STATEMENT OF BASIS
DRAFT RENEWAL TITLE V OPERATING PERMIT FOR
TURNING STONE CASINO RESORT-2020

Today's Draft Renewal Title V Operating Permit

EPA Region 2 is issuing a draft renewal title V operating permit, pursuant to 40 CFR Part 71, to Turning Stone Casino and Resort (Turning Stone). Turning Stone submitted a timely renewal application which was determined to be complete on February 6, 2020. The earlier permit expired on February 3, 2020. In its renewal application, Turning Stone included 35 small hot water heaters and boilers as Insignificant Emission Units. The heaters and boilers use natural gas as fuel and range in size from 0.07 MMbtu/hour to 3.35 MMBtu/hr. Turning Stone estimated that the total nitrogen oxides (NOx) potential to emit (PTE) for these insignificant emissions units to be 3.35 tons/year. Turning Stone is a major source only because of its NOx PTE estimated at 159.42 tons/year. Below is a record of the historic permitting actions that took place at Turning Stone.

March 8, 2017 - Minor Permit Modification:

Turning Stone removed from service Onan 500DFFB, an existing generator (Emission Unit ES005/Equipment ID GL003) and replaced it with an existing (constructed in 2004) Caterpillar #3412C (750 kw- 1005 HP-CI Diesel) generator. The Caterpillar unit is limited to operate for no more than 900 hours per year to keep its PTE lower than the Onan unit that it replaced. TSCR is not an existing major source for the PSD/NSR purposes and the change by itself did not constitute a major modification. Since the PTE of the Caterpillar generator is lower than the unit it replaced, the Tribal Minor NSR rule also did not apply to this modification.

February 4, 2015 Modified Permit:

EPA Region 2 issued a final modified title V operating permit, pursuant to 40 CFR Part 71, to Turning Stone. Turning Stone modified its facility by removing one existing backup Detroit Diesel 500DS generator and replacing it with three new emergency generators; namely, Cummins 500DFEK (Diesel), Cummins 450GFGA (Natural Gas) and Kohler 300REOZV (Diesel). The diesel engines were Compression Ignition (CI) and the gas engine was Spark Ignition (SI). Since all three engines were constructed in June 2013, they were considered new pursuant to 40 CFR Part 63, Subpart ZZZZ. Subpart ZZZZ requires that all new engines comply with 40 CFR Part 60, Subpart IIII (Compression Ignition Engines) or Subpart JJJJ (Spark Ignition Engines). The modified permit included compliance requirements from Subparts IIII and JJJJ for emergency generators. These requirements limit the operation of each engine to 100 hours per year for any non-emergency purposes. There are no limit on operating these engines for any emergency purposes. There are six back up and three emergency generators on site at Turning Stone.

Initial and 2011 renewal Permits

The initial permit was issued on February 22, 2006 and was renewed on July 5, 2011.
Turning Stone is located in the Oneida Indian Nation, in Verona, New York. Verona is located in an ozone transport region, which is designated a "moderate" non-attainment area for ozone. In moderate non-attainment areas for ozone, a source would be considered "major" for New Source Review (NSR) purposes if its potential nitrogen oxide (NOx) emissions are 100 tons per year

(tpy) or more. Or, its potential VOC emissions are 50 tpy or more. EPA remains the permitting authority for this facility because the Oneida Indian Nation does not have an EPA-approved title V operating permit program under 40 CFR Part 70.

Turning Stone operates a Solar/Taurus 60-7800S combined cycle combustion turbine, four natural gas steam boilers and seven backup diesel generators as part of its central utility plant. The combined cycle combustion turbine is subject to the New Source Performance Standards (NSPS) at 40 CFR Part 60, Subpart GG, because it was constructed after October 3, 1977, and its heat input rate is greater than 10 million Btu per hour. The four natural gas-firing steam boilers are subject to the NSPS at 40 CFR Part 60, Subpart Dc, because each of them was constructed after June 9, 1989, and each of their heat input rates is between 10 and 100 million Btu per hour. At the time that EPA issued the initial operating permit, there was no NSPS applicable to new diesel generators. On March 3, 2010, EPA finalized amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE), at 40 CFR Part 63, Subpart ZZZZ. The seven backup diesel generators are subject to the RICE NESHAP because they are stationary RICE owned or operated at an "area source" of hazardous air pollutant (HAP) emissions. The applicable NESHAP requirements for the stationary RICE generators are included in the renewal permit. In addition, each generator's potential to emit (PTE) NOx is limited by restricting its operation to no more than 1,000 hours per year, which would result in total NOx emissions less than the NSR applicability threshold (see 40 CFR Part 51, Appendix S).

