Iowa Department of Natural Resources
Draft Title V Operating Permit Fact Sheet

This document has been prepared to fulfill the public participation requirements of 40 CFR Part 70 and 567 Iowa Administrative Code (IAC) 22.107(6). 40 CFR Part 70 contains operating permit regulations pursuant to Title V of the Clean Air Act.

The Iowa Department of Natural Resources (DNR) finds that:

1. Metro Methane Recovery Facility, located at 12161 NE 12th Avenue, Mitchellville, Iowa 50169, has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Mr. Joe Durako.

2. Metro Methane Recovery Facility is a Landfill Gas to Electric Power Conversion facility (SIC 4911), (NAICS 221118). This facility consists of twenty-four (24) significant emission units with potential emissions of:

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Abbreviation</th>
<th>Potential Emissions (Tons per Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Particulate Matter (≤ 10 µm)</td>
<td>PM&lt;sub&gt;10&lt;/sub&gt;</td>
<td>21.31</td>
</tr>
<tr>
<td>Particulate Matter</td>
<td>PM</td>
<td>21.31</td>
</tr>
<tr>
<td>Sulfur Dioxide</td>
<td>SO&lt;sub&gt;2&lt;/sub&gt;</td>
<td>54.28</td>
</tr>
<tr>
<td>Nitrogen Oxides</td>
<td>NO&lt;sub&gt;x&lt;/sub&gt;</td>
<td>221.55</td>
</tr>
<tr>
<td>Volatile Organic Compounds</td>
<td>VOC</td>
<td>33.00</td>
</tr>
<tr>
<td>Carbon Monoxide</td>
<td>CO</td>
<td>452.94</td>
</tr>
<tr>
<td>Hazardous Air Pollutants &lt;sup&gt;(1)&lt;/sup&gt;</td>
<td>HAP</td>
<td>13.78</td>
</tr>
</tbody>
</table>

<sup>(1)</sup> May include the following: 1,1,2,2- Tetrachloroethane, 1,1 Dichloroethane, Acrylonitrile, Benzene, Dichloromethane, Ethylbenzene, Formaldehyde, Hexane, Hydrochloric Acid, MIBK, Tetrachloroethylene, Trichloroethylene, Vinyl Chloride, Toluene, and Xylene (mixed isomers).

3. Metro Methane Recovery Facility submitted a Title V Operating Permit renewal application on January 15, 2021 and any additional information describing the facility on May 24, 2021. Based on the information provided in these documents, DNR has made an initial determination that the facility meets all the applicable criteria for the issuance of an operating permit specified in 567 IAC 22.107.

4. DNR has complied with the procedures set forth in 567 IAC 22.107, including those regarding public notice, opportunity for public hearing, and notification of EPA and surrounding state and local air pollution programs.
DNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from August 11, 2022 through September 9, 2022. The beginning date of this public comment period also serves as the beginning of the U.S. Environmental Protection Agency's (EPA) 45-day review period, provided the EPA does not seek a separate review period. During this time, anyone may submit written comments on the permit. Mail signed comments to Jeff Gabby at the Polk County address shown below.

2. Written requests for a public hearing concerning the permit may also be submitted during the comment period. Any hearing request must state the person's interest in the subject matter, and the nature of the issues proposed to be raised at the hearing. DNR will hold a public hearing upon finding, on the basis of requests, a significant degree of relevant public interest in a draft permit. Mail hearing requests to Jeff Gabby at the Polk County address shown below.

3. DNR will keep a record of the issues raised during the public participation process, and will prepare written responses to all comments received. The comments and responses will be compiled into a responsiveness summary document. After the close of the public comment period, DNR will make a final decision on the renewal application. The responsiveness summary and the final permit will be available to the public upon request.

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DNR concludes that:

1. DNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 20-35, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.

2. DNR has the authority to issue operating permits for air contaminant sources and to include conditions in such permits under 455B.134 Code of Iowa.

