

Illinois Environmental Protection Agency  
Bureau of Air, Permit Section  
1021 N. Grand Avenue East  
P.O. Box 19506  
Springfield, Illinois 62794-9506

Project Summary for an Application from  
Innophos, Inc. for Renewal of the  
Federally Enforceable State Operating Permit (FESOP) for  
Sodium Phosphate Production  
Chicago, Illinois

Site Identification No.: 031600AQW  
Application No.: 72100820

Schedule

Public Comment Period Begins: 9/27/2007  
Public Comment Period Closes: 10/27/2007

Illinois EPA Contacts

Permit Analyst: Jocelyn Stakely  
Community Relations Coordinator: Brad Frost

## **I. INTRODUCTION**

The Innophos, Inc. has applied for renewal of its Federally Enforceable State Operating Permit (FESOP) for their sodium phosphate production 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 renewed permit that it would propose to issue for the plant. However, before renewing 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**

Innophos, Inc. produces sodium phosphate salt compounds by reacting phosphoric acid and soda ash (sodium carbonate). The reaction of these two raw materials results in particulate matter emissions. Natural gas is used both in the facility boilers and for process heat in the Meta glass furnace. The only significant air pollutants emitted from the facility are particulate matter 10 (PM<sub>10</sub>) from the Meta operations and oxides of nitrogen (NO<sub>x</sub>) from natural gas combustion. Products of combustion other than NO<sub>x</sub> result in relatively minor emission rates.

List of Emission Units:

Sodium Hexametaphosphate Operations:

- Soda Ash Storage Operations and Tank/Hopper (659-026)
- Phosphoric Acid Operations and Storage Tank T-11(659-024), T-10(659-023) and T-70(659-022)
- Scrubber (569-002)
- Soda Ash Mixer (509-001) Controlled by C-2 Scrubber (569-016) (SC-1 Emitted through Stack S-1)
- Glass Furnace (549-002)
- Glass Cooler (549-003) Controlled by Dust Collector (569-004) or Rotoclone (569-001) and Scrubber (569-002)(SC-2 Emitted through Stack S-11)
- Prater Mill (639-001 and 639-002)
- Sodium Hexametaphosphate Weigh and Product Hoppers (659-025, 659-043, 659-044 and 659-045) Controlled by Dust Collector (569-004) or Rotoclone (569-001) and Scrubber (569-002) (Emitted through Stack S-11)
- Super Sack Packaging (520-010)
- Surge Hoppers (659-067 and 659-068) to Bagging Machine (520-017)

Blend Plant Operations:

- Bagging Machine (520-006) Controlled by Cyclone (569-034) then Dust Collector (569-033)
- Packaging Hopper (659-041) Controlled by Cyclone (569-034) then Dust Collector (569-033)
- Prater Mill (639-008)
- Munson Mixer (509-016) Controlled by Cyclone (569-034) then Dust Collector (569-033)
- Weigh Hopper (659-042)
- Lemon Juice Mix Tank (659-001)
- Blend Operations Dust Collector (569-033)

Boilers:

- Two Gas Fired Boilers (662-001 and 662-002)

### **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.

The source has been 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 not 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 particulate matter 10 (PM<sub>10</sub>).

### **IV. APPLICABLE EMISSION STANDARDS**

All emission units in Illinois must comply with state emission standards adopted by the Illinois Pollution Control Board. These emission standards represent the basic requirements for sources in Illinois. The board has standards for sources of particulate matter 10 (PM<sub>10</sub>). The application shows that the plant is in compliance with applicable state and federal emission standards.

The principal air contaminant of concern for this type of operation is particulate matter 10 (PM<sub>10</sub>). During the sodium phosphate production, PM<sub>10</sub> are released. These PM<sub>10</sub> are collected and ducted to scrubbers and baghouse. Scrubber and baghouse are PM<sub>10</sub> and PM emission control devices prior to the release into the atmosphere. This plant also combusts natural gas and releases small quantities of nitrogen oxides and carbon monoxide due to the incomplete combustion of natural gas.

## **V. CONTENTS OF THE PERMIT**

The renewed 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.

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 Particulate matter 10 (PM<sub>10</sub>), (Annual emissions of other pollutants from the plant are well below the 100 ton major source threshold.)

The permit would also set limitations on requirements to assure that this facility will be operated as a non-major source. The permit sets limitations on Sodium Phosphate Production Plant emissions. These limitations are consistent with the historical operation and capacity of the facility.

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 the requirements for renewal of its permit. The Illinois EPA is therefore proposing to renew 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.