

Statement of Basis
Air Pollution Control
Title V Permit to Operate for
Grand Casino Hinckley
Permit No. V-ML-2711500031-2016-01

The purpose of this document is to set forth the legal and factual basis for permit conditions, including references to applicable provisions of the Clean Air Act (CAA or Act) and implementing regulations. This document also gives the derivation of conditions as required by 40 C.F.R. § 71.11(b).

1. GENERAL INFORMATION

a. Applicant and Stationary Source Information

Owner/Operator	Facility (SIC Code: 7011, 4911)
Mille Lacs Band Corporate Commission d/b/a Grand Casino Hinckley 777 Lady Luck Drive Hinckley, MN 55037	Grand Casino Hinckley 777 Lady Luck Drive Hinckley, MN 55037 (SIC Codes: 7011, 4911)

Responsible Official	Facility Contact
Bradley Kalk Vice President of Facilities 777 Lady Luck Drive Hinckley, MN 55037 (320) 384-4907	Bradley Kalk Vice President of Facilities 777 Lady Luck Drive Hinckley, MN 55037 (320) 384-4907

b. Facility Description

The Mille Lacs Band Corporate Commission d/b/a Grand Casino Hinckley (Grand Casino Hinckley) owns and operates three non-emergency internal combustion engines used for peak load management and backup power at the Grand Casino Hinckley, located at 777 Lady Luck Drive, Hinckley, Pine County, Minnesota 55037. The facility is located on land that is held in trust for the Mille Lacs Band of Ojibwe, approximately one and one half mile east of I-35, south of Highway 48, in Pine County, Minnesota. All electricity generated is used onsite.

The Mille Lacs Band Corporate Commission installed the three non-emergency internal combustion engines, EU001, EU002, and EU003, at the facility in 2004. The United States Environmental Protection Agency (EPA) permitted these three generator sets in a 2002 Prevention of Significant Deterioration (PSD) Air Quality Construction Permit (No. PSD-ML-R50005-02-01) issued on November 10, 2002, and revised on December 30, 2010.

The Permittee also owns and operates two diesel-fired emergency internal combustion engines, EU004 and EU005, used for backup power. The emergency engines are rated at 535 and 960 horsepower. The two emergency engines were identified in the previous Title V permit as insignificant emission sources, since their actual emissions are less than one ton per year each. The emergency engines have been included as emission units in this permit, due to amendments to 40 C.F.R. Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE NESHAP).

c. Area Classification

The facility is located in Pine County, which is in attainment with National Ambient Air Quality Standards for all criteria pollutants.

Grand Casino Hinckley is located on land that is held in trust for the Mille Lacs Band of Ojibwe Indians. The EPA is responsible for issuing and enforcing any air quality permits for this source until such time that the Tribe has EPA approval to do so.

There are no PSD Class I areas within 100 kilometers of the facility.

d. Title V Major Source Status

EPA issued PSD Permit PSD-ML-R50005-02-01 to the Grand Casino Hinckley on November 10, 2002. That permit authorized the construction of units EU001-EU003. Under the CAA (42 U.S.C. § 7661a(a)), it is unlawful for a source required to have a PSD permit (issued under Title I of the CAA) to operate without a permit issued under Title V of the CAA. Therefore, the Permittee must obtain a Title V permit.

e. Permit History

Pursuant to 40 C.F.R. Part 71, EPA issued an initial Title V operating permit, V-ML-2711500031-2010-01, to the Grand Casino Hinckley on December 30, 2010. The initial operating permit expired on January 29, 2016.

On July 27, 2015, Grand Casino Hinckley applied for a renewal of its Title V operating permit. On September 23, 2015, EPA requested additional information from the Permittee. The Permittee submitted its response to the request for additional information on October 22, 2015. EPA found the application to be complete on December 22, 2015. Since the Permittee submitted the application at least six months prior to the January 29, 2016 expiration date and EPA found the permit application to be complete, the Permittee has been granted an application shield allowing the facility to continue operating until EPA acts on the application for renewal of the Title V operating permit.

