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June 2, 2005

Ms. Nadine Lajeune, Manager
Environmental Services
Sears Roebuck and Company
3333 Beverly Road, A2-238A
Hoffman Estates, IL 60179

Dear Ms. Lajeune:

Re: Exempt Operation Status
097-20015-00553

The application from Sears Roebuck and Company for site no.1600/6312 ("source"), located at 6020 East 82nd Street, Indianapolis, Indiana, 46250, were received by Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) and City of Indianapolis, Office of Environmental Services (OES) on December 22, 2004. Additional information was received on April 5, and May 11, 2005. OES has reviewed the application, and based on the data submitted and the provisions in 326 IAC 2-1.1-3, the source classifies as exempt from air pollution permit requirements, according to the regulations and conditions mentioned in the attached Technical Support Document (TSD). Emission units at the source are as stated below:

- (a) One (1) Weil-McLain Boiler, model number 1488 WR, identified as emission unit B-01, with a heat input capacity of 4.474 MMBtu/hr, utilizing natural gas combustion, installed in 1998, and exhausting through a stack identified as S-1.
- (b) One (1) Weil-McLain Boiler, model number 1488 WR, identified as emission unit B-02, with a heat input capacity of 4.474 MMBtu/hr, utilizing natural gas combustion, installed in 1998, and exhausting through a stack identified as S-2.

The following conditions shall be applicable:

- Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- Pursuant to 326 IAC 6-2-4 (Particulate Matter Limitations for Sources of Indirect Heating) the particulate matter emissions from boilers BU-01 and BU-02 shall each not exceed 0.6 pounds per million Btu (lbs/MMBtu).

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- If the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source in the future, an application or notification shall be submitted in accordance with 326 IAC 2 to the Indianapolis Office of Environmental Services (OES) and Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ).

Any technical questions regarding this document may be directed to Carmen Bugay of my staff via e-mail at cbugay@indygov.org, or by phone at (317) 327-2512.

Sincerely,

Original signed by,

Felicia A. Robinson
Manager of Environmental Planning

Attachments: Technical Support Document (TSD)

FAR/cmb

cc: Mindy Hahn, IDEM, OAQ
Matt Mosier, OES, Compliance
Files (3), OES

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
and
INDIANAPOLIS OFFICE OF ENVIRONMENTAL SERVICES**

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name:	Sears Roebuck and Company
Source Location:	6020 East 82nd Street
County:	Marion
SIC Code:	5311
Operation Permit No.:	E097-20015-00553
Permit Reviewer:	Carmen Bugay

The Indiana Department of Environmental Management (IDEM) Office of Air Quality (OAQ) and Indianapolis Office of Environmental Services (OES) have reviewed an application from Sears Roebuck and Company relating to the operation of boilers that supply building heat.

Unpermitted Emission Units and Pollution Control Equipment

- (a) One (1) Weil-McLain Boiler, model number 1488 WR, identified as emission unit B-01, with a heat input capacity of 4.474 MMBtu/hr, utilizing natural gas combustion, installed in 1998, and exhausting through a stack identified as S-1.
- (b) One (1) Weil-McLain Boiler, model number 1488 WR, identified as emission unit B-02, with a heat input capacity of 4.474 MMBtu/hr, utilizing natural gas combustion, installed in 1998, and exhausting through a stack identified as S-2.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

- (a) OP 5173-01 issued on September 14, 1993 and valid until September 30, 1996. This operational permit was issued for one (1) Kewanee Boiler, model number M-460608, serial number 06675, identified as emission unit (EU-01), installed in 1972, with a maximum capacity of 10.46 MMBtu/hr, utilizing natural gas as fuel, and exhausting to the atmosphere. Since the boiler was removed in 1998, when the two (2) Weil-McLain boilers were installed (see **Unpermitted Emission Units and Pollution Control Equipment** above), no permit conditions are carried over into this exemption numbered E097-20015-00553.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (ft)	Diameter (ft)	Flow Rate (acfm)	Temperature (°F)
S-01	Heating	18	15.5	Not reported	454
S-02	Heating	18	15.5	Not reported	454

Recommendation

The staff recommends to the OES Manager and IDEM Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

An application for the purposes of this review was received on December 22, 2004, with additional information received on February 7, April 5, and May 11, 2005.

