

217/782-2113

CONSTRUCTION PERMIT

PERMITTEE

Solutia Inc., W.G. Krummrich Plant
Attn: Jerold W. Lebold
500 Monsanto Avenue
Sauget, Illinois 62206

Application No.: 04060058

I.D. No.: 163121AAC

Applicant's Designation:

Date Received: June 17, 2004

Subject: Three Boilers

Date Issued: December 3, 2004

Location: 500 Monsanto Ave., Sauget

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of three boilers as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1.0 Unit Specific Conditions

1.1 Description

The boilers are natural gas fired with a limited quantity of No. 2 distillate oil as an auxiliary fuel each having a maximum rated capacity of less than 100 mmBtu/hr. The new boilers will be used to supply steam to the manufacturing process units.

1.2 List of Emission Units and Pollution Control Equipment

Emission Units	Description	Emission Control Equipment
Package Boiler No. 101	≤ 96 mmBtu/hr Steam Production Natural Gas Fired with Oil Standby	Low NO _x Burner
Package Boiler No. 102	≤ 96 mmBtu/hr Steam Production Natural Gas Fired with Oil Standby	Low NO _x Burner
Package Boiler No. 103	≤ 89 mmBtu/hr Steam Production Natural Gas Fired with Oil Standby	Low NO _x Burner

1.3 Applicability Provisions and Applicable Regulations

- a. The affected boilers for the purpose of these unit-specific conditions, are the fuel combustion emission unit as described in Conditions 1.1 and 1.2.

- b. The affected boilers are subject to the NSPS for Small Industrial-Commercial Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc, because the construction, modification, or reconstruction is commenced after June 9, 1989 and has a maximum design heat input capacity of 29 megawatts (MW) (100 million Btu per hour (Btu/hr)) or less, but greater than or equal to 2.9 MW (10 million Btu/hr). The Illinois EPA administers the NSPS for subject sources in Illinois pursuant to a delegation agreement with the USEPA.
- c. The affected boilers are subject to the following state emission standards that provide that:
 - i. No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period to exceed 0.10 lbs/mmBtu from any fuel combustion emission unit attributable to burning liquid fuel. [35 IAC 212.206 and 212.207].
 - ii. 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 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.
 - iii. No person shall cause or allow the emission of sulfur dioxide into the atmosphere in any one hour period from any new fuel combustion source attributable to burning distillate oil to exceed 0.3 lbs/mmBtu of sulfur dioxide. [35 IAC 214.122(b) and 214.162]
 - iv. No person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air [35 IAC 216.121].

1.4 Non-Applicability of Regulations of Concern

- a. The affected boilers are not subject to 35 IAC 217.141, emissions of nitrogen oxides from existing fuel combustion emission sources in major metropolitan areas, because the actual heat input of each affected boiler is less than 250 mmBtu/hr.
- b. The provisions of 35 IAC 219.301 and 302, Use of Organic Material, are not applicable to fuel combustion emission sources [35 IAC 219.303].

- c. This permit is issued based upon this project not constituting a major modification in accordance with 40 CFR 52.21, Prevention of Significant Deterioration of Air Quality (PSD) or 35 IAC part 203, Major Stationary Sources Construction or Modification. Maximum potential emissions from the affected boilers is less than significant net emission increases (See Attachment 1).
- d. This permit is issued based on the NSPS, 40 CFR 60 Subpart Db not being applicable to the affected boilers because the design capacity of each boiler is below the applicability threshold of these standards.

1.5 Operational and Production Limits and Work Practices

- a. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected boilers 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 and/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 [40 CFR 60.11(d)].
- b. Natural gas and distillate oil shall be the only fuels fired in the affected boilers.
- c. Oil usage for the affected boilers shall not exceed:

Usage	Distillate Oil (Million Gallons)
Monthly	0.3
Annually	1.96

1.6 Emission Limitations

- a. Emissions from the affected boilers in total, shall not exceed the following limits:

<u>Pollutant</u>	<u>Emissions</u>	
	<u>(Tons/Month)</u>	<u>(Tons/Year)</u>
PM	1.0	9.1
SO ₂	6.0	39.0
VOM	0.7	6.6
CO	10.0	98.5
NO _x	13.0	123.1

- 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).

