owners and/or operators to monitor and record fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, they must operate the stationary RICE in a manner which reasonably minimizes HAP emissions.

Ameresco burns only landfill gas and the requirement to record the fuel rate is already covered by the existing permit requirements.

§63.6650(g)
This section requires owners and/or operators to submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. Ameresco must report the following data:

1. Fuel flow rate of each fuel and the heating values that were used in the calculations. Ameresco must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis. (such demonstration is unnecessary since Ameresco burns only landfill gas)
2. The operating limits provided in the federally enforceable permit, and any deviations from those limits.
3. Any problems or errors suspected with the meters.

These requirements are covered by the existing reporting requirements.

§63.6655(c)
This section requires that Ameresco must keep the records of daily fuel usage. This requirement has been covered by the existing permit requirements.

40 CFR Part 60 Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines: Engines 4 and 5 are subject to the emission standards in §60.4233(e). Owners and operators of stationary SI ICE with a maximum engine power greater than or equal to 75 KW (100 HP) (except gasoline and rich burn engines that use LPG) must comply with the emission standards in Table 1 to this subpart for their stationary SI ICE. Table 1 limits NO_X emissions to 3.0 g/hp-hr, CO emissions to 5.0 g/hp-hr, and VOC emissions to 1.0 g/hp-hr. Please note that VOC standard contained in this regulation excludes formaldehyde emissions; Table 1 note "d" states that: "*For purposes of this subpart, when calculating emissions of volatile organic compounds, emissions of formaldehyde should not be included*". These emission standards are less stringent than those in 7 **DE Admin. Code** 1144. The facility is subject to the testing and certification requirements of 40 CFR 63.4243(b) which requires that the owner or operator purchase an engine that is certified to meet the emission standards of this regulation or to test the engine to demonstrate compliance initially and once every 8,760 hours or every three years, whichever comes first. This section also requires that the owner or operator follow a maintenance plan, maintain records of any maintenance conducted, and operate the engines in a manner consistent with good air pollution control practices. The generators are also subject to the record keeping and reporting requirements of 40 CFR 60.4245.

40 CFR Part 63, Subpart AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills: This rule contains the same requirements as 40 CFR Part 60, Subparts Cc and WWW, plus a startup shutdown and malfunction (SSM) definition and reporting of deviations for out-of-range monitoring parameters. Additional requirements for SSM plans are reporting every 6 months. The following requirements have been included in the permit.

- The Company shall develop and implement a written startup, shutdown and malfunction plan (SSM) that describes, in detail, procedures for operating and maintaining the collection and control system and the continuous monitoring system (CMS) during periods of SSM and a program of corrective action for malfunctioning process and air pollution control equipment according to the provisions of 40 CFR Part 63.6(e)(3).
- Monitor the time, date, and length of all SSM and any actions taken at such times.
- Keep the written SSM Plan on record to be made available for inspection, upon request, for the life of the affected source.
- Keep previous versions of the SSM Plan on record if the SSM Plan is revised, for a period of 5 years after each revision to the plan.
- Maintain records of the occurrence and duration of each SSM of operation, and of the air pollution control equipment.
- Record all maintenance performed on the air pollution control equipment.
- Record actions taken during periods of SSM (including corrective actions to restore malfunctioning process and air pollution control equipment to its normal or usual manner of operation) when such actions are different from the procedures specified in the SSM Plan.
- Maintain all information necessary to demonstrate conformance with the affected source's SSM Plan when all actions taken during periods of SSM are consistent with the procedures specified in such plan.
- Record each period during which a CMS is malfunctioning or inoperative.
- A SSM report shall be submitted semiannually.
- If actions taken during a SSM are consistent with the procedures specified in the SSM Plan, the owner or operator shall state such information in the report.

- The SSM report shall consist of a letter, containing the name, title, and signature of the responsible official certifying to its accuracy.
- The SSM report shall be delivered or postmarked by the 30th day following the end of each calendar half.
- Anytime an action taken by an owner or operator during a SSM is not consistent with the procedures specified in the SSM plan, the owner or operator shall report the actions taken for that event within 2 working days after commencing actions inconsistent with the plan followed by a letter within 7 working days after the end of the event.
- The immediate report shall consist of a telephone call or facsimile transmission within 2 working days after commencing actions.
- The letter shall contain the name, title and signature of the responsible official certifying its accuracy, explaining the circumstances of the event, the reasons for not following the SSM plan, and whether any excess emissions and/or parameter monitoring exceedances are believed to have occurred.

40 CFR Part 60, Subpart A, General Requirements for Flares: This part outlines operating requirements for landfill flares including opacity limitations and that it be operated with a flame at all times. Other requirements such as a flare exit velocity or determining the net heating value of the gas and the exit velocity are included along with compliance methods. Compliance with these requirements can be demonstrated by inspection and record review.

§60.18(b) Flares- (c) through (f)
(c)(1) Flares shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.
(2) Flares shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f).
(3) An owner/operator has the choice of adhering to either the heat content specifications in paragraph (c)(3)(ii) of this section and the maximum tip velocity specifications in paragraph (c)(4) of this section, or adhering to the requirements in paragraph (c)(3)(i) of this section.

