

217/782-2113

ARENEWAL@

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT -- NSPS SOURCE

PERMITTEE

K-Five Construction Corporation
Attn: John Sullivan
13769 Main Street
Lemont, Illinois 60439

<u>Application No.:</u> 86100045	<u>I.D. No.:</u> 031600FEQ
<u>Applicant's Designation:</u>	<u>Date Received:</u> March 21, 2000
<u>Subject:</u> Asphalt Plant and Aggregate Plant	
<u>Date Issued:</u> November 6, 2000	<u>Expiration Date:</u> November 6, 2005
<u>Location:</u> 12401 Cottage Grove Avenue, Chicago	

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of drum-mix asphalt plant with a oil-fired rotary dryer equipped with a baghouse, 2 diesel fuel storage tanks (2 - 20,000 gallon), 2 liquid asphalt storage tanks (20,000 gallon and 25,000 gallon), one anti-strip additive (2,000 gallon) storage tank, 5 hot mix asphalt storage silos, and one portable crushing plant comprised of three crushers, three screens, and 30 conveyors as described in the 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 nitrogen oxides (NO_x) and volatile organic material (VOM) from the asphalt plant to less than major source thresholds, as described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- 2a. This asphalt plant is subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and I. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The emissions from the asphalt plant shall not contain particulate matter in excess of 0.04 gr/dscf and shall not exhibit 20% opacity or greater, pursuant to the NSPS, 40 CFR 60.92.
- c. At all times the Permittee shall also maintain and operate the Asphalt Plant, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).
- d. Pursuant to 35 Ill. Adm. Code 212.313 emissions of PM₁₀ from particulate control equipment shall not exceed 0.03 gr/dscf.

- 3a. The 2 liquid asphalt storage tank(s) are subject to New Source Performance Standards (NSPS), 40 CFR 60 Subpart Kb. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.

- b. At all times, the Permittee shall, to the extent practicable, maintain and operate these tanks, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the New Source Performance Standard.
- c. The Permittee shall fulfill the monitoring of operations requirements of the New Source Performance Standards, 40 CFR 60.116b(a) and (b) for the 2 liquid asphalt storage tanks. That is, records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel, shall be maintained and readily accessible for the life of the source.
- 4a. The 30 conveyors, 3 crushers, and 3 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. Pursuant to 35 Ill. Adm. Code 212.316(b), the Permittee shall not cause or allow fugitive particulate matter generated by crushing or screening of slag or stone to exceed an opacity of 10%.
- e. Pursuant to 35 Ill. Adm. Code 212.316(c), the Permittee shall not cause or allow fugitive particulate matter emissions from any roadway to exceed an opacity of 10%.
- 5. At all times the Permittee shall also maintain and operate this equipment, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.
- 6a. Operation of the asphalt plant shall not exceed the following limits:

Asphalt Concrete Production Rate: 350 tons/hour, and 650,000 tons/yr
Asphalt Tank Heater Firing Rate: 1.3 mmBtu/hr
- b. Emissions and operation of asphalt plant shall not exceed the following limits:

<u>Equipment</u>	<u>Throughput</u>		<u>Emission</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>Factor</u>	<u>Emissions</u>
		<u>Pollutant</u>	<u>(Lb/Ton)</u>	<u>(Lb/Mo)(Tons/Yr)</u>

Fuel Oil-Fired	100,000	650,000	TSP	0.04	4,000	13.00
Drum-Mix Asphalt			CO	0.036	3,600	11.70
			NO _x	0.075	7,500	24.38
			SO ₂	0.056	5,600	18.20
			VOM	0.04	4,000	13.00

These limits are based on standard AP-42 emission factors, the use of fuel oil with a maximum sulfur content of 0.3%, and a maximum hourly capacity of 350 tons/hr. Compliance with annual limits shall be determined from a running total of 12 months of data.