3. The emission limits included in this permit are authorized by 455B.133 Code of Iowa and 567 IAC Chapters 20-35.

4. DNR is required to comply with 567 IAC Chapter 22 in conjunction with issuing a Title V Operating Permit.

5. The issuance of this permit does not preclude the DNR or Polk County from pursuing enforcement action for any violation.
Application Evaluation

A. Project Briefing:

This project regards a Part 70 Title V permit renewal to operate the following significant emission units: eight (8) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/hr., (EU 1 - 8 / EP 1 - 8); eight (8) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 1 - 8, (EU 12 –19 / CE 1 -8 / EP 15 - 22); (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25), (3) Crankcase Oil Breather Vents, w/ (3) Solberg Oil Mist Eliminators (EU 36 – 38 / CE 9 – 11 / EP 26 – 28); and Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30).

Metro Methane Recovery Facility, (MMRF), is co-located with Metro Park East Sanitary Landfill, (MPEL), (EIQ #92-6849), (DNR # 77-14-003). MMRF acts as control for landfill gas generated by MPEL, and keeps MPEL in compliance with 40 CFR 62 Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014. This relationship is bound by a legal contract between the two entities. MMRF buys landfill gas from MPEL, converts the gas into electricity through the combustion engines, and then sells the electricity it produces to MidAmerican Energy Company. Since the two facilities do not have common control, (the owners of the facilities are separate entities), it was determined that the sources are separate stationary sources. This decision was determined in previous discussions with Ward Burns, USEPA, DNR, and Polk County staff.

MMRF has a landfill gas treatment system, prior to the emission units and points. The treatment system consists of gas compression, dewatering, and filtration. The treatment system meets the requirements of 40 CFR 62 Subpart OOO. The landfill gas wells and collection equipment, (piping), are owned by Metro Park East Sanitary Landfill (MPEL). MMRF has a dual open backup flare prior to the treatment system. It is regulated by Polk County Construction Permit # 2685 and 40 CFR 60.18. Similar decisions regarding landfill gas treatment systems can be found in: a) USEPA Region III letter to Southwest Public Service Authority, dated October 03, 2002; b) email from Jolynn Collins, USEPA, to Greg Johnston, Golder Associates, Inc., dated 10/24/03; and c) USEPA Region 5 letter to Derenzo and Associates, Inc., dated December 09, 2003.

MMRF has previously petitioned to have serial numbers removed from the Title V permit EU descriptions for the engines, since they routinely have to switch out engines in order to perform maintenance on the units. They have 2 standby engines being worked on or in a standby status at any given time. This action does not circumvent Title I permitting in Polk County’s opinion, and is not prohibited by existing construction permits, since the units are identical. The action serves only to keep the units operating clean and efficient. All Polk County Construction permits for MMRF’s engines have been modified to allow for switching out of engines with identical type units, without notification, permitting, or testing requirements when this is done. Recordkeeping requirements of these events consist of date of replacement and ending hour meter reading of engine being replaced.
The following are insignificant emission units, per 567 IAC 22.103: Hot Water Parts Washer equipped with Oil Skimmer, (EU 10); one (1) Leachate and Condensate Underground Storage Tank, 10,000 gallon capacity, (EU 11); Sandblaster, Internally Vented, (EU 20); One (1) Mig Welder, (EU 21); Oxygen Acetylene Cutting Torch, (EU 22); Grinding Wheel, (EU 23); Belt Grinder, (EU 24); Drill Press, (EU 25); Band Saw, (EU 26); Two (2) Crankcase Oil Tanks, 40 weight, 1,000 gallon capacity (each), (EU 28); Crankcase Used Oil Tank, 2,000 gallon capacity, (EU 29); Eight (8) Crankcase Oil Day Tanks, 19 gallons (each), (EU 30); Gas Chromatograph Vent, (Plant 1&2), (EU 31); Used Oil Tank (Plant 3), 1,500 gallon capacity (EU 41); Engine Coolant Tank (Plant 3), 750 gallon capacity (EU 42); Three (3) Day Oil Tanks (Plant 3), 50 gallon capacity (each) (EU 43); and Gas Chromatograph Vent (Plant 3) (EU 44).

One (1) Parnell Biogas 81.9 MMBtu Enclosed Flare Combusting Landfill Gas, (EU 32/ CE-3 / EP 14) was replaced by the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). (EU 32/ CE-3 / EP 14) no longer exists.

