

217/782-2113

CONSTRUCTION PERMIT GRANT -- NSPS SOURCE

PERMITTEE

Northwest Illinois Construction Company
Attn: Robert R. Arnold
1600 Regan Road
Rock Falls, Illinois 61071

Application No.: 06070002

I.D. No.: 195045ABE

Applicant's Designation:

Date Received: July 3, 2006

Subject: Drum Mix Asphalt Plant

Date Issued: December 10, 2007

Location: 1812 McNeil Road, Rock Falls, Whiteside County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of: modification to increase the asphalt production throughput for the existing natural gas-fired drum-mix asphalt plant with baghouse as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. The asphalt plant is subject to New Source Performance Standards (NSPS) for Hot Mix Asphalt Plants, 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 particulate matter emissions from the asphalt plant shall not exceed 0.04 gr/dscf and shall not equal or exceed 20% opacity, pursuant to the NSPS 40 CFR 60.92.
- c. Pursuant to 40 CFR 60.11(d), at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.

- b. Pursuant to 35 Ill. Adm. Code 212.301 and 212.314, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour).
- c. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
- 3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission unit to exceed 2000 ppm.
- 4a. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hour (8.0 lbs/hour) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists then limitation of 35 Ill. Adm. Code 215 Subpart K shall only apply to photochemically reactive material, as defined in 35 Ill. Adm. Code 211.4690.
 - b. 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.
- 5a. The baghouse shall be in operation at all times when the associated drum dryer is in operation and emitting air contaminants.
 - b. The Permittee shall follow good operating practices for the baghouse, including periodic inspection, routine maintenance and prompt repair of defects.
- 6. The drum mixer and drum dryer shall only be operated with natural gas as the fuel. The use of any other fuel in the drum mixer and drum dryer requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- 7a. Operation and emissions of the drum-mix asphalt plant shall not exceed the following limits:

i. Asphalt Production Limits:

<u>(Tons/Hour)</u>	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
325	170,000	1,365,000

ii. Emissions from Drum Mixer/Dryer:

<u>Pollutant</u>	<u>Emission Factor (Lbs/Ton)</u>	<u>Emissions</u>	
		<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
CO	0.1300	11.05	88.73
NO _x	0.0260	2.21	17.75
PM	0.0330	2.81	22.52
PM ₁₀	0.0230	1.96	15.70
SO ₂	0.0034	0.29	2.32
VOM	0.0320	2.72	21.84

iii. Emissions from Asphalt Silo Loading and Truck Loadout:

<u>Pollutant</u>	<u>Emission Factor (Lbs/Ton)</u>	<u>Emissions</u>	
		<u>(Lbs/Mo)</u>	<u>(Tons/Yr)</u>
CO	0.0007	119	0.48
PM	0.0007	119	0.48
PM ₁₀	0.0007	119	0.48
VOM	0.0048	816	3.28

iv. These limits are based on the maximum asphalt production and standard emission factors (Tables 11.1-3, 11.1-7, 11.1-8, and 11.1-14, AP-42, Volume I, Fifth Edition, Update 2004, April 2004).

- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 8. The drum-mix asphalt plant may be operated for a period of 12 months under this construction permit.
- 9a. Pursuant to 40 CFR 60.8, within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of such facility, the owner or operator of such facility shall conduct performance test(s) and furnish the Illinois EPA or USEPA a written report of the results of such performance test(s).
- b. Pursuant to 40 CFR 60.8(b), performance tests shall be conducted and data reduced in accordance with the test methods and procedures contained in each applicable subpart of 40 CFR Part 60 unless the Illinois EPA or USEPA:

- i. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology;
 - ii Approves the use of an equivalent method;
 - iii. Approves the use of an alternative method the results of which he has determined to be adequate for indicating whether a specific source is in compliance;
 - iv. Waives the requirement for performance tests because the owner or operator of a source has demonstrated by other means to the Illinois EPA's or USEPA's satisfaction that the affected facility is in compliance with the standard; or
 - v. Approves shorter sampling times and smaller sample volumes when necessitated by process variables or other factors. Nothing in this paragraph shall be construed to abrogate the Illinois EPA's or USEPA's authority to require testing under section 114 of the Clean Air Act.
- c. Pursuant to 40 CFR 60.8(c), performance tests shall be conducted under such conditions as the Illinois EPA or USEPA shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Illinois EPA or USEPA such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- d. Pursuant to 40 CFR 60.8(d), the owner or operator of an affected facility shall provide the Illinois EPA or USEPA at least 30 days prior notice of any performance test, except as specified under other subparts, to afford the Illinois EPA or USEPA the opportunity to have an observer present. If after 30 days notice for an initially scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the owner or operator of an affected facility shall notify the Illinois EPA or USEPA as soon as possible of any delay in the original test date, either by providing at least 7 days prior notice of the rescheduled date of the performance test, or by arranging a rescheduled date with the Illinois EPA or USEPA by mutual agreement.
- e. Pursuant to 40 CFR 60.8(e), the owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:
- i. Sampling ports adequate for test methods applicable to such facility. This includes:

- A. Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and
 - B. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
- ii. Safe sampling platform(s).
 - iii. Safe access to sampling platform(s).
 - iv. Utilities for sampling and testing equipment.
- f. Pursuant to 40 CFR 60.8(f), unless otherwise specified in the applicable subpart of 40 CFR Part 60, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard under 40 CFR Part 60. For the purpose of determining compliance with an applicable standard under 40 CFR Part 60, the arithmetic means of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances, beyond the owner or operator's control, compliance may, upon the Illinois EPA's or USEPA's approval, be determined using the arithmetic mean of the results of the two other runs.
- g. Pursuant to 40 CFR 60.93(a), in conducting the performance tests required in 40 CFR 60.8, the owner or operator shall use as reference methods and procedures the test methods in Appendix A of 40 CFR Part 60 or other methods and procedures as specified in this section, except as provided in 40 CFR 60.8(b).
- h. Pursuant to 40 CFR 60.93(b), the owner or operator shall determine compliance with the particulate matter standards in 40 CFR 60.92 as follows:
- i. Method 5 shall be used to determine the particulate matter concentration. The sampling time and sample volume for each run shall be at least 60 minutes and 0.90 dscm (31.8 dscf).
 - ii. Method 9 and the procedures in 40 CFR 60.11 shall be used to determine opacity.
- 10a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows:

- i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR Part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301.
 - ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.
 - iii. Measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR Part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
 - iv. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR Part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
 - v. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 11a. Testing required by Conditions 9 and 10 shall be performed by a qualified independent testing service.
 - b. 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.
- c. 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.
- d. Copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 60 days after the date of the final day of testing. The Final Report shall include as a minimum:
 - i. A descriptive and table summary of results.
 - ii. General information including but not limited to the name, location and identification of the emission source(s) tested, date(s) of testing, names of personnel and entities performing the tests, and Illinois EPA observers, if any.
 - iii. Description of test procedures and method(s), including description and map of emission sources and sampling points, sampling train, testing and analysis equipment, and test schedule.
 - iv. Detailed description of test conditions, including:
 - A. List and description of the equipment (including serial numbers or other equipment specific identifiers) tested and process information, i.e., mode(s) of operation, process rate/throughput, e.g. fuel or raw material consumption;
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing, and
 - C. A discussion of any preparatory actions taken, i.e., inspections, calibration, maintenance and repair.
 - v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration. Identification of the applicable regulatory standards that the testing was performed to demonstrate compliance with, a comparison of the test results to

the applicable regulatory standards, and a statement whether the test(s) demonstrated compliance with the applicable standards.

- vi. An explanation of any discrepancies among individual tests, failed tests or anomalous data.
 - vii. The results and discussion of all quality control evaluation data, including a copy of all quality control data.
 - viii. The applicable operating parameters of the pollution control device(s) during testing (temperature, pressure drop, scrubbant flow rate, etc.), if any.
- 12a. The Permittee shall perform all applicable monitoring for the drum-mix asphalt plant as specified in 40 CFR 60.13 and 40 CFR 60.13.
- b. Inspections of the affected drum-mix asphalt plant and control systems equipment and operations shall be performed as necessary but at least once per week when the affected drum-mix asphalt plant is in operation to confirm compliance with the requirements of this permit.
- 13a. The Permittee shall retain all applicable records for the affected drum-mix asphalt plant as specified by 40 CFR 60.7 and 60.676.
- b. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
 - c. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Records addressing use of good operating practices for the baghouse:
 - A. Operating logs for the affected drum-mix asphalt plant baghouse, including operating data (pressure drop or stack condition), daily upon startup;
 - B. Records for periodic inspection of the baghouse with date, individual performing the inspection, and nature of inspection; and
 - C. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - ii. The Permittee shall maintain records of excess emissions during malfunctions and breakdowns of the baghouse associated with the affected drum-mix asphalt plant. At a minimum, these records shall include:

- A. Date and duration of malfunction or breakdown;
 - B. A full and detailed explanation of the cause for such emissions;
 - C. The contaminants emitted and an estimate of the quantity of emissions;
 - D. The measures used to reduce the quantity of emissions and the duration of the occurrence; and
 - E. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
- iii. Asphalt concrete production (tons/month);
 - iv. Natural gas consumption (mmscf/month); and
 - v. Monthly and annual emissions of CO, NO_x, PM, PM₁₀, SO₂, and VOM, with supporting calculations (tons/month and tons/year).
- d. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be available for inspection and copying by the Illinois EPA or USEPA. 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.
- 14a. The Permittee shall submit all applicable reports for the affected drum-mix asphalt plant as specified in 40 CFR 60.7, 60.19, and 60.676.
 - b. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
 - c. If there is an exceedance of or a deviation from 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 deviation and efforts to reduce emissions and future occurrences.

- d. The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, concerning continued operation of the affected drum-mix asphalt plant during malfunction or breakdown of the baghouse with excess emissions:
 - i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.
 - ii. Upon conclusion of the incident, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected drum-mix asphalt plant was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected drum-mix asphalt plant was taken out of service.

15. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Illinois EPA
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
5415 North University
Peoria, Illinois 61614

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

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:MJD:jws

cc: Region 2