2. EMISSIONS UNITS AND SOURCE EMISSIONS

a. Emissions Units at the Source

Three generator sets, denoted EU001, EU002, and EU003, are used for backup power and peak load management. EU001-EU003 are Caterpillar Model 3516B turbocharged engines with 16 cylinders each and driving a 1,825 kilowatt generator. Each engine burns ultra-low sulfur (0.0015%) diesel fuel.

Two additional generator sets, denoted EU004 and EU005, are emergency backup generators. EU004 is a Detroit V-16 Model D650FRX4 and EU005 is a CUMMINS Model NPA855G3. Each engine burns ultra-low sulfur (0.0015%) diesel fuel.

ID	Description	Manufacturer/Model	Serial No.	Output and Horsepower Rating	Date Installed
EU001	Generator Set, Casino/Hotel	Caterpillar/3516B	OFDNN00430	1,825 kW at 2,593 BHP	December 4, 2004
EU002	Generator Set, Casino/Hotel	Caterpillar/3516B	OFDNN00427	1,825 kW at 2,593 BHP	December 4, 2004
EU003	Generator Set, Casino/Hotel	Caterpillar/3516B	OFDNN00431	1,825 kW at 2,593 BHP	December 4, 2004
EU004	Emergency Generator Set	Detroit V-16/D650FRX4	XN3866345-02 P-38932	394 kW at 535 hp	1992
EU005	Emergency Generator Set	CUMMINS/NPA855G3	11853801	706 kW at 960 hp	1997

b. Previously Unpermitted Emission Units Added to the Permit

Emergency backup generators, EU004 and EU005, are being added to this permit. These units were previously identified as insignificant emission sources, since their actual emissions are less than one ton per year each, and previously they had no applicable requirements.

The engines, installed in 1992 and 1997, respectively, did not trigger major source PSD requirements. At the time of installation, there was no minor NSR program in effect for sources located on tribal lands. Therefore, there was no obligation for the Permittee to obtain a construction permit for these engines.

The emergency engines have been included as emission units in this permit since the engines are subject to 40 C.F.R. Part 63, Subpart ZZZZ. While the standard existed at the time of permit issuance in 2010, the initial compliance date for existing units, such as EU004 and EU005, was May 3, 2013, more than two years from issuance of the previous permit. Since EU004 and EU005 did not have to comply with 40 C.F.R. Part 63, Subpart ZZZZ when the previous permit was issued, there were no applicable requirements to include in the permit.

c. Potential Emissions

EU001-EU003: Potential emissions were calculated based on 800 operating hours per year. Emission factors for NO_x, VOC, PM and CO were provided by the manufacturer (Ziegler) of the Caterpillar 3516B engine. PM₁₀ and PM_{2.5} were calculated based on the fraction in PM provided by AP-42, Table 3.4-2, multiplied by the emission factor for PM provided by the engine manufacturer.

EU004-EU005: Potential emissions were calculated based on 500 operating hours per year. Emission factors for EU004 were provided in AP-42, Table 3.3-1 and 3.3-2. Emission factors for EU005 were provided in AP-42, Table 3.4-1, 3.4-2, and 3.4-3.

Table 1: Potential Emissions

Emission Unit	NO _x (tpy)	CO (tpy)	VOC (tpy)	PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	HAPs (tpy)
EU001	14.98	1.2	0.5	0.3	0.3	0.2	0	0
EU002	14.98	1.2	0.5	0.3	0.3	0.2	0	0
EU003	14.98	1.2	0.5	0.3	0.3	0.2	0	0
EU004	4.1	0.9	0.3	0.3	0.3	0.3	0.3	0.3
EU005	5.8	1.3	0.2	0.2	0.1	0.1	0	0
TOTAL	54.84	5.8	2	1.4	1.3	1	0.3	0.3

d. Actual Emissions

EU001-EU003: Actual emissions were calculated based on operating hours in 2014. EU001 and EU002 operated 226 hours in 2014 and EU003 operated 225 hours in 2014. To be conservative, 226 hours was used per engine. Actual NO_x emissions are based on performance test results from July 15, 2010 (EU001 – 34.69 lb/hr, EU002 – 32.36 lb/hr, EU003 – 30.73 lb/hr).

