

Technical Support Document  
Air Quality Construction Permit  
Permit No. MIN-SM-27139R0005-2013-01

This document sets forth the legal and factual basis for permit conditions, with references to applicable statutory and regulatory provisions, including provisions under the Federal Minor New Source Review Program in Indian Country, 40 C.F.R. §§ 49.151 - 49.161.

1.0 GENERAL INFORMATION

(A). Applicant and Stationary Source Information

Owner	Facility (SIC Codes: 4911)
Shakopee Mdewakanton Sioux Community of Minnesota 2330 Sioux Trail NW Prior Lake, MN 55372	New Little Six Casino 2450 Sioux Trail NW Prior Lake, MN 55372 Scott County

(B). Contact Information

Responsible Official: Charlie Vig, Tribal Chairman  
2330 Sioux Trail NW  
Prior Lake, MN 55372  
Phone: (952) 496-6109

Permit Contact: Stanley Ellison, Director of Land and Natural Resources  
Phone: (952) 496-6158  
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(C). Background and Facility Description

Shakopee Mdewakanton Sioux Community of Minnesota (SMSC) is a federally recognized Indian tribe. SMSC currently owns more than 3,300 acres of land in Prior Lake and Shakopee, Minnesota, in both fee lands and U.S. trust title. SMSC operates several businesses, community organizations, and a tribal government. However, SMSC has not developed Clean Air Act programs to, among other things, attain or maintain National Ambient Air Quality Standards within its jurisdiction. As a result, the U.S. Environmental Protection Agency (EPA) retains responsibility for implementing the Clean Air Act on both fee lands and lands held by the U.S. in trust for the SMSC.

New Little Six Casino (NLSC) is an enterprise of SMSC and is located on reservation lands held by the United States government in trust for the SMSC; therefore, the EPA is responsible for issuing and enforcing any air quality construction permits for the source. SMSC originally constructed NLSC in 2007 and, as part of the construction, installed an emergency generator, Emission Unit (EU) 112. EU 112 is the only emissions unit located at NLSC, and, according to manufacturer's data submitted by SMSC with the application for this permit, does not emit any criteria pollutant in amounts above major source thresholds. This permit is an after-the-fact minor source construction permit.

Facility Emissions:

Table 1: Total Facility Potential-to-Emit Summary

	NO <sub>x</sub> tpy	CO tpy	PM tpy	PM <sub>10</sub> tpy	PM <sub>2.5</sub> tpy	SO <sub>2</sub> tpy	VOC tpy	Single HAP tpy	All HAPs tpy	CO <sub>2e</sub>
Total Facility Potential Emissions	157.77	8.53	0.85	0.85	0.85	2.56	3.41	0.07	0.13	14,268

(D). Area Classification

The facility is located in Scott County, which is designated attainment with National Ambient Air Quality Standards for all criteria pollutants. There are no Prevention of Significant Deterioration Class 1 areas within 100 kilometers of the NLSC or the SMSC reservation.

2.0 PROCESS DESCRIPTION

(A). Description of Permit Action

SMSC owns and operates one diesel-fired emergency generator, designated as EU 112, at the New Little Six Casino, 2400 Sioux Trail NW, Prior Lake, Minnesota. SMSC is applying for an after-the-fact construction permit for the installation of its diesel-fired generator to operate as a load shed or peak shaving generator and the installation of equipment to allow the Minnesota Valley Electric Cooperative to switch the generator to peak load status when required. EPA is issuing this after-the-fact minor construction permit following SMSC and EPA's entry into an Agreed Consent Order (ACO), which included EU 112. The ACO provides that all emission units listed in Attachment A to the ACO were subject to PSD, and requires SMSC to submit an application for either an after-the-fact PSD permit or an after-the-fact synthetic minor NSR permit for each of the specified emissions units. However, according to updated manufacturer emission data provided by SMSC in its application for this permit, EU 112 does not emit any criteria pollutants at levels greater than significance thresholds. Therefore, EPA is permitting EU 112 at NLSC as a true minor source under the Federal Minor New Source Review Program in Indian Country, 40 C.F.R. §§ 49.151 - 161.

EU 112 is a Caterpillar Model 3516C diesel-fired generator. The engine is rated at 2,937 horsepower which provides up to 2,000 kilowatts of power. This engine burns 142.1 gallons of ultra low sulfur (0.0015%) diesel fuel per hour when operated at maximum capacity.