B. Applicable rules and regulations:

1. Emission limits and conditions:

Polk County Construction Permit # 0614 Modified limits PM/ PM10 to 0.02 lb./ hr., 0.09 TPY, 0.10 gr./dscf; Opacity to <20%; SOx to 0.26 lb./ hr., 1.16 TPY, 500 ppmv; NOx to 3.90 lb./ hr., 17.08 TPY; VOC to 0.12 lb./ hr., 0.51 TPY; and CO to 4.30 lb./ hr., 18.84 TPY, from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 1 - 4 / EP 1 - 4).

Polk County Construction Permit # 0689 Modified #2 limits PM/ PM10 to 0.02 lb./ hr., 0.09 TPY, 0.10 gr./dscf; Opacity to <20%; SOx to 0.27 lb./ hr., 1.18 TPY, 500 ppmv; NOx to 3.90 lb./ hr., 17.08 TPY; VOC to 0.12 lb./ hr., 0.51 TPY; and CO to 4.30 lb./ hr., 18.84 TPY, from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 5 - 8 / EP 5 - 8).

Polk County Construction Permit # 2332 limits PM/ PM10 to 0.009 lb./ hr., 0.036 TPY, 0.10 gr./dscf; Opacity to <20% from EU 12- EU 15 Individually; and PM/ PM10 to 0.033 lb./ hr., 0.142 TPY, 0.10 gr./dscf; Opacity to <20% from EU 12- EU 15 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 1 - 4, (EU 12 –15 / CE 1 -4 / EP 15 - 18).

Polk County Construction Permit # 2333 limits PM/ PM10 to 0.009 lb./ hr., 0.036 TPY, 0.10 gr./dscf; Opacity to <20% from EU 16 - EU 19 Individually; and PM/ PM10 to 0.033 lb./ hr., 0.142 TPY, 0.10 gr./dscf; Opacity to <20% from EU 16- EU 19 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 5 - 8, (EU 16 –19 / CE 5 -8 / EP 19 - 22).

Polk County Construction Permit # 2522 limits PM/ PM10 to 0.75 lb./ hr., 3.30 TPY, 0.10 gr./dscf; Opacity to <20%; SO2 to 1.30 lb./ hr., 5.71 TPY, 500 ppmv; NOx to 4.93 lb./ hr., 21.60 TPY, 1.0 grams/BHP-hour; VOC to 1.97 lb./ hr., 8.60 TPY, 0.40 grams/BHP- hour; and CO to 17.26 lb./ hr., 75.60 TPY, 3.50 grams/BHP-hour (Engines Individually); and PM/ PM10 to 2.26 lb./ hr., 9.90 TPY; SO2 to 3.91 lb./ hr., 17.12 TPY; NOx, to 14.80 lb./ hr., 64.81 TPY; VOC to 5.92 lb./ hr., 25.96 TPY; and CO to 51.79 lb./ hr., 226.84 TPY (3 Engines Combined) from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25).

Polk County Construction Permit # 2522 limits PM/ PM10 to 0.08 lb./ hr., 0.34 TPY, 0.10 gr./dscf; Opacity to <20% (Crankcase Oil Breather Vents Individually); and PM/ PM10 to 0.23 lb./ hr., 1.01 TPY (3 Crankcase Oil Breather Vents Combined), from (3) Crankcase Oil Breather Vents, w/ (3) Solberg Oil Mist Eliminators (EU 36 – 38 / CE 9 – 11 / EP 26 – 28).
Polk County Construction Permit #2685 limits PM/PM$_{10}$/PM$_{2.5}$ to 3.04 lb./hr., 9.40 TPY, also PM to 0.10 gr./dscf; Opacity to <20%; SO$_2$ to 8.97 lb./hr., 27.8 TPY, 500 ppmv; NOx to 6.49 lb./hr., 20.10 TPY; NMOC to 0.96 lb./hr., 2.96 TPY; HAP to 0.19 lb./hr., 0.82 TPY; CO to 24.35 lb./hr., 75.38 TPY, from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30).

2. **Opacity for the facility**: Less than 20% opacity- Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9.

   Opacity for EP 1 through EP 4: <20% Opacity, (Polk County Construction Permit # 0614 Modified), for each of these EP.