EU004-EU005: Actual emissions were calculated based on 10 hours per year of actual run time.

Table 2: Actual Emissions

Emission Unit	NO _x (tpy)	CO (tpy)	VOC (tpy)	PM (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)	SO ₂ (tpy)	HAPs (tpy)
EU001	3.9	0.3	0.1	0.1	0.1	0.1	0	0
EU002	3.7	0.3	0.1	0.1	0.1	0.1	0	0
EU003	3.5	0.3	0.1	0.1	0.1	0.1	0	0
EU004	0.1	0	0	0	0	0	0	0
EU005	0.1	0	0	0	0	0	0	0
TOTAL	11.3	0.9	0.3	0.3	0.3	0.3	0	0

3. APPLICABLE REQUIREMENTS

a. PSD Permit

The EPA issued a PSD Permit (Permit No. PSD-ML-R50005-02-0) for the facility on November 10, 2002. In accordance with 40 C.F.R. § 71.6(a)(1), the applicable PSD permit terms were included in the permit with the exception of the Notification of Construction and Startup requirements. EPA has not incorporated Notification of Construction and Startup requirements into the Title V permit because, as requirements that applied only at the time of construction and initial startup, they are obsolete.

EPA modified the source's PSD Permit (Permit No. PSD-ML-2711500031-2010-02) on December 30, 2010. The modified permit included a revised schedule for performance testing, and explained the rationale for the modification in the statement of basis to the modified permit. The revised schedule was included in the initial Title V permit at section 3.0(d).

b. Title V Permitting

In accordance with the CAA (42 U.S.C. § 7661a(a)), it is unlawful for a source required to have a PSD permit (issued under Title I of the CAA) to operate without a permit issued under Title V of the CAA. Therefore, the Permittee must obtain a Title V permit.

c. Restrictions on Potential To Emit

Potential to emit is defined in 40 C.F.R. § 52.21 as the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation, or the effect it would have on emissions, is federally enforceable.

The facility is a synthetic minor source because it has taken limits on NO_x emissions and operating hours. Grand Casino Hinckley has requested that limits on its potential to emit for generator sets EU001 – EU003 from the 2002 PSD permit be carried over into its Title V permit to avoid certain regulatory requirements which could apply only to major sources.

d. 40 C.F.R. Parts 61 and 63 - National Emission Standards for Hazardous Air Pollutants (NESHAP)

The facility has the potential to emit all HAPs at a rate of 0.3 tons per year. As a result, the facility does not have the potential to emit 10 tons per year or more of any

single HAP or 25 tons per year or more of total HAPs. Therefore, the facility is not a major source of HAPs. However, since the facility emits some HAPs, the facility is an area source of HAPs.

Pursuant to 40 C.F.R. § 63.6585, EU001 – EU005 are subject to 40 C.F.R. Part 63, Subpart ZZZZ (RICE NESHP), since the engines are stationary RICE engines located at an area source of HAPs. Pursuant to 40 C.F.R. § 63.6590(a)(1)(iii), each engine is considered an existing stationary RICE since the engines were all constructed before June 12, 2006. EU001-EU003 are compression ignition (CI), non-emergency, non-black start stationary RICE with a site rating of greater than 500 horsepower as defined in 40 C.F.R. § 63.6675. EU004 and EU005 are CI emergency stationary RICE as defined in 40 C.F.R. § 63.6675.

Pursuant to 40 C.F.R. § 63.6595(a)(1), the initial compliance date for EU001-EU005 was May 3, 2013. The Permittee installed oxidation catalysts on EU001-EU003. The Permittee also installed continuous parameter monitoring systems (CPMS) in accordance with 40 C.F.R. § 63.6625(b). The Permittee conducted an initial performance test for EU001-EU003 and set the required parameters for both the CO reduction requirements and CO limitation requirements. The Permittee submitted the Notification of Compliance Status, as required by 40 C.F.R. § 63.6630(c). As a result, initial compliance requirements have not been included in this permit.