(c)(3)(i)
(A) Flares shall be used that have a diameter of 3 inches or greater, are nonassisted, have a hydrogen content of 8.0 percent (by volume), or greater, and are designed for and operated with an exit velocity less than 37.2 m/sec (122 ft/sec) and less than the velocity, V_{max}, as determined by the following equation:
$V_{max} = (X_{H2} - K_1) * K_2$

Where:
V_{max} = Maximum permitted velocity, m/sec.
K_1 = Constant, 6.0 volume-percent hydrogen.
K_2 = Constant, 3.9(m/sec)/volume-percent hydrogen.
X_{H2} = The volume-percent of hydrogen, on a wet basis, as calculated by using the American Society for Testing and Materials (ASTM) Method D1946–77. (Incorporated by reference as specified in § 60.17).
(B) The actual exit velocity of a flare shall be determined by the method specified in paragraph (f)(4) of this section.
(c)(3)(ii) Flares shall be used only with the net heating value of the gas being combusted being 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas

being combusted being 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. *The TSA flare is non-assisted.* The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (f)(3) of this section.
(c)(4)(i) … nonassisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (f)(4) of this section, less than 18.3 m/sec (60 ft/sec), except as provided in paragraphs (c)(4) (ii) and (iii) of this section. *The Company uses the 60 ft/sec limit.*
(c)(6) Flares used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.
(d) Owners or operators of flares used to comply with the provisions of this subpart shall monitor these control devices to ensure that they are operated and maintained in conformance with their designs. Applicable subparts will provide provisions stating how owners or operators of flares shall monitor these control devices.
(e) Flares used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.
(f)(1) Method 22 of appendix A to this part shall be used to determine the compliance of flares with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.
(2) The presence of a flare pilot flame shall be monitored using a thermocouple or any other equivalent device to detect the presence of a flame.
(3) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

where:
H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, 1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in § 60.17); and
H_i = Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in § 60.17) if published values are not available or cannot be calculated.
(4) The actual exit velocity of a flare shall be determined by dividing the volumetric flowrate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D as appropriate; by the unobstructed (free) cross sectional area of the flare tip.

FACILITY WIDE REQUIREMENTS

1990 CAAA, Section 112(r)
The facility is not subject to 112(r) of the 1990 Clean Air Act.

1990 CAAA, Title VI
The facility is not subject to Title VI.

Compliance Schedule
The facility is not under a compliance schedule.

Permit Shield
The facility has not requested a Permit Shield.

Compliance Assurance Monitoring (CAM) Rule

40 CFR Part 64 (the CAM Rule), does not apply to any of the emission units at this facility. The facility is exempt from CAM according to Section 64.2(b)(1)(i) since the facility is subject to an emission limitation or standard proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act.

RECOMMENDATIONS

It is recommended that the attached 7 DE Admin. Code 1130 draft/proposed Significant Permit Modification be advertised pursuant to the requirements of 7 DE Admin. Code 1130 Section 7.10 on September 9, 2026 and that the Company and affected states be notified of the "Draft" Significant Permit Modification. It is recommended that EPA concurrently review the draft/proposed Significant Permit Modification for forty-five (45) days. The thirty day draft period ends on October 9, 2026 and the concurrent 45 day proposed period ends on October 24, 2026.

ASM:MAS
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pc: Dover Title V File
Amy Mann
Jordan Matthews
Melanie Smith

TITLE V PERMIT REVIEW
PERMIT APPLICATION CHECKLIST

STATE: Delaware
SOURCE NAME: Ameresco Delaware Energy, LLC/DSWA CSWMC
AFS PLANT ID: 1000100247
SOURCE TYPE: A PERMIT #: AQM-001/00247 (Renewal 2)(Rev. 1)
SIC #: 4911
SOURCE LOCATION (COUNTY): Kent

I. Is this a general permit? If yes, which one? (Go to Part III).....NO
If no, go to Part II.

II. PROGRAM IMPLEMENTATION

Does this permit contain "streamlined limits" (per White Paper #2).....NO

Does this permit contain requirements/provisions for:

1. Periodic Monitoring.....YES
2. NESHAP/MACT (if so, list subparts).....AAAA, ZZZZ.....YES
3. Case-by-Case MACT.....NO
4. NSPS (if so, list subparts).....A, XXX, JJJJ…….....YES
5. PSD/NSR.....NO (PSD/NSR)
6. Acid Rain Phase II Permit.....NO
7. Potential-to-Emit Limits.....YES
8. Consent Order Agreement.....NO
9. NO_X RACT.....NO
10. VOC RACT.....NO
11. Does permit application contain confidential information?.....NO

III. COMPLIANCE STATUS

Is the Source subject to a compliance schedule?.....NO

IV. EPA REVIEW

1. Do you want EPA to review all or part of this permit?.....YES
2. Are there other issues you would like to call to EPA's attention?.....NO

STATE CONTACT: Melanie Smith DATE: *September 9, 2026*
PHONE: (302) 739 9436

(for EPA use only) dated entered init action ver
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