- c. Emissions and operation of asphalt storage tank heater shall not exceed the following limits:

<u>Equipment</u>	<u>Heat Input</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>Rating</u>	<u>(mmBtu/Hr)</u>		<u>Factor</u>	<u>(Lb/1,000 Gal)</u>	<u>(Lb/Mo)</u>
#2 Fuel Oil-Fired	1.3		SO ₂	42.6	0.40	1.73
Asphalt Tank Heater			NO _x	20	0.19	0.81
			CO	5	0.05	0.20

These limits are based on standard AP-42 emission factors, 8,760 hours of operation, and the use of #2 fuel oil with a maximum sulfur content of 0.3% as the only fuel fired in the heater. Compliance with annual limits shall be determined from a running total of 12 months of data.

- d. This permit is issued based on negligible emissions of volatile organic material (VOM) from 2 liquid asphalt storage tanks, 2 fuel oil storage tanks, 5 hot mix asphalt storage silos, and one anti-strip additive storage tank. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

- 7a. Emissions and operation of portable aggregate processing plant shall not exceed the following limits:

<u>Equipment</u>	<u>Throughput</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>		<u>Factor</u>	<u>(Lb/Mo)</u>	<u>(Tons/Yr)</u>
3 Crushers	300,000	1,800,000	TSP	0.0007	210	0.63
3 Screens	300,000	1,800,000	TSP	0.00176	528	1.58
30 Conveyors	3,000,000	18,000,000	TSP	0.0001	300	0.9

These limits are based on standard AP-42 emission factors and a maximum hourly throughput of 400 tons. Compliance with annual limits shall be determined from a running total of 12 months of data.

- b. The moisture content of the aggregate as crushed shall be at least 1.5% by weight so as to reduce emissions of particulate matter.
 - c. 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 90 days of a written request from the Illinois EPA, pursuant to 35 Ill. Adm. code Section 201.282, the emissions and opacity of the exhaust from the asphalt plant shall be measured by an approved testing service, 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 90 days.
- b.
 - i. The following methods and procedures shall be used for testing of emissions. Refer to 40 CFR 60, Appendix A for USEPA test methods.

Opacity	USEPA Method 9
Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Particulate Matter	USEPA Method 5
 - ii. A test shall consist of three separate runs each at least 60 minutes in duration. Compliance shall be determined from the average of the runs provided that the Illinois EPA may accept the

arithmetic mean of the two runs in circumstances described in 40 CFR 60.8(f).

- c. Testing shall be performed by a qualified independent testing service.
 - d. At least 30 days prior to the actual date of testing a written test plan shall be submitted to the Illinois EPA for review and approval. This plan shall describe the specific procedures for testing, including:
 - i. The person(s) who will be performing sampling and analysis and their experience with similar tests.
 - ii. The conditions under which testing will be performed, including a discussion of why these conditions will be representative of the maximum operating rate, the levels of operating parameters at or within which compliance is intended to be shown, if applicable, and the means by which the operating parameters for the process and any control equipment will be determined.
 - e. The Illinois EPA shall be notified prior to these tests to enable the Illinois EPA to observe these tests. Notification for the expected date of testing shall be submitted a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of testing shall be submitted a minimum of five (5) working days prior to the actual date of the tests. 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 testing.
9. If the rotary dryer control system is not operating properly while the dryer is operated or there is an exceedance of the requirements of this permit as determined by the records required by Conditions 10 and 15, the Permittee shall submit a report 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.
 10. The Permittee shall maintain operating and maintenance logs for the dryer control system, including: maintenance activities, with date and description of inspections, repair actions, and equipment or filter bag replacements, etc.
 11. The Final Report(s) for all tests shall be submitted within 90 days after the date of the test. The Final Report shall include as a minimum:
 - i. 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;

- ii. A summary of results;
 - iii. Description of test procedures, including description of sampling points, test equipment, and test schedule;
 - iv. Detailed description of test conditions, including:
 - A. Process information, i.e., process rate, aggregate type, fuel type, and firing rate.
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing.
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- 12a. 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.

13. 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.
- 14a. If the Permittee is relying on 7(c)(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(c)(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(c)(ii)(B)(2).
15. The Permittee shall maintain annual and monthly records of the following items:
 - a. Asphalt production (tons/mo, tons/yr);
 - b. Fuel oil usage and sulfur content consumed by rotary dryer (gal/mo, gal/yr);
 - c. Fuel oil usage and sulfur content consumed by asphalt tank heater (gal/mo, gal/yr); and
 - d. Aggregate throughput (tons/mo, tons/yr).
16. This permit supersedes the current permit(s) issued for this location.