Pursuant to 40 C.F.R. § 63.6665, EU001-EU005 are subject to the General Provisions stated in 40 C.F.R. § 63.1-63.15.

c. Compliance Schedule

Grand Casino Hinckley has previously not been in compliance with its NO_x emission limit of 6.55 g/bhp-hr for EU001, EU002, and EU003 and has requested a revision to its NO_x emission limit. Since Grand Casino Hinckley has not been able to maintain compliance, additional monitoring has been added to the Title V permit as part of a compliance schedule. Grand Casino Hinckley is required to conduct a performance test within 180 days of permit issuance for EU001-EU003 to demonstrate compliance with the NO_x emission limits. Method 7E will be used for testing NO_x emissions and Method 19 will be used to calculate NO_x emissions. In addition, the performance testing frequency for EU001-EU003 to demonstrate compliance with the NO_x emission limits has been increased to once every 3 years as opposed to once every 5 years. The monitoring frequency and methods are further discussed in Section 5 of this Statement of Basis.

f. 40 C.F.R. Part 82 – Protection of Stratospheric Ozone

In accordance with 40 C.F.R. § 71.6, the permit contains all applicable requirements, which includes any standard or other requirement of the regulations promulgated at 40 C.F.R. Part 82 to protect stratospheric ozone under Title VI of the Act, unless the Administrator has determined that such requirements need not be contained in a title

V permit. Grand Casino Hinckley is subject to all applicable standards provided in 40 C.F.R. Part 82, except as provided for motor vehicle air conditions at 40 C.F.R. Part 82, Subpart B.

4. NONAPPLICABILITY DETERMINATIONS

a. 40 C.F.R. Part 60 - New Source Performance Standards (NSPS)

40 C.F.R. Part 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, establishes emission standards and compliance requirements for the control of emissions from stationary compression ignition internal combustion engines that commenced construction, modification, or reconstruction after July 11, 2005. 40 C.F.R. Part 60, Subpart IIII, does not apply to the Grand Casino Hinckley facility because the generator sets were constructed before July 11, 2005.

- b. At the time of this Title V issuance, the EPA has determined that no other non-applicable requirements have been identified for incorporation into the permit shield set forth in 40 C.F.R. § 71.6

5. MONITORING REQUIREMENTS

a. Monitoring Required by Compliance Schedule

1. Compliance Schedule Performance Testing

In accordance with the sufficiency monitoring requirements in 40 C.F.R. § 71.6(c), additional performance testing is being added to the permit to supplement monitoring at the source as opposed to including an applicable monitoring requirement (40 C.F.R. § 71.6(a)(3)(i)(A) or periodic monitoring (40 C.F.R. § 71.6(a)(3)(i)(B)).

The supplemental testing required will be in the form of a performance test for EU001-EU003 to demonstrate compliance with the NOx emission limits. The testing must be completed within 180 days of permit issuance. Method 7E will be used for testing NOx emissions and Method 19 will be used to calculate NOx emissions.

b. Monitoring Required by Applicable Requirements

1. Performance Testing

In accordance with the PSD Permit (Permit No. PSD-ML-271150003-2010-02), performance testing is required for EU001-EU003 to demonstrate compliance with the NOx emission limits. The PSD Permit requires performance testing to be completed every 5 years. In order to streamline the requirements of the PSD

Permit and the monitoring requirements provided in 40 C.F.R. § 71.6(c), the performance testing required by this permit must be completed every 3 calendar years. Performance testing every 3 years is more stringent than the previous requirement of performance testing every 5 years. Method 7E is used for testing NO_x emissions and Method 19 is used to calculate NO_x emissions.

