

Technical Support Document - DRAFT PERMIT
Air Quality Construction Permit
Permit No. SYN-SM-27139R0001-2012

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 tribal New Source Review program, 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 2330 Sioux Trail NW Prior Lake, MN 55372	Mystic Lake Casino Hotel 2400 Mystic Lake Boulevard Prior Lake, MN 55372 Scott County

(B) Contact Information

Responsible Official: Stanley Crooks, Tribal Chairman
2330 Sioux Trail NW
Prior Lake, MN 55372
Phone: (952) 496-6153

Permit Contact: Stanley Ellison, Director
Phone: (952) 496-6158
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(C) Background and Facility Description

Shakopee Mdewakanton Sioux Community (SMSC) is a federally recognized Indian tribe. SMSC's reservation is located in Prior Lake, Minnesota and is comprised of approximately 2,800 acres. SMSC operates several businesses within the boundaries of their reservation, including two casinos, a fire department and a public works department. The EPA retains responsibility for implementing the Clean Air Act within Indian country in Minnesota, including within the SMSC reservation.

Facility Emissions:

Table 1. Total Facility Potential to Emit Summary

	PM Tpy	PM ₁₀ tpy	PM _{2.5} tpy	SO _x tpy	NO _x tpy	CO tpy	VOC tpy	Lead tpy	Single HAP tpy	All HAPs tpy
Total Facility Potential Emissions	23.8	23.8	23.8	1.7	2,140.8	232.3	50.7	0.0003	0.7	1.4
Total Facility Actual Emissions	0.3	0.3	0.3	0.01	26.1	2.9	0.6	0	0.007	0.01

(D) Area Classification

Mystic Lake Casino Hotel is located on reservation lands held by the United States government in trust for the SMSC. Currently, SMSC owns more than 2,800 acres of land in Prior Lake and Shakopee, Minnesota. The EPA is responsible for issuing and enforcing any air quality permits for this source until such time as the Tribe or State has EPA approval to do so.

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 I areas within 100 kilometers of the Mystic Lake Casino Hotel Complex or the SMSC reservation.

2.0 PROCESS DESCRIPTION

(A) Description of Permit Action

SMSC has begun construction on three identical diesel-fired generators at its Mystic Lake Casino Hotel, located at 2400 Mystic Lake Boulevard, Prior Lake, Minnesota. The generators will provide emergency backup power and peak load management for the casino and hotel under contract with the Minnesota Valley Electric Cooperative. The SMSC has applied for limits on the generators' fuel usage so that emissions from the project remain below major Prevention of Deterioration thresholds. EPA is issuing this synthetic minor permit following SMSC and EPA's entry into an Agreed Consent Order.

The three engines which are the subject of this construction permit are Caterpillar Model 3516C generators. Each engine operates at a rated speed of 1,800 revolutions per minute and produces 2,990 horsepower (2,230 kW). Each will burn approximately 142 gallons per hour of ultra low sulfur (0.0015%) diesel fuel when operated at maximum capacity.

(B) Table 2. Emission Unit Summary:

Emission Unit	EU116	EU117	EU118
Unit Type	Engine/generator	Engine/generator	Engine/generator
Manufacturer/Model	Caterpillar Model 3516C	Caterpillar Model 3516C	Caterpillar Model 3516C
Power Rating	2,230 kW	2,230 kW	2,230 kW
Exhaust Height	15.75 feet	15.75 feet	15.75 feet
Exhaust Diameter	12 in	12 inches	12 inches
Exhaust Flow	7,647.4 ACFM	7,647.4 ACFM	7,647.4 ACFM
Exhaust Temperature	752.2 F	752.2 F	752.2 F
Fuel Type	Ultra low (0.0015%) sulfur diesel fuel only	Ultra low (0.0015%) sulfur diesel fuel only	Ultra low (0.0015%) sulfur diesel fuel only

(C) Table 3. Project Potential to Emit Summary

	PM	PM ₁₀	PM _{2.5}	SO ₂	NOx	CO	VOC	Lead	Single HAP	All HAPs	CO _{2e}
Potential hourly emissions per engine (lb/hr)	0.2	0.2	0.2	0.03	35.9	2.0	0.7	0	0.02	0.03	3,264.7
Potential hourly emissions for 3 engines (lb/hr)	0.6	0.6	0.6	0.09	107.7	6.0	2.1	0	0.05	0.09	9,794.1
Potential emissions for 3 engines (tpy)	2.6	2.6	2.6	0.4	471.6	26.3	9.2	0	0.2	0.4	42,897
Project Potential to Emit (Limited to 99,610 gal/yr)	0.3	0.3	0.3	0.03	37.8	2.1	0.9	0	0.02	0.03	3,428

(D) Enforcement Issues

EPA and SMSC have resolved in principle the alleged failure by SMSC to obtain a construction permit prior to commencing construction of the three generators that are the subject of this permitting action, through an Agreed Consent Order.

(E) Pollution Control Equipment

The proposed generators will be required to be certified to meet New Source Performance Standards (NSPS) IIII, EPA Tier 2 emissions standards. To meet the emission standards the engines use a catalytic converter to reduce carbon monoxide (CO), nitrogen oxides (NOx), and volatile organic compounds (VOC). The catalytic converter is an inherent part of the process.

(F) 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.

2.0 APPLICABLE REQUIREMENTS

(A) Prevention of Significant Deterioration (PSD)

This source is 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. The three new generators constitute major modifications to a major stationary source, based upon their uncontrolled potential to emit. SMSC has requested that operating conditions be placed into the permit to avoid PSD applicability for the project. Minor source limitations are possible under EPA’s minor source program for Indian country, codified at 40 C.F.R. § 49.151, *et. seq.*

(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 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 federally enforceable. Although SMSC is subject to the requirements of the PSD permitting program based on its potential to emit, it has relatively low actual emissions. SMSC has requested that limits on its potential to emit for generators 116, 117 and 118 be set in its construction permit to avoid major source modification regulatory requirements. Limits have been set to restrict fuel usage to below 99,610 gallons per year per unit, based on a 12 month rolling sum. The type of fuel is also restricted to ultra low diesel fuel with a maximum sulfur content of 0.0015 percent. Restrictions on potential to emit will be monitored with monthly recordkeeping requirements and with testing requirements on the generators. Each generator will be required to be tested for NOx emissions on a rotating basis, once every three years, which is consistent with similar permits issued in non-Indian Country in Minnesota.

(B) New Source Performance Standards (NSPS)

The proposed engines are required to be certified to meet NSPS IIII, EPA Tier 2 emissions standards. To meet the emission standards the engines use a catalytic converter to reduce carbon

monoxide, nitrogen oxides, and volatile organic compounds. The catalytic converter is considered an inherent part of the process, not add-on pollution control equipment.

(C) National Emissions Standards for Hazardous Air Pollutants (NESHAP)

The proposed engines are an area source of hazardous air pollutants (HAP) because they have a potential to emit any single HAP at a rate lower than 10 tons per year or any combination of HAPs at a rate lower than 25 tons per year. They are new stationary reciprocal internal combustion engine (RICE) units because they will be installed after June 12, 2006. 40 C.F.R. Part 63, Subpart ZZZZ allows affected sources to meet the requirements of the subpart by meeting the requirements of 40 C.F.R. Part 60, Subpart III. There are no additional control requirements under Subpart ZZZZ.