

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT
NSPS SOURCE

PERMITTEE

Valley Run Stone
Attn: David Avery
10425 Joliet Road
Lisbon, Illinois 60541

Application No.: 02110033

I.D. No.: 093804AAF

Applicant's Designation:

Date Received: November 7, 2002

Subject: Sand and Gravel Plant and Power Generation

Date Issued:

Expiration Date:

Location: 10425 Joliet Road, Lisbon

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of

8 Crushers with Spray Bars
15 Screens
100 Conveyers/Transfer Points with Spray Bars
Sand Classifier with Dust Collector
Sand Dryer with Dust Collector
Natural Gas-Fired Reciprocating Engine (1,400 KW)

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds 100 Tons/yr of Nitrogen Oxides (NO_x) and 100 Tons/yr of Carbon Monoxide (CO). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. The 100 conveyors/transfer points, 8 crushers, and 15 screens are subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and OOO. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.

- b. Emissions of particulate matter from grinding mills, screens (except from truck dumping), bucket elevators, transfer points on belt conveyors, bagging operations, and storage bins, shall not exceed 10 percent opacity, (40 CFR 60.672(b) and (d)).
 - c. Emissions of particulate matter from the crushers (except from truck dumping) shall not exceed 15 percent opacity, (40 CFR 60.672(c) and (d)).
 - d. At all times the Permittee shall also, to the extent practicable, maintain and operate these sources, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
3. Operation and emissions of the aggregate processing plant shall not exceed the following limits:

<u>Equipment</u>	<u>Aggregate Throughput</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>		<u>(Lb/Ton)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
8 Crushers (Total)	2,500,000	12,500,000	PM	0.0012393	3,097.50	7.74
			PM ₁₀	0.00059	1,475.00	3.69
15 Screens (Total)	2,500,000	12,500,000	PM	0.00176	4,410.00	11.03
			PM ₁₀	0.00084	2,100.00	5.25
100 Transfer Points/ Conveyors (Total)	2,500,000	12,500,000	PM	0.0001	250.00	0.63
			PM ₁₀	0.000048	120.00	0.30

These limits are based on standard AP-42 emission factors, maximum throughputs, maximum processing rates, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 4a. Operation and emissions of the Natural Gas fired Reciprocating Engine shall not exceed the following limits:

<u>Equipment</u>	<u>Operation Period (Hours/Yr)</u>	<u>Pollutant</u>	<u>Emissions</u>	
			<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
Natural Gas-Fired Reciprocating Engine (1,400 KW)	2,340	NO _x	57.44	67.20
		CO	38.3	44.81
		TSP	0.12	0.14
		VOM	1.48	1.73
		SO ₂	0.01	0.01

These limits are based on manufacturer's testing data, maximum generating rates, 2,340 hours of operation, natural gas as the only

fuel fired in the engine, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Natural Gas shall be the only fuel fired in the Reciprocating Engine.
 - c. This permit is issued based on the engine not being an affected unit under the federal Acid Rain Program, 40 CFR part 72, because the engine will not be used to produce electricity for sale. Prior to selling power from the engine, the Permittee must obtain a new unit exemption under the Acid Rain Program, as provided by 40 CFR 72, and send a copy of that exemption to the Illinois EPA.
 - d. This permit does not authorize physical changes to the engine and associated electrical system, e.g., installation of equipment to synchronize in operation of the generator with the grid, to allow it to be used to produce electricity for sale.
- 5a. Operation and emissions of the Fuel oil combustion from the Sand Dryer shall not exceed the following limits:

<u>Process</u>	<u>Fuel-oil Usage</u>		<u>Pollutant</u>	<u>Emission Factor</u> (Lb/1,000 Gal)	<u>Emissions</u>	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>			<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Fuel-Oil Combustion	70,000	400,000	NO _x	20	1,400	4.00
			CO	5	350	1.00
			TSP	2	140	0.40
			VOM	0.2	14	0.04
			SO ₂	42.6	2,982	8.52

These limits are based on maximum firing rates, Distillate fuel oil as the only fuel fired in the dryer, a maximum sulfur content of 0.3%, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. Distillate Fuel with a sulfur content of 0.3% or less shall be the only fuel fired in the sand dryer.
6. Operation and emissions of the Sand processing plant shall not exceed the following limits:

<u>Equipment</u>	<u>Sand Throughput</u>		<u>Pollutant</u>	<u>Emission Factor</u> (Lb/Ton)	<u>Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>			<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Classifier with Dust Collection	19,000	190,000	PM	0.0083	157.7	0.79
			PM ₁₀	0.0042	79.8	0.40
Sand Dryer with Baghouse	19,000	190,000	PM	0.01	190.0	0.95
			PM ₁₀	0.005	95.0	0.48

These limits are based on standard AP-42 emission factors, maximum throughputs, maximum processing rates, and information provided in the application. Compliance with annual limits shall be determined from a running total of 12 months of data.

