

Illinois Environmental Protection Agency
Bureau of Air, Permit Section
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Project Summary for a
Construction Permit Application from
Akzo Nobel Surface Chemistry LLC for Changes to
Fuel Combustion Equipment
at Its Existing Plant in
Morris, Illinois

Site Identification No.: 063800AAE
Application No.: 10080056

Illinois EPA Contacts

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Important Dates:

Application Received: August 20, 2010
Public Comment Period Begins: November 15, 2010
Public Comment Period Closes: December 15, 2010

I. INTRODUCTION

Akzo Nobel Surface Chemistry LLC (Akzo) has applied for a construction permit for changes to the heating equipment at its existing chemical manufacturing plant in Morris. The changes will maintain a reliable supply of steam and heat for existing manufacturing operations.

The Illinois EPA has reviewed the application and made a preliminary determination that this application meets applicable requirements. Accordingly, the Illinois EPA has prepared a draft of the air pollution control construction permit that it would propose to issue for this project. However, before issuing this permit, the Illinois EPA is holding a public comment period to receive written comments on the proposed issuance of this permit and the terms and conditions of the draft permit.

II. PROJECT DESCRIPTION

At its Morris Plant, Akzo manufactures various organic chemicals to produce products such as surfactants and fabric softeners.

This project involves a modification to one of the existing boilers, replacement of a boiler, and replacement of a process heater. The boilers would supply steam for plant operations. The heater would heat a heat transfer fluid to be used for plant operations. Each of these units will be equipped with low NO_x burners for control of nitrogen oxide (NO_x) emissions.

The existing Nebraska Boiler will be allowed to fire at 55.8 mmBtu/hr. This boiler was previously limited by at 41 mmBtu/hr. This boiler would also be authorize to combustion scrap fat (Mode E), in addition to natural gas, nitrile pitch, fuel oil, and fatty acid pitch.

The existing Keystone Boiler will be decommissioned and replaced by a boiler manufactured by Volcano. This "new" boiler will be relocated from Akzo's McCook facility. It will have a maximum firing rate of 66.9 mmBtu/hr, compared to 49.9 mmBtu/hr for the existing boiler. This boiler will have five modes of operation: (A) natural gas only, (B) natural gas and nitrile pitch, (C) natural gas and fatty acid pitch, (D) natural gas and distillate fuel oil, and (E) natural gas and scrap fat. The pitches and scrap fat are fuel quality by products from manufacturing operations at the plant.

The existing Dowtherm Heater will be decommissioned and replaced by a new Dowtherm Heater. This new heater will have a maximum firing rate of 34.5 mmBtu/hr, compared to 23.4 mmBtu/hr for the existing heater and will also operate under the five modes of operation as discussed above.

III. APPLICABLE EMISSION STANDARDS

The boilers and heater are subject to federal New Source Performance Standards (NSPS). The NSPS contain standards for sulfur dioxide (SO₂) and particulate matter (PM). These standards apply when the units are combusting fuel oil either alone or in combination with other fuels.

All emission units in Illinois must comply with Illinois Pollution Control Board emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. Fuel combustion emission units are subject to state regulations for various pollutants including PM, SO₂, carbon monoxide (CO), and nitrogen oxides (NO_x).

IV. EVALUATION OF THE CHANGE IN EMISSIONS

The proposed project is not a major project for purposes of Prevention of Significant Deterioration (PSD), 40 CFR 52.21 and Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203, also known as nonattainment new source review (NA NSR). While the project emissions for NO_x are significant, Akzo has chosen to evaluate the net change in NO_x emissions at the source. This evaluation involves summing all creditable increases and decreases in NO_x emissions for the project as well as other creditable increases and decreases that have occurred over the contemporaneous¹ time period. The results of this evaluation show that the net changes in NO_x emissions for this project will be less than significant, i.e., an increase of 35.6 tons per year compared to the 40.0 ton per year significant emission rate for NO_x. A summary of this evaluation is provided in Attachment 2 of the draft permit.

V. CONTENTS OF DRAFT PERMIT

The draft permit contains appropriate conditions for implementation of the applicable state and federal standards from the units affected by this project. These standards require emissions testing, ongoing monitoring and recordkeeping to verify compliance.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this proposed project meets all applicable state and federal air pollution control requirements, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA on this proposed issuance of a permit for this project. If substantial public concern is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 IAC Part 166.

¹The contemporaneous time period for NA NSR begins August 2005. The contemporaneous time period for PSD begins at commencement of startup of the project, which will be after August 2005. Since there are no contemporaneous decreases other than project decreases, using the NANSR contemporaneous time frame is the more stringent approach.