

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
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Project Summary for an Application from
Reichhold, Inc. for the
Federally Enforceable State Operating Permit (FESOP) for
Reichhold, Inc.
Morris, Illinois

Site Identification No.: 063806AAA
Application No.: 96030183

Schedule

Public Comment Period Begins: April 5, 2008

Public Comment Period Closes: May 5, 2008

Illinois EPA Contacts

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I. INTRODUCTION

Reichhold, Inc. has applied for a Federally Enforceable State Operating Permit (FESOP) for its Morris plant. This plant requires an air pollution control operating permit because it is a source of emissions. The Illinois EPA has prepared a draft of the permit that it would propose to issue for the plant. However, before issuing the permit, the Illinois EPA is holding a public comment period to receive comments on this proposed action and the terms and conditions of the draft permit that it would propose to issue.

II. SOURCE DESCRIPTION

Reichhold, Inc. manufactures latex emulsions, polyester resins and polyurethane dispersion. The emission units at this plant that require an operating permit include:

- One (1) 53 mmBtu/hr Natural Gas-Fired Boiler (Boiler #1);
- One (1) 75 mmBtu/hr Natural Gas/No. 6 Residual Oil-Fired Boiler (Boiler #2);
- One (1) 28.7 mmBtu/hr Natural Gas-Fired Hot Oil Heater;
- One (1) 40,000 Gallon Phthalic Anhydride Storage Tank (S-580);
- Two (2) 40,000 Gallon Styrene Storage Tanks (S-585 and S-587);
- One (1) 46,500 Gallon Maleic Anhydride Storage (Tank S-589);
- Eight (8) Polyester Resin Manufacturing Reactors (R-1 through R-7, and M-1) controlled by Thermal Oxidizer (H102) or Thermal Oxidizer/Glycol Recovery System or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Seven (7) Polyester Thin Tanks (TT-1 through TT-7) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Nine (9) Polyester Blend Tanks (BT-1 through BT-5, and BT-8 through BT-11) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- One (1) Polyester Blend Tank (BT-16) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Four (4) 50,000 Gallon Polyester Base Resin Storage Tanks (TK-4 through TK-7) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Two (2) 23,000 Gallon Polyester Base Resin Storage Tanks (TK-11 and TK-12) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Two (2) 27,000 Gallon Polyester Base Resin Storage Tanks (TK-1 through TK-3 and TK-14) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Six (6) 25,000 Gallon Polyester Base Resin Storage Tanks (TK-17 through TK-22) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Six (6) Polyester Truck Loading Bays (TL-1 through TL-6) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Two (2) Polyester Drum Loading Lines (DL-1 through DL-2) controlled by Thermal Oxidizer (H102) or Secondary Thermal Oxidizer (HTO) or Temporary Mobile Emergency Thermal Oxidizer (H-TEMP);
- Two (2) 32,000 Gallon Vinyl Acetate Storage Tanks (S-501 and S-514);
- Three (3) 20,000 Gallon Butyl Acetate Storage Tanks (S-502, S-504, and S-517);

Two (2) 20,000 Gallon Methyl Methacrylate Storage Tanks (S-503 and S-516);
One (1) 9,500 Gallon Styrene Emulsion Storage Tank (S-552);
Three (3) Emulsion Monomer Tanks (M-501 through M-503) controlled by Forbo's
Regenerative Thermal Oxidizer (PUR-RTO);
Two (2) Synthetic Resin Emulsion Reactors (R-101 and R-102) controlled by Forbo's
Regenerative Thermal Oxidizer (PUR-RTO);
Two (2) Synthetic Resin Emulsion Cool Down Tanks (M-505 and M-510) controlled by
Forbo's Regenerative Thermal Oxidizer (PUR-RTO);
One (1) Polyurethane Dispersion Amine Tank (T-217);
One (1) Polyurethane Dispersion Tank (T-407A) controlled by Rotoclone Scrubber
(WSC-510);
One (1) Polyurethane Dispersion Manufacturing Reactor (R-307) controlled by
Rotoclone Scrubber (WSC-510);
One (1) Styrene Based Polyurethane Resin and Polystyrene Solution Production Reactor
(T-417) controlled by Forbo's Regenerative Thermal Oxidizer (PUR-RTO);
Polyurethane Dispersion Manufacturing Tank Truck and Drum Loading controlled by
Forbo's Regenerative Thermal Oxidizer (PUR-RTO);
Eight (8) Catalyst Tanks (M-1 through M-8);
One (1) Polyester Dump Tank (M-15);
Three (3) Caustic Tanks (M-508, M556, and M-557);
One (1) Acrylic Acid Storage Tank (S-515);
Five (5) Glycol Storage Tanks (S-581 through S-584, and S-590);
Two (2) Fumed Silica Storage Silos (S-591 and S-592);
One (1) Isophalaic Acid Storage Silo (S-594);
Two (2) Isocyanates Storage Tanks (T-171 and T-172);
One (1) Polyol Storage Tank (T-174);
Four (4) Polyurethane Finished Goods Storage Tanks (T-501 through T-504);
One (1) Polyurethane Foam Over Tank (T-601);
Two (2) N-Methyl Pyrrolidinone (NMP) Storage Tanks (T-152 and T-153);
One (1) 900 HP Diesel-Powered Emergency Generator; and
One (1) 290 HP Diesel-Powered Emergency Pump