   Opacity for EP 5 through 8: < 20% opacity, (Polk County Construction Permit # 0689 Modified #2), for each of these EP.

   Opacity for EP 15 through 18: <20% opacity, (Polk County Construction Permit # 2332), for each of these EP.

   Opacity for EP 19 through 22: < 20% opacity, (Polk County Construction Permit # 2333), for each of these EP.

   Opacity for EP 23 through 25: < 20% opacity, (Polk County Construction Permit # 2522), for each of these EP.

   Opacity for EP 26 through 28: < 20% opacity, (Polk County Construction Permit # 2522), for each of these EP.

   Opacity for EP 29 through 30: < 20% opacity, (Polk County Construction Permit # 2685), for each of these EP.

3. **NSPS**: The source acts as the control of NMOC emissions for Metro Park East Sanitary Landfill, (MPEL). Metro Park East Solid Waste Permit renewed in 2020 and the initial issue year was 2006. Regarding NSPS Subpart OOO applicability:

   Design capacity means the maximum amount of solid waste a landfill can accept, as indicated in terms of volume or mass in the most recent permit issued by the state, local, or tribal agency responsible for regulating the landfill, plus any in-place waste not accounted for in the most recent permit. If the owner or operator chooses to convert the design capacity from volume to mass or from mass to volume to demonstrate its design capacity is less than 2.5 million megagrams or 2.5 million cubic meters, the calculation must include a site-specific density, which must be recalculated annually.

   Modification means an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity as of July 17, 2014. Modification does not occur until the owner or operator commences construction on the lateral or vertical expansion.

   Lateral expansion means a horizontal expansion of the waste boundaries of an existing MSW landfill. A lateral expansion is not a modification unless it results in an increase in the design capacity of the landfill.

   Based on these definitions, it is only a modification if the permitted design capacity was increased. If you constructed areas that were previously permitted, there was no increase in the permitted design capacity.
The Cell construction dates for the active Phase 2 landfill are listed below.
Cell A construction, 2007
Cell B West construction, 2009
Cell B East construction, 2010
Cell C North construction, 2013
Cell C South construction, 2015
Cell D North construction, 2018
Cell D South construction, 2019
Cell E is currently under construction and not operational. No solid waste has been placed in this area. Construction is expected to be completed by December of 2022.

All of the cells above were permitted by the DNR Solid Waste permit No. 77-SDP-01-72P prior to the 7/17/2014 trigger date, even though construction commenced after that date for some of the cells. There are currently no cells planned that are not permitted before 7/17/2014.

Note: 40 CFR 62 Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014 has not been adopted by Iowa DNR nor Polk County AQD, as of the date of this Title V permit issuance. Subpart OOO is an applicable requirement that is regulated by USEPA.

(3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33-35 / EP 23 – 25) are subject to NSPS 40 CFR 60.4243 Subpart JJJJ and General Provisions, 40 CFR 60 Subpart A. Applicable requirements from Subpart A and Subpart JJJJ are found in Polk County Construction Permit # 2522, and have been transferred into the Title V Permit. Initial Compliance Tests required by PC #2522 and Subpart JJJJ for NOx, CO, and VOC were successfully completed on 4/24/2014, with subsequent testing completed on every year since 2014. The most recent JJJJ performance test was completed on November 9 & 10, 2021.

The Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30) was subject to NSPS 40 CFR 60.752 Subpart WWW and General Provisions, 40 CFR 60 Subpart A. Applicable requirements from Subpart A and Subpart WWW are found in Polk County Construction Permit # 2685, and Subpart A requirements have been transferred into the Title V Permit. NSPS 40 CFR 60.752 Subpart WWW was completely replaced by NSPS 40 CFR 62 Subpart OOO, but Subpart OOO has not been adopted by DNR nor Polk County AQD so far, due to pending litigation of this subpart. The owner or operator shall comply with all applicable requirements of 40 CFR 62 Subpart OOO - Federal Plan Requirements for Municipal Solid Waste Landfills That Commenced Construction On or Before July 17, 2014 and Have Not Been Modified or Reconstructed Since July 17, 2014. USEPA Region VII is the enforcement authority for this requirement, until it is adopted by DNR and AQD.
4. **NESHAP**: Facility HAP PTE is 13.8 TPY. HAPs with a PTE > 0.01 TPY are: 1,1,2,2-Tetrachloroethane, 1,1 Dichloroethane, Acrylonitrile, Benzene, Dichloromethane, Ethylbenzene, Formaldehyde, Hexane, Hydrochloric Acid, MIBK, Tetrachloroethylene, Trichloroethylene, Vinyl Chloride, Toluene, and Xylene (mixed isomers).