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

Emission Calculations

See Appendix A of this document for detailed emission calculations (pages 1-2).

Potential to Emit Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit * (tons/yr)
PM	negligible**
PM-10	0.3
SO ₂	negligible**
VOC	0.2
CO	3.3
NO _x	3.9
HAPs	negligible**

Note: * PTE values are totalled for both boilers (B-01 & B-02).

** Negligible values are below 0.1.

- (a) This exemption is being issued pursuant to 326 IAC 2-1.1-3 (e)(1) which states that the source is exempt from air pollution permit requirements since the potential to emit (PTE) of air pollutants without air pollution control equipment, is less than the amounts specified below:

Regulated Air Pollutant's Name	Limitations (tons/year)
Particulate Matter (PM)	5
Particulate Matter less than 10 micrometers (PM-10)	5
Sulfur Dioxide (SO ₂)	10
Nitrogen Oxides (NO _x)	10
Volatile Organic Compounds (VOC)	10
Carbon Monoxide (CO)	25
Lead (Pb)	0.2
Hazardous Air Pollutants (HAPs)	
--Single HAP	1
--Combined HAPs	2.5

- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than 1 ton per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than 2.5 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3, and will be issued an exemption.
- (c) Fugitive Emissions
 Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Nonattainment
SO ₂	Maintenance attainment
NO ₂	Attainment
1-Hour Ozone	Maintenance attainment
8-Hour Ozone	Basic nonattainment
CO	Attainment
Lead	Unclassifiable

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as nonattainment for the 8-hour ozone standard on June 15, 2004. Therefore VOC and NO_x emissions were reviewed pursuant to the requirements for Emissions Offset rules under 326 IAC 2-3.
- (b) Marion County has been classified as nonattainment for PM-2.5 in 70 FR 943 dated January 5, 2005. Until U.S. EPA adopts specific New Source Review rules for PM-2.5 emissions, it has directed states to regulated PM-10 emissions as surrogate for PM-2.5

emissions pursuant to the nonattainment New Source Review (NSR) requirements. See the **State Rule Applicability - Entire Source** below.

- (c) Marion County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants, therefore these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD) under 326 IAC 2-2. See the **State Rule Applicability - Entire Source** below.

Federal Rule Applicability

- (a) New Source Performance Standard (NSPS) (326 IAC 12 and 40 CFR Part 60.40a), Subpart Da, is not included in this permit, since emission units are not capable of combusting more than 250 MMBtu/hr heat input of fossil fuel alone or in combination.
- (b) New Source Performance Standard (NSPS) (326 IAC 12 and 40 CFR 60.40 (c)), Subpart Dc, is not included in this permit, because the maximum design heat input capacity is less than 10 MMBtu/hr. There are no other NSPSs included in this permit.
- (c) The source is not a major source of Hazardous Air Pollutants (HAP) since the Potential to Emit (PTE) is below 10 tpy for a single HAP and 25 tpy for combined HAP; and thus not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63, Subpart DDDDD (Industrial, Commercial, and Institutional Boilers and Process Heaters) & 326 IAC 20. No other NESHAP (326 IAC 14, 20 and 40 CFR Part 61, 63) is included in this permit.

State Rule Applicability – Entire Source

326 IAC 2-1.1-3 (Exemption)

The PTE for the emission units is less than the regulatory threshold of this rule, therefore the source is exempt from construction requirements.

