

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 (IDNR) finds that:

1. Iowa Methodist Medical Center, located at 1200 Pleasant Street, Des Moines, Iowa 50309, has applied to renew their Title V Operating Permit. The designated responsible official of this facility is Mr. Gary Gibson, Facilities Manager.
2. Iowa Methodist Medical Center is a Hospital, (SIC 8062). This facility consists of fifteen (15) significant emission units with potential emissions of:

Pollutant	Abbreviation	Potential Emissions (Tons per Year)
Particulate Matter ($\leq 10 \mu\text{m}$)	PM ₁₀	22.73
Particulate Matter	PM	23.24
Sulfur Dioxide	SO ₂	137.84
Nitrogen Oxides	NO _x	348.97
Volatile Organic Compounds	VOC	31.89
Carbon Monoxide	CO	113.65
Greenhouse Gases (mass basis)	GHG	89,989.32
Greenhouse Gases (CO ₂ e basis)	GHG	90,229.83
Hazardous Air Pollutants ⁽¹⁾	HAP	2.22

⁽¹⁾ May include the following: (For list of 12 HAPs, see Title V application).

3. Iowa Methodist Medical Center submitted a Title V Operating Permit renewal application on May 23, 2008. Based on the information provided in these documents, IDNR 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. IDNR 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.

IDNR procedures for reaching a final decision on the draft permit:

1. The public comment period for the draft permit will run from April 2, 2012 through May 1, 2012. 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. IDNR 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. IDNR 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, IDNR 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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IDNR concludes that:

1. IDNR has authority under 455B.133 Code of Iowa to promulgate rules contained in 567 IAC Chapters 20-31, including, but not limited to, rules containing emission limits, providing for compliance schedules, compliance determination methods and issuance of permits.
2. IDNR 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 20-31.
4. IDNR 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 IDNR from pursuing enforcement action for any violation.

Applicant: Iowa Methodist Medical Center
EIQ Number: 92-6786
Facility File Number: 77-01-142
Review Engineer: Jeff Gabby

A. Project Briefing:

Iowa Methodist Medical Center, is a Hospital located at 1200 Pleasant Street in Des Moines, Iowa. This project regards a Part 70 Title V Operating Permit Renewal Application to operate the following significant emission points and associated emission units:
(EP1.00/EU1.05); (EP3.00/EU3.00); (EP4.00/EU4.02, EU4.03); (EP5.00/ EU5.02, EU5.03);
(EP6.00/ EU6.00); (EP7.00/ EU7.00); (EP8.00/ EU8.00); (EP9.00/ EU9.01, EU9.02);
(EP13.00/EU13.01, EU13.02); (EU 14.00/ EP 14.00); and (EU 15.00/ EP 15.00).

The following emission units are insignificant per 567IAC22.103: one (1) 15,000 Gallon Fuel Oil Storage Tank, one (1) 10,000 Gallon Jet Fuel Under Ground Storage Tank, and one (1) 10,000 Gallon Fuel Oil Storage Tank.

Conditions transfer into the Title V Operating Permit from the following Polk County Air Quality Construction Permits: (0569 Revised for EU 1.05), (1540 for EU 3.00), (1547 for EUs 4.02 & 4.03), (1548 for EUs 5.02 & 5.03), (1541 for EU 6.00), (0660 Modified for EU 7.00), (0820 for EU 8.00), (0788 Revised for EUs 9.01 & 9.02), (1274 Modified for EUs 13.01 & 13.02), (1574 for EU 14.00), and (1742 for EU 15.00).

B. Applicable Rules and Regulations:

(Note: The Polk County AQD Construction Permits listed below state an opacity limit of 20%. This was the standard format during the timeframe they were issued. The intent of this limit was actually to mean <20% opacity, which is a county wide opacity limit imposed by Polk County AQD Board of Health Rules and Regulations, Chapter V, Article IV, Paragraph 5-9. The requirements stated below will indicate <20% opacity and cite the construction permit as the authority, even though the permits actually say 20%. This is being done in order to avoid confusion as to what the opacity limit is.)

