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. MidAmerican Energy Company: River Hills Combustion Turbines, EIQ Number: 92-5850, Facility File Number: 77-01-054, located at 105 Grand Avenue, Des Moines, Iowa 50309, has applied to renew their Title V Operating Permit. The designated Responsible Official of this facility is Mr. Stacy L. Earll, General Manager- Fluid Generation.
2. MidAmerican Energy Company: River Hills Combustion Turbines is a NAICS Code 221112: Electric Utility. This facility consists of ten (10) significant emission units with potential emissions of:

Pollutant	**Abbreviation**	**Potential Emissions** (Tons per Year)
Particulate Matter (≤ 10 μm)	PM_{10}	2,467.20
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Sulfur Dioxide	SO_2	4,152.40
Nitrogen Oxides	NO_x	7,499.34
Volatile Organic Compounds	VOC	27.44
Carbon Monoxide	CO	755.50
Lead	Lead	0.07
Hazardous Air Pollutants [(1)]	HAP	10.80
Greenhouse Gases (mass basis)	GHG	1,364,052.68
Greenhouse Gases (CO_2e basis)	GHG	1,368,517.26

[(1)] May include the following: 1,3-Butadiene, Acetaldehyde, Acrolein, Arsenic compounds, Benzene, Cadmium compounds, Chromium compounds, Ethylbenzene, Formaldehyde, Lead compounds, Manganese compounds, Naphthalene, Polycyclic Organic Matter, Propylene Oxide, Selenium Compounds, Toluene, and Xylene (Mixed Isomers).

3. MidAmerican Energy Company: River Hills Combustion Turbines submitted a Title V Operating Permit renewal application on May 12, 2009 and any additional information describing the facility on August 2, 2012 and October 1, 2012. 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 December 24, 2012 through January 22, 2013. 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 20-35, 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 20-35.
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.

Worksheet of Air Operating Permit	Generation of Electricity, SIC: 4911, NAICS: 221112

Applicant: MidAmerican Energy: River Hills Combustion Turbines
EIQ Number: 92-5850
Facility File Number: 77-01-054

Review Engineer: Jeff Gabby

Application Evaluation

A. Project Briefing:

This project regards a Part 70 Title V permit to operate application for eight (8) combustion turbines, two (2) starting diesels, eight (8) Combustion Turbine lube oil systems- 1,500 gallon capacity, flow rate: 360 gpm, and one (1) parts washer. The eight combustion turbines and two starting diesels are grandfathered from construction permitting.

Insignificant equipment, per 567 IAC 22.103, consists of eight (8) Combustion Turbine lube oil systems- 1,500 gallon capacity, flow rate: 360 gpm, and one (1) parts washer.

Two (2) Fuel Storage Tanks for starting diesels (150 gallon capacity each) were listed in the application as insignificant EUs. Since they are < 500 gallons, they are not listed in the Title V Permit, per 567 IAC 22.103(1)"v".

B. Applicable rules and regulations:

Emission limits and conditions:
Opacity: Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9 limits opacity to < 20%.

PM: Polk County Board of Health Rules and Regulations: Chapter V, Article V, δ 5-12 limits the PM using the log formula for the turbines to 0.28 lbs/MMBtu and 0.6 lbs/MMBtu for the starting diesels. For starting engines, a PM limit of 0.10 gr./dscf [Chapter V, Article VI, δ 5-14(b)] is more appropriate because they are not indirect combustion units, even though both of the limits of 0.10 gr/dscf and 0.6 lb/MMBtu are not a perfect fit for engines.

SO_2 : Polk County Board of Health Rules and Regulations: Chapter V, Article IX, δ 5-27 limits the SO_2 to 0.5 lbs SO_2 / MMBtu for the turbines and starting diesels using fuel oil and 500 ppm for the turbines using natural gas.

The Polk County Chapter V limit of 0.5 lbs SO_2 / MMBtu is more restrictive than the corresponding IDNR- AQB Rule (2.5 lbs SO_2 / MMBtu) and therefore the IDNR Rule is not referenced as the authority for requirement.

PTE and actual emission calculations: MidAmerican Energy Company based PTE and Actuals on emission factors from Polk County Chapter V Rules, AP-42, and Fire. PTE for each turbine is the worst case of natural gas or #2 Fuel Oil (Diesel) combustion.

2. Opacity for the facility: Less than 20% opacity. Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9, which is more restrictive than the corresponding IDNR-AQB Rule and hence the IDNR Rule is not referenced as the authority for requirement.