Prior to construction of the new central utility plant in 2004-2005, Turning Stone was an existing non-major source of NOx emissions, with a PTE of approximately 90 tpy. Although Turning Stone had never been issued any air permit from any regulatory entity, EPA concluded that the PTE of the two existing steam boilers and six existing generators could be estimated using 8,760 hours per year of use for the boilers and 1,000 hours per year of use for each generator. The PTE for these existing sources (90 tpy) was calculated using the EPA emission factors for these types of emission sources. The addition of the central utility plant (consisting of the Solar/Taurus turbine, two steam boilers and one backup diesel generator) was a modification to the facility that added approximately 60 tpy to the NOx PTE estimate, making the facility a "major source" of NOx emissions for NSR purposes. Upon completion of this plant, Turning Stone operated a total of one combustion turbine, four steam boilers and seven backup diesel generators. The PTE for all other criteria pollutants such as carbon monoxide (86.11 tpy), sulfur dioxide (87.85 tpy), particulate matter (20.64 tpy) and volatile organic compounds (13.86 tpy) are below the NSR major source threshold levels. This facility is not a "major source" of HAP emissions, which by definition makes the facility an "area source" of these emissions. A description of the combustion units, and a summary of the applicable requirements and the rationale for these requirements, are provided below.

Solar/Taurus Combustion Turbine: This is a natural gas fired 5.3 MW average electricity generating turbine that also produces steam. This unit would have been required to undergo major new source review if it had a PTE of 100 tpy or more of NOx. EPA determined that a NOx limit of 178 ppmdv (NSPS Subpart GG) would cause this unit's PTE to exceed 100 tpy and would require a major NSR review. Therefore, to avoid major NSR requirements under 40 CFR Part 51, Appendix S, Turning Stone is required by this permit to limit this unit's NOx PTE to

26.30 tpy, at a 6.00 lbs/hr emission rate, which would keep the unit's NOx emissions below the 100 tpy NSR applicability threshold. This emission level is set in consideration of the physical limitations of the turbine as per the manufacturer's design specifications. The manufacturer has provided emissions data based on the unit's design, and subsequent testing indicated that the 6.00 lbs NOx/hr emission limit is achievable. The monitoring, record keeping and reporting provisions are applicable pursuant to 40 CFR Part 60, Subpart GG. This permit also requires NOx stack testing every five years.

Steam Boilers: There are three natural gas-fired boilers and one natural gas/distillate oil-fired boiler (20.4 to 33.5 MMBtu/hr) that produce steam and hot water at this facility. Since these boilers will use primarily natural gas as fuel, 40 CFR Part 60, Subpart Dc requires that the fuel use be monitored and recorded. A 20 percent opacity limit is required when a boiler is firing the distillate fuel oil, which must have a sulfur content of no greater than 0.5 weight percent. The monitoring, recordkeeping and reporting requirements are applicable to Turning Stone pursuant to 40 CFR Part 60, Subpart Dc and the general title V permit requirements of 40 CFR Part 71.

Backup Diesel Generators: There are seven backup diesel generators (about 280 HP to 2250 HP) that will use low sulfur (less than 0.5 weight percent) distillate oil to produce power occasionally. Each generator is limited to operate at a maximum of 1,000 hours per year. Emission limits for carbon monoxide, and monitoring, record keeping and reporting requirements, are applicable pursuant to 40 CFR Part 63, Subpart ZZZZ and the general title V permit requirements in 40 CFR Part 71.

In general, the facility will measure and record fuel use and estimate a unit's emissions by multiplying its fuel use amount by its heat content and the associated emission factor. The heat content value will be based on the value used in the application, i.e., 142,000 Btu per gallon for oil and 1,000 Btu per standard cubic feet for natural gas. The emission factor for the combustion turbine will be based on a stack test. For all other units, the emission factors will be based on EPA's AP-42 reference manual. In addition, all of the backup diesel generators began complying with the applicable emission limit, notification, record-keeping and reporting requirements of the RICE NESHAP on or before May 3, 2013.

This facility is a "major source" of NOx under the NSR provisions referred to above. However, there are no air quality monitoring and/or modeling requirements that specifically apply to this facility because it was not previously a major source and it made a modification that is not a "major modification" of a major source. Further, it should be noted that the State rules do not apply to this facility because it is located in Indian country. The rest of the permit consists of standard permit conditions that apply to all Part 71 facilities.