Polk County Air Quality Construction Permit Number 0569 Revised for a 800 kW Caterpillar Diesel Generator (EP 1.00/EU 1.05): PM10 5.185 lbs/hr, 6.9479 TPY, SOx 21.6 lbs/hr, 28.944 TPY, NOx 26.45 lbs/hr, 35.443 TPY, Opacity <20%, operation is limited to 2680 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 1540 for a 450 kW Cummins Model UT12-800 GS Diesel Generator (EP3.00/EU 3.00): PM10 1.68 lbs/hr, 2.77 TPY, PM 1.68 lbs/hr, 2.77 TPY, SOx 2.74 lbs/hr, 4.51 TPY, NOx 23.89 lbs/hr, 39.42 TPY, VOC 1.90 lbs/hr, 3.13 TPY, CO 5.15 lbs/hr, 8.49 TPY, Opacity <20%, Operation is limited to 3300 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 1547 for a Fairbanks Morse Model 38TDD8 Dual Fuel Generator (EP 4.00/EU 4.02 and 4.03): PM10 1.96 lbs/hr, 1.67 TPY, PM 1.96 lbs/hr, 1.67 TPY, SOx 7.07 lbs/hr, 6.01 TPY, NOx 44.8 lbs/hr, 38.08 TPY, VOC 12.0 lbs/hr, 10.20 TPY, CO 17.4 lbs/hr, 14.79 TPY, Opacity <20%, operation is limited to 1700 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 1548 for a Fairbanks Morse Model 38TDD8 Dual Fuel Generator (EP 5.00/EU 5.02 and 5.03): PM10 1.96 lbs/hr, 1.67 TPY, PM 1.96 lbs/hr, 1.67 TPY, SOx 7.07 lbs/hr, 6.01 TPY, NOx 44.8 lbs/hr, 38.08 TPY, VOC 12.0 lbs/hr, 10.20 TPY, CO 17.4 lbs/hr, 14.79 TPY, Opacity <20%, operation is limited to 1700 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 1541 for a 565 kW Caterpillar Model D348TA Diesel Generator (EP 6.00/EU 6.00): PM10 0.84 lbs/hr, 1.69 TPY, PM 0.84 lbs/hr, 1.69 TPY, SOx 3.04 lbs/hr, 6.08 TPY, NOx 19.26 lbs/hr, 38.53 TPY, VOC 0.54 lbs/hr, 1.08 TPY, CO 5.12 lbs/hr, 10.23 TPY, Opacity <20%, operation is limited to 4000 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 0660 Modified for a 800 kW Caterpillar Model 3508TA Diesel Generator (EP 7.00/EU 7.00): PM10 1.22 lbs/hr, 1.71 TPY, PM 1.22 lbs/hr, 1.71 TPY, SOx 4.41 lbs/hr, 6.18 TPY, NOx 27.96 lbs/hr, 39.14 TPY, VOC 0.79 lbs/hr, 1.10 TPY, CO 7.43 lbs/hr, 10.40 TPY, Opacity <20%, operation is limited to 2800 hours per 12 month period, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 0820 for a 700 kW Caterpillar Model #3508 Diesel Generator (Critical Care) (EP 8.00/ EU 8.00): PM10 1.696 lbs/hr, 2.54 TPY, SOx 1.654 lbs/hr, 2.481 TPY, NOx 24.857 lbs/hr, 37.29 TPY, VOC 1.701 lb/hr, 2.55 TPY, CO 5.406 lbs/hr, 8.109 TPY, Opacity <20%, operation is limited to 3000 hours per 12 month period, sulfur content limited to 0.5%, hour meter and record keeping required.

Polk County Air Quality Construction Permit Number 0788 Revised for a 61.3/58.8 MMBTU Gas/Oil fired Nebraska Boiler #1: (EP 9.00/EUs 9.01 & 9.02): Natural Gas, PM10 0.18 lbs/hr, 0.81 TPY, PM 0.18 lbs/hr, 0.81 TPY, SOx 0.04 lbs/hr, 0.16 TPY, NOx 8.58 lbs/hr, 37.59 TPY, VOC 0.17 lbs/hr, 0.75 TPY, CO 2.15 lbs/hr, 9.40 TPY, Opacity <20%, Fuel Oil, PM10 0.42 lbs/hr, 0.51 TPY, PM 0.84 lbs/hr, 1.02 TPY, SOx 30.08lbs/hr, 36.48 TPY, NOx 8.38 lbs/hr, 10.16 TPY, VOC 0.08 lbs/hr, 0.10 TPY, CO 2.10 lbs/hr, 2.54 TPY, Opacity <20%, fuel use is limited to 1,016,075 gallons per 12 month period, sulfur content limited to 0.5% or less, record keeping required.