Equipment at this facility is subject to 40 CFR 63 Subpart AAAA - National Emission Standards for Municipal Solid Waste Landfills.

Authority for Requirement: 40 CFR 63 Subpart AAAA

Note: 40 CFR Part 63 Subpart AAAA was amended on April 20, 2006, and changes on or after that date have not been adopted by Iowa DNR nor Polk County AQD, as of the date of this Title V permit issuance. Subpart AAAA applicable requirements are regulated by USEPA.

On April 30, 2002, Metro Methane Recovery Facility submitted a Part 1 MACT application to DNR, indicating that the facility may be subject to the MACT standard for Reciprocating Internal Combustion Engines, 40 CFR 63 Subpart ZZZZ, when it is promulgated. 40 CFR 63 Subpart ZZZZ became final on 2/26/2004 and did not apply to MMRF, since MMRF is not a major source of HAPs and Subpart ZZZZ applied, (at the time), to major HAP sources only. Subpart ZZZZ was revised 1/18/08 to apply to both major and area sources. Because this is an area source and units (EU 1-8 / EP 1-8) are existing (installed prior to 6/12/06), per the general amendments the permit changes do not constitute reconstruction or modification; therefore they are existing sources and are subject to, 40 CFR 63 Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines. Applicable Subpart ZZZZ requirements have been placed into the permit for (EU 1-8 / EP 1-8).

(EU 33-35 / EP 23-25): Per§63.4230(c), as a Stationary Rice subject to Regulations under 40 CFR Part 60, an affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. Therefore, 40 CFR 63 Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines requirements are met by complying with the requirements of NSPS Subpart JJJJ for EU 33-35.

5. **PSD**: Source is currently major (PSD) for CO (PTE=452.94 TPY). If the facility makes any future qualifying changes, then they will need to submit a PSD permit application, i.e., applying for a significant increase of any pollutant.

6. **NAAQS**: Facility is located in an attainment area. Air modeling is not required at this time.

7. **Title IV**: Not applicable. Facility Plants 1 & 2 has 6.4 MW, plus Plant # 3 has 4.8 MW for a total generating capacity of 11.2 MW. It is a non-cogen facility, and sells electricity to the grid. Landfill gas is not defined as a fossil fuel in Title IV regulations. It is exempt under 40 CFR 72.6 (b).

8. **Stratospheric ozone**: the only ozone depleting chemicals (regulated by 40 CFR 82) at the facility are those used for air conditioning. 40 CFR 82, Subpart F, applies to the disposal of appliances containing Class I or Class II substances (i.e. air conditioners).

9. **PM-10**: Polk County Construction Permit # 0614 Modified limits PM/ PM<sub>10</sub> to 0.02 lb./ hr., 0.09 TPY, 0.10 gr./dscf, from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 1 - 4 / EP 1 - 4).
Polk County Construction Permit # 0689 Modified #2 limits PM/PM\textsubscript{10} to 0.02 lb./hr., 0.09 TPY, 0.10 gr./dscf; from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/hr., (EU 5 - 8 / EP 5 - 8).

Polk County Construction Permit # 2332 limits PM/PM\textsubscript{10} to 0.009 lb./hr., 0.036 TPY, 0.10 gr./dscf from EU 12-EU 15 Individually; and PM/PM\textsubscript{10} to 0.033 lb./hr., 0.142 TPY, 0.10 gr./dscf (combined); for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 1 - 4, (EU 12 –15 / CE 1 -4 / EP 15 - 18).