1.7 Testing Requirements

The Permittee shall fulfill the following testing requirements for each affected boiler.

- a. The Permittee shall conduct an initial performance test for opacity as required under 40 CFR 60.8 using the following procedures and reference methods [40 CFR 60.45c(a)].
 - i. Method 9 is used for determining the opacity of stack emissions [40CFR60.45c(a)(8)].

1.8 Monitoring Requirements

None

1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected boilers:

- a. A file documenting the maximum firing rate of each boiler and the specifications for its burners.
- b. Records for the sulfur content of the oil burned in the affected boilers.
- c. The Permittee shall record and maintain records of the amount of fuel combusted during each day for each affected boiler [40 CFR 60.48c(g)].

This record shall be maintained for the affected boilers for a period of two years following the date of such record [40 CFR 60.48c(i)].

- d. Operating log(s) and maintenance/repair log(s) for the affected boilers.
- e. Monthly and annual aggregate CO, NO_x, PM, SO₂, and VOM emissions from the affected boilers, based on fuel consumption and the applicable emission factors, with supporting calculations.

1.10 Reporting Requirements

- a. The Permittee shall promptly notify the Illinois EPA (MC 40), Compliance Section of deviations of the affected boilers with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:
 - i. Deviation from Condition 1.3(c) (iii), 1.5(b), or 1.5(c), within 10 days.
 - ii. Other deviations, including emissions in excess of the limits specified in Condition 1.6(a), within 30 days.
- b. The Permittee shall notify the Illinois EPA (MC 40), Compliance Section of the following dates:
 - i. The date construction of each affected boiler commenced postmarked no later than 30 days after such date, pursuant to 40 CFR 60.7(a) (1).
 - ii. The actual date of initial startup of each affected boiler postmarked within 15 days after such date, pursuant to 40 CFR 60.7(a) (3).

1.11 Compliance Procedures

To determine compliance with Condition 1.6(a), emissions from the affected boilers shall be calculated based on appropriate emission factors, including the following emission factors from USEPA's Compilation of Air Pollutant Emission Factors, AP-42 for normal operation of the boilers:

Pollutant	Emission Factor for Natural Gas Combustion (Lb/mmBtu)	Emission Factor for Distillate Fuel Oil Combustion (Lb/mmBtu)
CO	0.08	0.0357
NO _x	0.10	0.100
PM ₁₀	0.0074	0.010
SO ₂	0.0006	*
VOM	0.0053	0.0018

* Determined from actual sulfur and heat content of oil.

Emission = Fuel Usage(s) (mmBtu) x Appropriate Factor (Lb/mmBtu)

- 1.12 The Permittee is allowed to operate the affected boilers under this construction permit until a CAAPP permit is issued that addresses the boilers, provided that the Permittee submits a timely supplement to its CAAPP application or application for revision of the CAAPP permit to address the boilers.

Page 6

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

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

DES:KLS:psj

cc: Region 3

Attachment 1

Table I
Past Two Year Actual Emissions (1998-1999)
Ceased operation in October of 1999

Pollutant	Total Actual Emissions (Tons)
NO _x	486.16

Table II
Contemporaneous Emissions Increase Which Depended on Historic Decreases as
Listed in Table I (Permit No. 98020018)

Pollutant	Total Actual Emissions (Tons)
NO _x	250.1

Table III
Project Emissions

Pollutant	Limit (Tons)
CO	98.46
NO _x	123.08
PM ₁₀	9.07
SO ₂	39.0
VOM	6.57

Table IV
Net Emission Increase

Pollutant	Table III	- Table I	+ Table II	= Net Change
CO	98.46	----	----	98.46
NO _x	123.08	486.16	250.1	- 112.98
PM ₁₀	9.07	----	----	9.07
SO ₂	39.0	----	----	39.0
VOM	6.57	----	----	6.57

KLS:psj