In accordance with 40 C.F.R. § 63.6612(a) and 40 C.F.R. § 63.6640(a), performance testing is required every 8,760 hours or 3 years. The CO concentration must be at 15 percent O₂, dry basis. The CO concentration is measured using Method 10 and the O₂ concentration is measured using Method 3A.

2. Annual Testing

In accordance with the PSD Permit (Permit No. PSD-ML-R50005-02-0), annual testing is required for EU001-EU003 to demonstrate compliance with the NO_x emission limits. The annual test must be completed annually, at about the anniversary of the initial compliance test using the ICAC Test Method for Periodic Monitoring using a portable electrochemical analyzer.

3. Continuous Monitoring

In accordance with the PSD Permit (Permit No. PSD-ML-R50005-02-0), the aftercooler water temperature and the intake manifold pressure shall be continuously monitored. The continuous operating system shall be operated and maintained in accordance with 40 C.F.R. § 63.8 and 40 C.F.R. § 63.6625(b).

Pursuant to 40 C.F.R. § 63.6625, CO and O₂ shall be continuously monitored using a CPMS and operated in accordance with 40 C.F.R. § 63.6625(b).

c. Compliance Assurance Monitoring (CAM)

Pursuant to 40 C.F.R. § 64.2, the CAM requirements of 40 C.F.R. Part 64 apply to a pollutant-specific emissions unit at a major source that is required to obtain a 40 C.F.R. Part 71 permit if the unit satisfies all of the following criteria:

- i. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or a standard that is exempt under 40 C.F.R. § 64.2(b)(1);
- ii. The unit uses a control device to achieve compliance with any such emission limitation or standard; and
- iii. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

EU001-EU003 are not subject to CAM. While each emission unit has a NOx emission limit, compliance with the emission limit is achieved through an enforceable restriction on its annual operating limitation and not through the use of a control device. EU001-EU003 are subject to 40 C.F.R. Part 63, Subpart ZZZZ, a standard proposed after November 15, 1990, pursuant to Section 112 of the Act, but are exempt from CAM pursuant to 40 C.F.R. § 64.2(b)(1)(i).

EU004 and EU005 are not subject to CAM. Both emissions units are not subject to emission limitations. EU004 and EU005 are both subject to 40 C.F.R. Part 63, Subpart ZZZZ, a standard proposed after November 15, 1990, pursuant to section 112 of the Act, but are exempt from CAM pursuant to 40 C.F.R. § 64.2(b)(1)(i).

6. CHANGES BETWEEN THE PREVIOUS PERMIT AND DRAFT PERMIT

a. Formatting Changes

The formatting of the permit has changed. As a result, condition numbering may have changed between the previous permit and the current permit. Where relevant, the numbering of a permit condition in the previous permit will be presented alongside the number of a permit condition in the current permit.

b. Applicant Requested Changes

Grand Casino Hinckley requested a revision to its NOx emissions limit, based on its recent stack test results. The NOx limit is an applicable requirement established in a PSD permit (Permit No. PSD-ML-2711500031-2010-02) issued pursuant to 40 C.F.R. § 52.21. Unless the applicable requirement is revised consistent with 40 C.F.R. § 52.21, the NOx limit in the Part 71 permit cannot be revised using the significant permit modification procedures of 40 C.F.R. § 71.7(c).

c. Regulatory Changes

Emergency generators EU004 and EU005 are being added to this permit. EU004 and EU005 were identified in the previous permit as insignificant emission sources, since their actual emissions are less than one ton per year each. The emergency engines have been included as emission units in this permit, due to amendments to 40 C.F.R. Part 63, Subpart ZZZZ, RICE NESHAP.

d. Monitoring Changes

Grand Casino Hinckley has not been able to consistently demonstrate compliance with its NOx emission limit of 6.55 g/bhp-hr for EU001, EU002, and EU003 using the portable electrochemical analyzer. Since the facility has not been able to demonstrate compliance using the annual testing requirements, additional periodic testing has been added to the Title V permit. A performance test will be completed within 180 days of permit issuance.

In addition, the performance testing frequency has been increased to once every 3 years as opposed to once every 5 years.