Polk County Construction Permit # 2333 limits PM/PM\textsubscript{10} to 0.009 lb./hr., 0.036 TPY, 0.10 gr./dscf from EU 16- EU 19 Individually; and PM/PM\textsubscript{10} to 0.033 lb./hr., 0.142 TPY, 0.10 gr./dscf (combined); for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 5 - 8, (EU 16 –19 / CE 5 -8 / EP 19 - 22).

Polk County Construction Permit # 2522 limits PM/PM\textsubscript{10} to 0.75 lb./hr., 3.30 TPY, 0.10 gr./dscf, (Engines Individually); and PM/PM\textsubscript{10} to 2.26 lb./hr., 9.90 TPY (3 Engines Combined) from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33-35 / EP 23 –25).

Polk County Construction Permit # 2685 limits PM/PM\textsubscript{10} to 3.04 lb./hr., 9.40 TPY, PM\textsubscript{2.5} to 0.10 gr./dscf, from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30).

For purposes of reporting, regulating, and fee payment, it is being assumed that all PM is PM\textsubscript{10} from these EPs.

### C. Monitoring Consideration:

#### PM:

Polk County Construction Permit # 0614 Modified limits PM/PM\textsubscript{10} to 0.02 lb./hr., 0.09 TPY, 0.10 gr./dscf, (uncontrolled minor) from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/hr., (EU 1 - 4 / EP 1 - 4). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 0689 Modified #2 limits PM/PM\textsubscript{10} to 0.02 lb./hr., 0.09 TPY, 0.10 gr./dscf, (uncontrolled minor) from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/hr., (EU 5 - 8 / EP 5 - 8). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 2332 limits PM/PM\textsubscript{10} to 0.009 lb./hr., 0.036 TPY, 0.10 gr./dscf from EU 12- EU 15 Individually; and PM/PM\textsubscript{10} to 0.033 lb./hr., 0.142 TPY, 0.10 gr./dscf from EU 12- EU 15 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 1 - 4, (EU 12 –15 / CE 1 -4 / EP 15 - 18) (controlled minor). Using the default DNR control efficiency for the Coalescing mist eliminator filter of 90%, (vendor claims 99.97%), yields an uncontrolled PTE of 0.36 TPY (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 2333 limits PM/PM\textsubscript{10} to 0.009 lb./hr., 0.036 TPY, 0.10 gr./dscf from EU 16- EU 19 Individually; and PM/PM\textsubscript{10} to 0.033 lb./hr., 0.142 TPY, 0.10 gr./dscf from EU 16- EU 19 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 5 - 8, (EU 16 –19 / CE 5 -8 / EP 19 - 22) (controlled minor). Using the default DNR control efficiency for the
Coalescing mist eliminator filter of 90%, (vendor claims 99.97%), yields an uncontrolled PTE of 0.36 TPY (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 2522 limits PM/ PM₁₀ to 0.75 lb./ hr., 3.30 TPY, 0.10 gr./dscf; (Engines Individually); (uncontrolled minor) and PM/ PM₁₀ to 2.26 lb./ hr., 9.90 TPY (3 Engines Combined) from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 2522 limits PM/ PM₁₀ to 0.08 lb./ hr., 0.34 TPY, 0.10 gr./dscf; (Crankcase Oil Breather Vents Individually) (uncontrolled minor); and PM/ PM₁₀ to 0.23 lb./ hr., 1.01 TPY (3 Crankcase Oil Breather Vents Combined), from (3) Crankcase Oil Breather Vents, w/ (3) Solberg Oil Mist Eliminators (EU 36 – 38 / CE 9 – 11 / EP 26 – 28). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit #2685 limits PM/ PM₁₀/ PM₂.₅ to 3.04 lb./ hr., 9.04 TPY, (uncontrolled minor); PM to 0.10 gr./dscf, from the Parnell Biogas Dual Open Flare System (2),  81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.
Opacity:

Opacity for EP 1 through EP 4: <20% Opacity, (Polk County Construction Permit # 0614 Modified), for each of these EP). Since the landfill gas is similar to natural gas, no VEs are expected from these EUs and Monitoring for opacity will not be required.