These units are sources of emissions because the manufacture of latex emulsions, polyester resin, and polyurethane dispersion emits volatile organic material (VOM) and hazardous air pollutants (HAP). VOM and HAPs emitted by the chemical manufacturing operations are vented to and controlled by thermal oxidizers.

III. GENERAL DISCUSSION

Federally Enforceable State Operating Permits (FESOPs) are federally enforceable, that is, the terms and conditions of the permits can be enforced by USEPA under federal law, as well as by Illinois government and the public under state law. These permits can establish federally enforceable limitations on the operation and emissions of a source that restrict the potential emissions of the source.

Reichhold, Inc. will be operating this plant under a FESOP because the actual emissions of the plant are below the levels at which the plant would be considered a major source under Title V of the federal Clean Air Act. However, in the absence of federally enforceable limitations, the plant's potential emissions would be such that the plant would be considered a major source. The permit acts to restrict the plant potential emissions so that it need not be considered a major source. As a result, the source does not need to obtain a Clean Air Act Permit Program (CAAPP) permit for the plant, as would otherwise be required.

The FESOP limits the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons for Nitrogen Oxides (NO_x), Sulfur Dioxide (SO₂), and VOM, 10 tons for an individual HAP and 25 tons for combined HAPs.

IV. APPLICABLE EMISSION STANDARDS

All emission units in Illinois must comply with state emission standards adopted by the Illinois Pollution Control Board. The board has specific standards for units emitting volatile organic material in the greater Chicago area. Batch chemical manufacturing operations at this plant are subject to the VOM control requirements of 35 Ill. Adm. Code Part 218, Subpart V (Batch Operations). These emission standards represent the basic requirements for sources in Illinois. The application shows that the plant is in compliance with applicable state emission standards.

The USEPA has also adopted standards for small steam generating units, for which construction was commenced after June 9, 1989, the federal New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60 Subparts A and Dc. The Illinois EPA is administering the NSPS in Illinois on behalf of the United States EPA under a delegation agreement. The draft permit address compliance with the USEPA's standard for small steam generating units.

V. CONTENTS OF THE PERMIT

The draft permit that the Illinois EPA is proposing to issue would continue to identify the specific emission standards that apply to the emission units at the plant. As explained, the batch chemical manufacturing operations at this plant are subject to 35 Ill. Adm. Code Part 218, Subpart V, which requires 90% reduction in uncontrolled VOM emissions. The conditions of this permit are intended to ensure that the source continues to comply with applicable emission standards.

The permit would also contain limitations and requirements to assure that this plant is operated as a non-major source. The permit would limit the operation and annual emissions of the plant to below the major-source-thresholds of 100 tons for NO_x, SO₂, and VOM, 10 tons for an individual HAP and 25 tons for combined HAPs. (Annual emissions of other pollutants from the plant are well below the 100 ton major source threshold.)

The permit would also set limitations on amount of products produced, the type and amount of fuel used and the minimum control efficiency of the source's thermal oxidizers. These limitations are consistent with the historical operation of emission units at the plant.

The permit conditions would also continue to require appropriate compliance procedures, including inspection practices as well as recordkeeping and reporting requirements. The source must carry out these procedures on an on-going basis to demonstrate that the plant is being operated within the limitations set by the permit and the plant's emissions are being properly controlled.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the source has met meets all applicable state and federal air pollution control requirements, subject to the conditions proposed in the draft permit. The Illinois EPA is therefore proposing to issue the permit.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.