Polk County Air Quality Construction Permit Number 1274 Modified for a 59/62 MMBTU Fuel oil/Natural Gas Nebraska Boiler (EP 13.00/EU 13.01 & 13.02): PM₁₀ 2.06 TPY, 0.10 grains/dscf, SO_x 39.71 TPY, 0.50 lbs/MM BTU, 500ppmv, NO_x 27.16 TPY, VOC 1.49 TPY, CO 22.81 TPY, Opacity <20%, fuel oil use is limited to 1,118,590 gallons per 12 month period rolled monthly, sulfur content no greater than 0.5% by weight, fuel use meter installed and record keeping.

Polk County Air Quality Construction Permit Number 1574 for a 20,000 gallon Diesel Fuel Storage Tank (EU 14.00 / EP 14.00): VOC 0.01 TPY, No Visible Emissions, throughput limited to 1,040,000 gallons per 12 month period rolled monthly, and a log of throughput maintained onsite.

Polk County Air Quality Construction Permit Number 1742 for a Caterpillar Model 3508B DITA 1000 kW Diesel Generator (EU 15.00 / EP 15.00): PM/ PM₁₀ 1.413 lbs./ hr., 0.353 TPY, <20% opacity, SO_x 5.097 lbs./ hr., 1.274 TPY, NO_x 32.301 lbs./ hr., 8.075 TPY, VOC 0.908 lbs./ hr., 0.227 TPY, CO 8.58 lbs./ hr., 2.145 TPY. Operation limited to 500 hours per 12 month period, rolled monthly, a non-resetting totalizing hour meter installed with monthly readings taken and recorded. Permit 1742 requires that a "current hour meter reading shall be submitted with the annual operating permit application". This will be administratively changed/ explained to say "*(Current hour meter reading shall be submitted with the IDNR Annual EIQ Emission Inventory.)*" Diesel fuel is required to not have a sulfur content > 0.5% by weight. Vendor certification of sulfur content is allowed. Documentation required to be kept on site for 2 years, but this requirement is administratively changed to say five (5) years. Changes applied above are performed under 567 IAC 22.108(3).

3. Additional Requirements:

NSPS: both Nebraska boilers (EU 9.01, 9.02, 13.01, and 13.02) are subject to 40 CFR Part 60 Subpart Dc-Standard of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Neither unit is coal fired, so the requirements are minimal record keeping requirements. These requirements are conditions in their respective construction permit operating limits section.

20,000 gallon Diesel Fuel Storage Tank (EU 14.00 / EP 14.00) was subject to 40 CFR 60 Subpart Kb. Minimal Subpart Kb record keeping requirements required are found in Polk County Construction Permit #1574. This subpart was modified on 10/15/2003 and it now exempts tanks sizes from 75 m³ (19,813 gal) to 151 m³ (40,000 gal) with vapor pressure of 15 KPa (2.18 psi). Diesel fuel's vapor pressure is much lower than 15 KPa (normally < 0.07 KPa or 0.01 psi at 70 °C). Therefore, this tank is exempted from Subpart Kb and Kb requirements will not be incorporated into the Title V permit even though the current construction permit still imposes those requirements.

NESHAP: The facility has potential of 2.22 TPY of all HAPs combined.

Emission Units 1.05, 3.00, 4.02, 4.03, 5.02, 5.03, 6.00, 7.00, 8.00, and 15.00:

This equipment is of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP) [40 CFR Part 63 Subpart ZZZZ].

Authority for Requirement: 40 CFR Part 63 Subpart ZZZZ

Iowa has not yet taken authority for enforcement of this NESHAP, but it is nonetheless an applicable requirement and therefore listed in the plant-wide conditions for these 10 EUs.

Emission Units 9.01, 9.02, 13.01, and 13.02:

These units are of the source category affected by the following federal regulation: National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources [40 CFR Part 63 Subpart JJJJJ].

Authority for Requirement: 40 CFR Part 63 Subpart JJJJJ

Iowa has not yet taken authority for enforcement of this NESHAP, but it is nonetheless an applicable requirement and therefore listed in the plant-wide conditions for these 4 EUs.