Opacity for EP 5 through EP 8: <20% Opacity, (Polk County Construction Permit # 0689 Modified #2), for each of these EP). Since the landfill gas is similar to natural gas, no VEs are expected from these EUs and Monitoring for opacity will not be required. An action level of no visible emissions was placed into each EP’s Periodic Monitoring in the original Title V permit, and an observer from the facility had to check for visible emissions each time the generators was operated. This allowed the company to avoid having to have a Method 9 certified opacity reader in house, and corrected any problems before they become significant. A decreasing schedule of checking for VEs was placed into the permit for these EPs, at the request of the facility, since landfill gas is similar to natural gas and no VEs are expected. The facility had no violations and no VEs observed under the original permit. Polk County and DNR staff agreed that opacity monitoring was no longer warranted for EP 5 through 8 and was removed from 03-TV-005R1.

Polk County Construction Permit # 2332 limits Opacity to <20% from EU 12- EU 15 Individually; and Opacity to <20% from EU 12- EU 15 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 1 - 4, (EU 12 –15 / CE 1 -4 / EP 15 - 18). An action level of no visible emissions is placed into EP’s 15-18 Monitoring in the Title V permit, to be observed for visible emissions once a week when operated. This allows the company to avoid having to have a Method 9 certified opacity reader in house, and corrects any problems before they become significant.

Polk County Construction Permit # 2333 limits Opacity to <20% from EU 16- EU 19 Individually; and Opacity to <20% from EU 16- EU 19 Combined, for the four (4) Crankcase Oil Breather Vents w/ Solberg Oil Mist Eliminators for EU 5 - 8, (EU 16 –19 / CE 5 -8 / EP 19 - 22). An action level of no visible emissions is placed into EP’s 19-22 Monitoring in the Title V permit, to be observed for visible emissions once a week when operated. This allows the company to avoid having to have a Method 9 certified opacity reader in house, and corrects any problems before they become significant.

Polk County Construction Permit # 2522 limits Opacity to <20% from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25). Since the landfill gas is similar to natural gas, no VEs are expected from these EUs and Monitoring for opacity will not be required.

Polk County Construction Permit # 2522 limits Opacity to <20% (Crankcase Oil Breather Vents Individually) from (3) Crankcase Oil Breather Vents, w/ (3) Solberg Oil Mist Eliminators (EU 36 – 38 / CE 9 – 11 / EP 26 – 28). An action level of no visible emissions is placed into EP’s 26-28 Monitoring in the Title V permit, to be observed for visible emissions once a week when operated. This allows the company to avoid having to have a Method 9 certified opacity reader in house, and corrects any problems before they become significant.

Polk County Construction Permit #2685 limits Opacity to <20% from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). The flare operates nearly continuous, and its combustion is similar to natural gas combustion, no VEs are expected. Daily, then weekly observations required in previous operating permits for the EP 14 Flare did not result in any VEs being observed. An initial compliance test required for the EP 14 Enclosed Flare was completed on 2/17/2011. No opacity emissions were observed during the test. Opacity monitoring for EP 29 & 30 will not be required.
VOC:

Polk County Construction Permit # 0614 Modified limits VOC to 0.12 lb./hr., 0.51 TPY, from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 1 - 4 / EP 1 - 4), (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Polk County Construction Permit # 0689 Modified #2 limits VOC to 0.12 lb./hr., 0.51 TPY, from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 5 - 8 / EP 5 - 8), (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.


(EU 16 –19 / CE 5 -8 / EP 19 - 22) are not VOC sources.

Polk County Construction Permit # 2522 limits VOC to 1.97 lb./hr., 8.60 TPY, 0.40 grams/BHP- hour (Engines Individually) (uncontrolled minor) and VOC to 5.92 lb./hr., 25.96 TPY (3 Engines Combined) from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25). 40 CFR 60 Subpart JJJ has requirements within it which are sufficient for VOC Monitoring purposes. Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.