- 7a. The moisture content of the aggregate as crushed shall be at least 1.5% by weight so as to reduce emissions of particulate matter.
- b. The Permittee shall show compliance with this requirement as follows:
 - i. The moisture content of a representative sample of the aggregate shall be measured at least once per week using ASTM Procedures (C566-67) for total moisture content of material. Compliance with this requirement may be presumed if moisture content of aggregate as shipped is at least 1.5%; or
 - ii.
 - A. Water sprays shall be used at each crusher and on other emission units as necessary, except when weather conditions are below or expected to fall below freezing temperatures, to provide moisture that will reduce emissions of particulate matter.
 - B. The water supply to the spray equipment shall be equipped with a metering device used to determine water usage for the control of particulate matter emissions.
 - C. Inspections of water spray equipment and operation (such as leaking, adequate flow maintain, clogging of flow lines, etc.) shall be performed at least once per week when the facility is in operation, OR
 - iii. Water saturated materials mined below the water table are being processed.
- 8a. Within 60 days of a written request from the Illinois EPA, pursuant to 35 Ill Adm. Code Section 201.282, the opacity from an affected aggregate facility subject to the NSPS shall be measured during conditions which are representative of the maximum performance. The Illinois EPA may provide additional time for the performance of this testing upon request from the Permittee which shows that it is not feasible to perform representative testing within 60 days.
- b.
 - i. The following methods and procedures shall be used for opacity measurements.

USEPA Method 9, 40 CFR 60 Appendix A
 - ii. A test shall consist of 30 sets of 24 consecutive observations.
- c. Opacity measurements shall be performed by a certified observer.

- d. The Illinois EPA shall be notified prior to these measurements to enable the Illinois EPA to observe these measurements. Notification of the expected date of the measurements shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of measurement shall be submitted a minimum of five (5) working days prior to the actual date of the measurement. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the measurements.
9. The Final Report(s) for all performance tests shall be submitted within 60 days after the date of the test. The Final Report shall include as a minimum:
 - a. General information describing the test, including the name and identification of the emission source which was tested, date of test, names of personnel performing the tests, and Illinois EPA observers, if any;
 - b. A summary of results;
 - c. A copy of certification for opacity observation of the person who performed the test;
 - d. Detailed description of test conditions, including:
 - i. Process information, i.e., process rate and aggregate type.
 - ii. Control equipment information, i.e., equipment condition and operating parameters during testing.
- 10a. If the Permittee is relying on 7(b)(ii)(A) above to show compliance the Permittee shall maintain records of all moisture content tests performed, including date, time, individual performing test, location of sample e.g., prior to crushing or as shipped.

If the Permittee is relying on 7(b)(ii)(B) above to show compliance the Permittee shall maintain operating logs for the water spray equipment, including dates and times of usage, malfunctions (type date and measures taken to correct), water pressure, and dates when there was enough rain that the water spray equipment was not operated.
 - b. The Permittee shall maintain weekly records of water consumption in the spray equipment, as determined by the meter required by Condition 7(b)(ii)(B)(2).
11. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the pollution control equipment covered under this permit such that the pollution control equipment be kept in proper working condition and not

cause a violation of the Environmental Protection Act or regulations promulgated therein.

12. The Permittee shall maintain records of the vendor recommendations at the facility and be available for inspection and copying by the Illinois EPA.
13. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
14. The Permittee shall maintain the following records:
 - a. Hours of operation of the engine (hours/mo and hours/yr);
 - b. Fuel oil usage (gal/mo and gal/yr);
 - c. Sulfur content of each shipment of Fuel oil (% wt.);
 - d. Aggregate throughput of the facility (ton/mo and ton/yr); and
 - e. Sand throughput of the facility (ton/mo and ton/yr).
15. All records and logs required by this permit shall be retained at readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
16. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
17. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

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and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison
Des Plaines, Illinois 60016

If you have any questions on this, please call Eric Jones at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 1
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from Sand and Aggregate Plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario, which results in maximum emissions from such a plant. The following limits are part of the limiting the emissions of the facility to below major source thresholds: 2,340 Hours of operation of the Natural Gas fired Reciprocating Engine, 12,500,000 Tons/yr of Aggregate Throughput, 400,000 gallons of fuel oil usage, and 300,000 Tons/yr of Sand throughput. The resulting maximum emissions are well below the levels, e.g., 100 Tons/yr of Carbon Monoxide (CO) and 100 Tons/yr of Nitrogen Oxides (NO_x) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled.