326 IAC 2-1.1-5 (Air Quality Requirements)

Marion County has been classified as nonattainment for particulate matter less than 2.5 microns (PM-2.5). Until U.S. EPA adopts specific New Source Review rules for PM-2.5 emissions, it has directed states to regulate PM-10 emissions as surrogate for PM-2.5 emissions pursuant to the nonattainment New Source Review (NSR) requirements.

Potential emissions for PM-10 are less than 100 tons per year therefore, it is not a major source under nonattainment NSR. Emission units B-01 and B-02, have uncontrolled PTE of 0.3 tons per year of PM-10 and thus it is not a major source.

326 IAC 2-2 (Prevention of Significant Deterioration - PSD)

This source is not one (1) of the twenty-eight (28) listed source categories and has potential emissions less than 250 tons per year (tpy) of PSD regulated pollutants. Therefore, this source is not major for PSD. Emission units uncontrolled PTE is 0.3 tpy of PM-10, 0.07 tpy of PM, and 4.0 tpy of NOx; therefore, the source is not major for PSD.

326 IAC 2-3 (Emission Offset)

The source is not subject to the requirements of 326 IAC 2-3 (Emission Offset), since the source does not have the potential to emit 100 or more tons per year of volatile organic compounds (VOC) and nitrogen oxides (NOx) for ozone nonattainment areas (Marion County). Emission units PTE of NOx is 4 tpy and 0.2 tpy of VOC.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the emission units will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAP; therefore, 326 IAC 2-4.1 does not apply. Emission units single HAP (Hexane) is 0.075 tpy, and combined HAP is negligible.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in the permit:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-1 (Nonattainment Area Limitations)

This rule does not apply to this source because actual emissions of particulate are less than ten (10) tons per year, and the potential to emit of particulate is less than one hundred (100) tons per year; and it is not a specifically listed source in 326 IAC 6.

326 IAC 6-2-4 (Particulate Matter Limitations for Sources of Indirect Heating)

The boilers BU-01 and BU-02 are subject to the provisions of 326 IAC 6-2-1(d) and 326 IAC 6-2-4 because they are located in Marion County and were constructed after September 21, 1983. Particulate emissions from indirect heating facilities shall be limited by the following equation:

$$Pt = 1.09/Q^{0.26},$$

where Pt = Pounds of particulate matter emitted per million Btu (lbs/MMBtu) heat input
Q = Total source maximum operating capacity rating in million Btu per hour (MMBtu/hr) heat input.

- (a) Pursuant to 326 IAC 6-2-4(a), for Q less than 10 million Btu per hour (MMBtu/hr), Pt shall not exceed 0.60. Total source maximum operating capacity for each boiler (BU-01 and BU-02) is less than 10 MMBtu/hr. Therefore, particulate matter emissions from these boilers, shall each not exceed 0.6 pounds per million Btu (lbs/MMBtu).

Conclusion

The operation of this B-01 and B-02 shall be subject to the conditions of this exemption numbered E097-20015-00553.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boilers B-01 and B-02**

Company Name: Sears Roebuck and Company
Address City IN Zip: 6020 East 82nd Street, Indianapolis, IN 46250
Permit Number: 097-20015-00553
Originated by/Date: Carmen Bugay, 03/23/2005

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

8.948

78.4

(Note: Each boiler's heat input capacity=4.474 MMBtu/hr)

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.07	0.30	0.0	3.92	0.22	3.29

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

updated 4/99

**Appendix A: Emissions Calculations
 Natural Gas Combustion Only
 MM BTU/HR <100
 Small Industrial Boilers, B-01 and B-02
 HAPs Emissions**

Company Name: Sears Roebuck and Company
Address City IN Zip: 6020 East 82nd Street, Indianapolis, IN 46250
Permit Number: 097-20015-00553
Originated by/Date: Carmen Bugay, 03/23/2005

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	8.230E-05	4.703E-05	2.939E-03	7.055E-02	1.333E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.960E-05	4.311E-05	5.487E-05	1.489E-05	8.230E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
 Additional HAPs emission factors are available in AP-42, Chapter 1.4.