Polk County Construction Permit #2685 limits NMOC to 0.96 lb./hr., 2.96 TPY, from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). Flares have a default control of 90%, yielding 29.6 TPY NMOC (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

HAPs:

Polk County Construction Permit #2685 limits HAP to 0.19 lb./hr., 0.82 TPY, from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). Flares have a default control of 90%, yielding 8.20 TPY (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

Total PTE of HAPs from the facility is 13.8 TPY, with all HAPS’ PTE < 10 TPY individually (uncontrolled minor). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

CO, NOx, and SO2

Polk County Construction Permit # 0614 Modified limits SO2 to 0.26 lb./ hr., 1.16 TPY, 500 ppmv (uncontrolled minor); NOx to 3.90 lb./ hr., 17.08 TPY (uncontrolled minor); and CO to 4.30 lb./ hr., 18.84 TPY (uncontrolled minor), from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/ hr., (EU 1 - 4 / EP 1 - 4). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted. Testing for NOx, (40 CFR Part 60, Appendix A, Method 7E) and CO, (40 CFR Part 60, Appendix A, Method 10), were completed on March 21, 1994 on EU 4, as a requirement of Polk County Construction Permit Number 0614. The results were an average of 3.9 lbs./hr. NOx, and 4.3 lbs./ hr. CO. Engines #1 - #4 (EU 1-4 / EP 1-4) were each tested for NOx and CO on 11/17/2009. Test results ranged from 2.44 lbs./ hr – 3.33 lbs./ hr NOx, which is less than the permitted 3.90 lbs./ hr. NOx. Test results for CO ranged from 3.72 lbs./ hr – 3.88 lbs./ hr, which is less than the permitted 4.30 lbs./ hr.

Polk County Construction Permit # 0689 Modified #2 limits SO2 to 0.27 lb./ hr., 1.18 TPY, 500 ppmv (uncontrolled minor); NOx to 3.90 lb./ hr., 17.08 TPY (uncontrolled minor); and CO to 4.30 lb./ hr., 18.84
TPY (uncontrolled minor), from each of four (4) Landfill Gas Reciprocating Engines, Caterpillar Model 3516, 0.8 MW and 8.27 MMBTU/hr., (EU 5 - 8 / EP 5 - 8). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted. Engine #6 (EU 6 / EP 6) was tested for NOx on 11/18/2009. Test result was 3.57 lbs./hr NOx, which is less than the permitted 3.90 lbs./hr.

(EU 12 -15 / CE 1 -4 / EP 15 - 18) are not CO, NOx, or SO2 sources.

(EU 16 -19 / CE 5 -8 / EP 19 - 22) are not CO, NOx, or SO2 sources.

Polk County Construction Permit # 2522 limits SO2 to 1.30 lb./hr., 5.71 TPY, 500 ppmv; NOx to 4.93 lb./hr., 21.60 TPY, 1.0 grams/BHP-hour; and CO to 17.26 lb./hr., 75.60 TPY, 3.50 grams/BHP-hour (Engines Individually); (SO2, NOx, and CO all uncontrolled minor) and SO2 to 3.91 lb./hr., 17.12 TPY; NOx to 14.80 lb./hr., 64.81 TPY; and CO to 51.79 lb./hr., 226.84 TPY (3 Engines Combined) from (3) 14.26 MMBtu, 2,245 Bhp Caterpillar Model 3520 Reciprocating Engines Combusting Landfill Gas (EU 33- 35 / EP 23 – 25). 40 CFR 60 Subpart JJJJ has requirements within it which are sufficient for NOx and CO Monitoring purposes. Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

(EU 36 – 38 / CE 9 – 11 / EP 26 – 28) are not CO, NOx, or SO2 sources.

Polk County Construction Permit #2685 limits SO2 to 8.97 lb./hr., 27.8 TPY, 500 ppmv; NOx to 6.49 lb./hr., 20.10 TPY; CO to 24.35 lb./hr., 75.38 TPY (SO2, NOx, and CO all uncontrolled minor), from the Parnell Biogas Dual Open Flare System (2), 81.6 MMBtu/hr per flare (163.8 MMBtu/hr total system) (EU 39 – 40 / EP 29 – 30). Under DNR’s Monitoring Guidance Policy and CAM, no additional monitoring is warranted.

D. Facility Proposed Limits:
None

E. Responsible Official: Mr. Joe Durako, Senior District Manager, Waste Management of Iowa, Inc., is in charge of a principle business function; that of selling electricity produced from the combustion of landfill gas and making a profit for Metro Methane Recovery Facility. He meets the definition of Responsible Official found in 567 IAC 22.100.