1. Operation and emissions of the aggregate processing plant are not expected to exceed the following:

<u>Equipment</u>	<u>Aggregate Throughput</u>		<u>Pollutant</u>	<u>Emission Factor (Lb/Ton)</u>	<u>Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>			<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
8 Crushers (Total)	2,500,000	12,500,000	PM	0.0012393	3,097.50	7.74
			PM ₁₀	0.00059	1,475.00	3.69
15 Screens (Total)	2,500,000	12,500,000	PM	0.00176	4,410.00	11.03
			PM ₁₀	0.00084	2,100.00	5.25
100 Transfer Points/ Conveyors (Total)	2,500,000	12,500,000	PM	0.0001	250.00	0.63
			PM ₁₀	0.000048	120.00	0.30

These emissions are based on standard AP-42 emission factors, maximum throughputs, maximum processing rates, and information provided in the application.

2. Operation and emissions of the Natural Gas fired Reciprocating Engine are not expected to exceed the following:

<u>Equipment</u>	<u>Operation Period (Hours/Yr)</u>	<u>Pollutant</u>	<u>Emissions</u>	
			<u>(Lb/Hr)</u>	<u>(Ton/Yr)</u>
Natural Gas-Fired Reciprocating Engine (1,400 KW)	2,340	NO _x	57.44	67.20
		CO	38.3	44.81
		TSP	0.12	0.14
		VOM	1.48	1.73
		SO ₂	0.01	0.01

These limits are based on manufacturer's testing data, maximum Generating rates, 2,340 hours of operation, natural gas as the only fuel fired in the engine, and information provided in the application.

3. Operation and emissions of the Fuel oil combustion from the Sand Dryer are not expected to exceed the following:

<u>Process</u>	<u>Fuel-oil Usage</u>		<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>		<u>(Lb/1,000 Gal)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Fuel-Oil Combustion	70,000	400,000	NO _x	20	1,400	4.00
			CO	5	350	1.00
			TSP	2	140	0.40
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			SO ₂	42.6	2,982	8.52

These limits are based on maximum firing rates, Distillate fuel oil as the only fuel fired in the dryer, a maximum sulfur content of 0.3%, and information provided in the application

4. Operation and emissions of the Sand processing plant are not expected to exceed the following:

<u>Equipment</u>	<u>Sand Throughput</u>		<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>		<u>(Lb/Ton)</u>	<u>(Lb/Mo)</u>	<u>(Ton/Yr)</u>
Classifier with Dust Collection	19,000	190,000	PM	0.0083	157.7	0.79
			PM ₁₀	0.0042	79.8	0.40
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			PM ₁₀	0.005	95.0	0.48

These limits are based on standard AP-42 emission factors, maximum throughputs, maximum processing rates, and information provided in the application.

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PROJECT SUMMARY

I. INTRODUCTION:

Valley Run Stone has submitted an Application for a Federally Enforceable State Operating Permit (FESOP) for a natural gas fired reciprocating engine and aggregate processing plant. This Application has been submitted in order to incorporate federally enforceable limits. These limits would prevent the facility from being a major source of Carbon Monoxide (CO) and Nitrogen Oxides (NO_x), and thereby relieving them of having to obtain a Clean Air Act Permit Program (CAAPP). Included with these federally enforceable limits would be specific recordkeeping and reporting requirements to assure that the facility is operated as a non-major source. These conditions would be enforced by both the USEPA and Illinois EPA.

II. SOURCE DESCRIPTION:

Valley Run Stone is located in Lisbon, Illinois. This facility produces crushed aggregate and uses the engine to produce self-sufficient power.

III. EMISSIONS:

Emissions of PM₁₀ will occur during the crushing, screening and transferring of the aggregate and NO_x and CO are produced from the combustion of natural gas.

IV. APPLICABLE EMISSION STANDARDS:

All emission sources in Illinois must comply with the emission standards set by the Illinois Pollution Control Board. The Pollution Control Board's emission standards represent the basic requirements for sources in Illinois. The Pollution Control Board has emission standards for Particulate Matter (PM), NO_x, CO and PM₁₀. Valley Run Stone readily complies with all emission standards set forth by the Pollution Control Board.

V. PROPOSED PERMIT:

The conditions in this FESOP are designed to ensure that this facility is continually operated as a non-major source. This permit has conditions that limit the hours of operation of the engine and the amount of aggregate processed. This permit also contains conditions of specific recordkeeping and reporting requirements. Valley Run Stone must carry out these procedures on an ongoing basis to demonstrate compliance with the limits set forth in this FESOP.

VI. REQUEST FOR COMMENTS:

It is the Illinois EPA preliminary determination that the facility meets all applicable state and federal air pollution control regulations. The Illinois EPA is therefore proposing the issuance of this FESOP with all of the specific requirements contained in the permit. Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on this draft FESOP. If substantial interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Ad. Code Part 166.