(B). Table 3: Emission Unit Specifications

Emission Unit	Make & Model	Serial Number	Month/Yr Mfg	Month/Yr Installed	Primary Fuel	Horse Power	Power Rating	MMBtu/hr	Fuel Flow
112	Caterpillar 3516C	SBJ00327	September 2007	September 2007	Ultra low-sulfur (0.0015%) Diesel fuel only	2,937	2,000	19.47	142.1 gallons per hour

(C). Enforcement Issues

On March 13, 2012, EPA and the SMSC entered into an ACO (EPA-5-11-113(a)-MN-02) to resolve alleged violations for constructing and operating specified generators at the Mystic Lake Casino Hotel (MLCH) without first obtaining permits to construct. The ACO established a schedule for submittal of after-the-fact permit applications for the unpermitted generators with potential to emit greater than the major source thresholds for various criteria pollutants. Attachment A of the ACO requires permit applications for the MLCH generators identified as EU 103, 104, 109, 110, 111, 113, 114 and 115, the Dakota Sport and Fitness generators identified as EU 204, 213 and 214, as well as EU 112 at the New Little Six Casino. Applications were to be submitted by May 31, 2012, and SMSC has satisfied this ACO deadline. However, as explained above, according to updated manufacturer emission data, EU 112 does not emit any PSD criteria pollutants at levels greater than significance thresholds. Therefore, SMSC has requested that EPA permit EU 112 at NLSC as a true minor source.

There are no other federal enforcement actions proceeding against SMSC at this time.

(D). Pollution Control Equipment

The engine utilizes lean-burn combustion and is equipped with a turbocharger, aftercooler, and a catalytic converter to reduce carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), and volatile organic compounds (VOC). This equipment is control equipment that is inherent to the generator and is not identified as add-on pollution control equipment.

SMSC must certify that EU 112 meets EPA's New Source Performance Standards Subpart IIII Tier 2 emission standards.

3.0 APPLICABLE REQUIREMENTS

(A). Prevention of Significant Deterioration (PSD)

This source is not currently subject to the requirements of 40 C.F.R. § 52.21 based on its potential to emit and the definition of "major source" in 40 C.F.R. § 52.21. According to manufacturer emission data provided within the permit application, the highest amount of a PSD

pollutant from EU 112 is an uncontrolled PTE of 157 TPY for NO<sub>x</sub>, which is below the major source threshold for a criteria pollutant for this type of source, and therefore does not constitute a major stationary source. SMSC is therefore requesting an after-the-fact minor NSR permit.

(B). 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 state or federal physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions 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 enforceable as a practical matter. In this case, since the PTE of EU 112 is less than significance thresholds, restrictions on PTE are not necessary to avoid PSD permitting. As a result, no other limits, such as a limitation on hours of operation, are needed. Furthermore, EU 112 is designed to be an emergency unit and in practice may never operate near the full PTE estimated within this TSD. The maximum usage allowed under this permit is 700 hours/year, comprising 100 hours of emergency operation as well as 600 hours of operation as a peak shaving unit.

(C). 40 C.F.R. §§ 49.151-161: Federal Minor New Source Review Program in Indian Country

40 C.F.R. § 49.152(d) defines a true minor source as, among other things, a source that has the potential to emit regulated NSR pollutants in amounts that are less than the major source thresholds of 40 C.F.R. § 52.21 but equal to or greater than the minor NSR thresholds in 40 C.F.R. § 49.153. As explained above, EU 112 does not have the potential to emit any regulated NSR, or criteria, pollutant in amounts exceeding the major source threshold. However, EU 112 emits NO<sub>x</sub> at a rate exceeding the minor source threshold. Therefore, NLSC is a true minor source and EPA is issuing the after-the-fact minor source permit under the Federal Minor New Source Review Program in Indian Country at 40 C.F.R. §§ 49.151-161.

(D). 40 C.F.R. Part 60, Subpart IIII: Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (NSPS IIII)

The New Source Performance Standards, 40 C.F.R. Part 60, Subpart IIII applies to generators ordered after July 11, 2005 and manufactured after April 1, 2006. Generator EU 112 was ordered after July 11, 2005 and manufactured after April 1, 2006 and, therefore, is subject to this NSPS. This emissions unit was manufactured to meet NSPS IIII EPA Tier 2 emissions standards. EU 112 is a 2007 model year internal combustion engines (ICE) and was installed in September of 2007. NSPS applicability is based on this date. EU 112 is a non-emergency, stationary, compression-ignition (CI) ICE with a displacement of less than 30 liters per cylinder. The following conditions apply to EU 112:

- i. 40 C.F.R. § 60.4204(b) applies because EU 112 is a 2007 model year non-emergency, stationary, compression-ignition, internal combustion engine with a displacement of less than 30 liters per cylinder.