3. NSPS: Not Applicable until a new source is added.

4. NESHAP: Not applicable at this time. 40 CFR 63, Subpart YYYY, MACT Standards for Stationary Combustion Turbines, Sec. 63.6090, states that the MACT standard applies to each affected source, which is any existing, new, or reconstructed stationary combustion turbine located at a major source of HAP emissions. The facility has HAP PTEs of less than 10 TPY individual HAP and 25 TPY combined HAP thresholds, (facility total is 10.80 TPY HAP, per WebFIRE).

Two starting diesel engines (EP 014 and 015) are of the source category regulated by 40 CFR 63 Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP). These black-start stationary CI engines are subject to the applicable maintenance requirements.

Asbestos Demolition and Renovation NESHAP, 40 CFR 61.145, applies for any building demolition/ renovation, upon initiation of said activities.

40 CFR 63 Subpart T does not apply to the parts washer, since the worst case solvent used is Safety-Kleen 105 Solvent, which contains less than 1% by weight HAPs.

5. PSD: Source is major (PSD) for PM/ PM_{10}/ $PM_{2.5}$, SO_2, NO_x, CO, and GHG. The facility is not subject to NSR until the company makes a qualifying change.

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

7. Title IV: Not applicable since the turbines are older than 11/15/90.

8. CAIR: River Hills' Turbines are less than 25 MW, so they are not affected under CAIR.

9. Stratospheric ozone: the only ozone depleting chemicals (regulated by 40 CFR 82) at River Hills 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).

10. Green House Gases: IDNR's GHG calculation spreadsheet was used in determining GHG PTE. Entries were made for both natural gas and #2 fuel oil. #2 fuel oil resulted in

the worst case scenario, with 170,005.55 TPY CO2 PTE, and 170,570.25 TPY CO2e PTE. This is for each of 8 identical turbines, plus 2 starting diesel engines, resulting in an overall PTE of 1,364,052.68 TPY GHG mass basis, and 1,368,517.26 TPY CO2e basis.

C. Monitoring consideration:

Facility has submitted documentation showing that Units 1 thru 8 each operated less than 876 hours per year in 2007, 2008, 2009, 2010, and 2011. Calculated actual emissions are therefore used as potential emissions for monitoring purposes, and these values indicate no requirements. A Monitoring Plan is therefore not required at this time.

Monitoring for Sulfur Oxides (SOx) and Particulate Matter (PM) when burning #1 or #2 Fuel Oil (Diesel) is additionally not warranted, as indicated by the MidAmerican submissions which show the following:

a) all Turbines have operated less than 876 hours per year in 2007 through 2011.
b) Previous #1 or #2 Fuel Oil (Diesel) testing performed by MidAmerican has, in all cases, met the emission limit for SOx of 0.5 lbs./ mmBtu. WebFIRE's PM emission factor of 0.012 lb/MMBtu (for SCC 20100101) is much less than the PM limit of 0.28 lb/MMBtu.

Sulfur content in #1 or #2 Fuel Oil (Diesel): The permittee will be required to monitor the percent of sulfur by weight in the fuel oil as delivered. The documentation may be vendor supplied or facility generated. This will ensure that the #1 or #2 Fuel Oil (Diesel) as received meets the assumed sulfur content, which is used for actual emissions calculations.

Monitoring for SOx and PM when burning Natural Gas is not warranted since the Turbines use only pipe line quality Natural Gas which has a SO_2 default emission rate of 0.0006 lb./ MMBtu, per 40 CFR 75, App. D δ 2.3.2. AP-42 δ 3.1 states that "Particulate are typically non-detectable with natural gas firing because of low ash content".

Opacity monitoring will be required to be observed once per week when #1 or #2 Fuel Oil (Diesel) is combusted, in order to validate that the <20% opacity requirement is being met. If no VEs are observed, the staff person will be required to note it in a log book and the test will be complete. If VEs are observed, immediate corrective action will be required. If corrective action does not return the opacity to no VEs, a Method 9 reading will be required. Opacity equal to or greater than 20% is a violation of Polk County Board of Health Rules and Regulations: Chapter V, Article IV, Section 5-9. Combustion of #1 or #2 Fuel Oil (Diesel) typically has no VEs associated, other than SSM. Opacity monitoring of natural gas combustion is not warranted, since particulate in pipeline quality natural gas is normally non-detect levels.

D. CAM:

Units 1 thru 8 combustion turbines and two (2) starting diesels do not have control devices and are therefore not subject to CAM.

E. CAIR:

River Hills Turbines are each less than 25 MW, so they are not affected under CAIR.

F. Responsible Official: Mr. Stacy L. Earll, General Manager- Fluid Generation, is in charge of a principle business function, that of producing and selling electricity, as well as making a profit for MidAmerican Energy Company. He meets the definition of a Responsible Official found in 567 IAC 22.100.