17. 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 within 30 days after the exceedance. The report shall include the emissions released in accordance with the record keeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences. This report should be sent to:

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

18. 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

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
Eisenhower Tower
1701 South First Avenue
Maywood, Illinois 60153

19. The records required by this permit shall be retained at a readily accessible location at the plant for at least 3 years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request.
20. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including material handling or storage activity, beyond the property line of the emission source, pursuant to 35 Ill Adm. Code 212.301.
21. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the nuisance.

22. The assembly of any these plants at a new location will require a construction permit for the new location. This permit must be obtained prior to commencing construction at the new location.

Please note that this permit has been revised to incorporate the operation of Construction Permit #00030072.

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

DES:EEJ:jar

cc: Illinois EPA, FOS Region 1
USEPA

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the asphalt plant and aggregate crushing 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. This is handling 650,000 tons of asphalt production per year and 600,000 tons of aggregate per year. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of nitrogen oxides (NO_x) and 25 tons per year of volatile organic material (VOM) 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 and control measures are more effective than required in this permit.

1a. Operation of the Asphalt Plant shall not exceed the following limits:

Asphalt Concrete Production Rate: 350 tons/hour, and 650,000 tons/yr
 Asphalt Tank Heater Firing Rate: 1.3 mmBtu/hr

b. Emissions and operation of asphalt plant shall not exceed the following limits:

<u>Equipment</u>	<u>Throughput</u>		<u>Pollutant</u>	<u>Emission Factor (Lb/Ton)</u>	<u>Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>			<u>(Lb/Mo)</u>	<u>(Tons/Yr)</u>
Fuel Oil-Fired	100,000	650,000	TSP	0.04	4,000	13.00
Drum-Mix Asphalt			CO	0.036	3,600	11.70
			NO _x	0.075	7,500	24.38
			SO ₂	0.056	5,600	18.20
			VOM	0.04	4,000	13.00

These limits are based on standard AP-42 emission factors, the use of fuel oil with a maximum sulfur content of 0.3%, and a maximum hourly capacity of 350 tons/hr. Compliance with annual limits shall be determined from a running total of 12 months of data.

c. Emissions and operation of asphalt storage tank heater shall not exceed the following limits:

<u>Equipment</u>	<u>Heat Input Rating (mmBtu/Hr)</u>	<u>Pollutant</u>	<u>Emission Factor (Lb/1,000 Gal)</u>	<u>Emissions</u>	
				<u>(Lb/Mo)</u>	<u>(T/Yr)</u>
#2 Fuel Oil-Fired	1.3	SO ₂	42.6	0.40	1.73
Asphalt Tank Heater		NO _x	20	0.19	0.81
		CO	5	0.05	0.20

These limits are based on standard AP-42 emission factors, 8,760 hours of operation, and the use of #2 fuel oil with a maximum sulfur content of 0.3% as the only fuel fired in the heater. Compliance with annual limits shall be determined from a running total of 12 months of data.

- d. This permit is issued based on negligible emissions of volatile organic material (VOM) from 2 liquid asphalt storage tanks, 2 fuel oil storage tanks, 5 hot mix asphalt storage silos, and one anti-strip additive

Page 2

storage tank. For this purpose emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/yr.

- 2. Emissions and operation of portable aggregate processing plant shall not exceed the following limits:

<u>Equipment</u>	<u>Throughput</u>		<u>Pollutant</u>	<u>Emission</u>	<u>Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>		<u>Factor</u>	<u>(Lb/Mo)</u>	<u>(Tons/Yr)</u>
3 Crushers	300,000	1,800,000	TSP	0.0007	210	0.63
3 Screens	300,000	1,800,000	TSP	0.00176	528	1.58
30 Conveyors	3,000,000	18,000,000	TSP	0.0001	300	0.9

These limits are based on standard AP-42 emission factors and a maximum hourly throughput of 400 tons. Compliance with annual limits shall be determined from a running total of 12 months of data.

EEJ:jar