- ii. The emission standards referred to in 40 C.F.R. § 60.4201(a) apply to the manufacturer of EU 112 because EU 112 is subject to 40 C.F.R. § 60.4204(b) and has a maximum engine power less than or equal to 2,237 kilowatt (KW). The manufacturer is required to certify that the engine meets the emission standards listed 40 C.F.R. §§ 89.112 and 89.113. The requirements of 40 C.F.R. §§ 1039.101 – 1039.115 do not apply because EU 112 is not a model year 2014 or later ICE.
  - iii. 40 C.F.R. § 60.4206 applies because EU 112 is a CI ICE that must achieve the emission standards in 40 C.F.R. § 60.4204(b). This condition requires the engine to achieve the required emission standards throughout the life of the engine.
  - iv. The fuel standards of 40 C.F.R. § 60.4207(a) and (b) apply because EU 112 is a CI ICE with a displacement of less than 30 liters per cylinder that uses diesel fuel. The effective date of these conditions (October 1, 2007 and October 1, 2010) have already passed.
  - v. The monitoring requirements of 40 C.F.R. § 60.4209 apply because the Permittee owns and operates EU 112, a stationary CI ICE. The only applicable requirement is to comply with 40 C.F.R. § 60.4211. The requirements of 40 C.F.R. § 60.4209(a) and (b) do not apply because EU 112 meets the standards applicable to non-emergency engines and is not equipped with a diesel particulate filter.
  - vi. The compliance requirements of 40 C.F.R. § 60.4211(a) apply because the Permittee must comply with the emission standards listed in 40 C.F.R. § 60.4204(b), and as required by 40 C.F.R. § 60.4209.
  - vii. The compliance requirements of 40 C.F.R. § 60.4211(c) apply because the Permittee owns and operates EU 112. This requires the Permittee to purchase an engine that has been certified to meet the emission requirements in 40 C.F.R. § 60.4204(b).
  - viii. 40 C.F.R. § 60.4218 applies because the Permittee is subject to 40 C.F.R. Part 60, Subpart III. Conditions in Table 8 to 40 C.F.R. Part 60, Subpart III, apply to the Permittee as listed.
- (E). National Emissions Standards for Hazardous Air Pollutants (NESHAP) – 40 C.F.R. Part 63, Subpart ZZZZ, National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal combustion Engines (RICE MACT)

In accordance with 40 C.F.R. § 63.6585, a source is subject to the RICE MACT if it operates a stationary reciprocating internal combustion engine (RICE) at an area source of hazardous air pollutant (HAP) emissions. The facility is an area source for HAP emissions, as defined in 40 C.F.R. § 63.6675, because it emits less than 10 tpy of any single HAP and less than 25 tpy of total HAPs. For the purpose of this subpart, EU 112 is a new, non-emergency, non-black start, compression ignition RICE, as defined in 40 C.F.R. §§ 63.6590 and 63.6675.

Generator EU 112 is a compression ignition engine that was manufactured after June 12, 2006. Therefore, the engine is a new stationary RICE source and must meet the requirements of the RICE MACT by meeting the requirements of 40 C.F.R. Part 60, Subpart IIII. This unit was manufactured to meet the NSPS Subpart IIII standards. The applicable requirements of the RICE MACT are specified in the permit.

(F). Monitoring

For EU 112, a limitation on NO<sub>x</sub> emissions has been established at 35.93 lbs/hr. Monitoring and testing to assure compliance with the hourly limit has also been established (performance testing and adherence to an Operation and Maintenance manual). An initial performance test for EU 112 is required within 180 days of issuance of this permit. Subsequent performance testing for EU 112 is required at least once every five years. The performance testing interval is set at once every five years. This is adequate for an emission unit such as EU 112 that is designed to operate as a load shed and/or peak shaving generator. Additionally, the facility has submitted an Operation and Maintenance plan that will be followed to assure that EU 112 is maintained to operate at its optimum performance. The combination of a performance test every five years along with adherence to an Operation and Maintenance plan is a sufficient means of demonstrating compliance with the applicable hourly limit.

(G). Endangered Species Act

According to U.S. Fish and Wildlife distribution lists, there are no endangered or threatened species or critical habitat present in Scott County. Therefore, further analysis and consultation is not required under Section 7(a) of the Endangered Species Act.