PSD: The facility has NO_x potential emissions of 348.97 TPY, and is currently major for NO_x (PSD). If the facility makes a qualifying change (significant increase of a PSD regulated pollutant), it will need to submit a PSD permit application.

NAAQS: The facility is located in an attainment area. Dispersion modeling is not required at this time.

Title IV: The facility generates electricity for its own use, none is supplied or sold to the power grid; therefore, Title IV is not applicable.

Stratospheric ozone: The only ozone depleting chemicals (regulated by 40 CFR 82) at the facility are those used for air conditioning. All repairs and maintenance are made by EPA certified personnel.

4. Monitoring Consideration:

EUs 1.05, 3.00, 4.02, 4.03, 5.02, 5.03, 6.00, 7.00, 8.00, 9.01, 9.02, 13.01, 13.02, 14.00, and 15.00 all have hour limitations or fuel use restrictions which limits their PTE for all pollutants to uncontrolled minor. IDNRs Monitoring Guidance Policy dated 6/18/2001 indicates no O&M Plans, and no tests required. Each of these units have an opacity limit established in their construction permits of <20%, (except EU 14.00 a 20,000 gallon underground diesel storage tank, which has no visible emissions allowed, and none are expected). Monitoring requirements shall include checking for visible emissions whenever the EUs (except EU 14.00), are operated using diesel/ #2 fuel oil. If any VEs are observed, repairs must be initiated. Emissions greater than or equal to 20% would be a violation and must be reported as excess emissions. VE checks will not be required for EUs when burning natural gas, as no VEs are expected during natural gas combustion. Permitted hourly emission limits are based on AP-42 and FIRE emission factors for all units. These are not expected to be exceeded. Corresponding TPY limits are a direct correlation from the hourly emission limits, taking hours per year allowed limits into consideration. Two of the generators in the above list were tested in the past, and successfully met the permitted limit by a large margin. Details of these tests are in the next two paragraphs.

EP 4.00/ EU 4.02 & 4.03 the Fairbanks Morse Dual Fuel Generator had a compliance test conducted on May 4, 1988. Over three runs the average NOx emission rate was 32.25 lbs/hr on diesel fuel and 19.16 lb/hr on dual fuel mix. These are below the permitted emission limit of 44.8 lbs/hr.

EP 5.00/ EU 5.02 & 5.03 the Fairbanks Morse Dual Fuel Generator had a compliance test conducted May 5, 1988. Over three runs the average NOx emission rate was 30.30 lbs/hr on diesel fuel and 19.678 lbs/hr on dual fuel mix. These are below the permitted emission limit of 44.8 lbs/hr.

CAM: Compliance Assurance Monitoring (CAM) is not applicable to any EUs at the facility, since there is no control equipment on any of them.

5. Additional Considerations:

CO₂e PTE:

The 14 combustion EUs GHG PTE was determined using IDNR's GHG potential worksheet, using max fuel throughput and max hours per year allowed for each EU. Four of the EUs are dual fuel units, i.e., (natural gas or #2 fuel oil). Worst case PTE scenarios were used for these EUs, and a resultant facility CO₂e PTE of 90,229.83 TPY was determined.

Facility Proposed Limit: The facility requested no limits beyond that already required in their construction permits.

Responsible Official: Gary Gibson, Facilities Manager, is listed as the Responsible Official. Gary Gibson meets the definition, since he is in charge of the principle business functions of the facility.

Additional notes:

The following equipment was previously permitted, but has been removed from the facility, and the corresponding construction permits voided:

- Fairbanks Morse Generator, IDNR Permit 87-A-005S, void 7/21/2003.
- Fairbanks Morse Generator, Polk County Permit #0453, void 1/10/2006.
- HEPA filters on waste system aspiration, Polk County Permit #0646, void 11/4/2011.
- Medical Waste Incinerator, Polk County Permit #0032 and Polk County Memorandum Of Understanding #0032, void 9/27/2011.
- Groundwater Remediation, Polk County Permit #0748, void 11/4/2011.
- Waukesha Model L7 040GU Generator (EU 2.00), Polk County Permit #1539, void 4/8/2008.
- Two (2) Maxon Natural Gas Duct Burners (Insignificant EU 4.01 and 5.01) were permanently disconnected from their natural gas supply lines, and Iowa Methodist does not intend to re-connect any time in the future. They have been removed from Form 1.3 and the Title V permit.