

Illinois Environmental Protection Agency  
Bureau of Air, Permit Section  
1021 North Grand Avenue East  
P.O. Box 19506  
Springfield, Illinois 62794-9506  
217/782-2113

Project Summary for a  
Construction Permit Application From  
Afton Chemical Corporation for Changes  
To the Existing Unit 270 Flare in  
Sauget, Illinois

Site Identification No.: 163121AAB  
Application No.: 06020100

Illinois EPA Contacts:

Permit Analyst: Kevin Hecht  
Community Relations Coordinator: Brad Frost

Important Dates

Application Received: May 1, 2007  
Comment Period Begins: March 20, 2008  
Comment Period Closes: April 19, 2008

## I. Introduction

Afton Chemical Corporation has applied for a revised construction permit for a new flare at its oil additives manufacturing plant in Sauget, Illinois. The revised permit would set federally enforceable limits so that the plant would not be major for emissions of Hazardous Air Pollutants (HAP) as a result and would not be subject to the emission control requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63 Subpart FFFF. As these limits would be included in a construction permit for new equipment at the plant, these conditions would be enforceable by both the State of Illinois and the U.S. Environmental Protection Agency.

## II. Application Description

The plant manufactures oil additives for motor oil and various other organic chemicals. Unit 270 manufactures various additives for motor oil (including sulfonate detergents and antioxidants) or their intermediates in batch reactors. Afton has requested a revised construction permit for the new flare installed on Unit 270. Unit 270 is the principle source of HAPs at the plant, due to the organic compounds that are part of the feedstocks for the additives. Organic emissions from the reactors and associated tanks have been historically controlled by various condensers and scrubbers.

In 2006, Afton received a construction permit to add a flare to enhance the level of control for organic emissions to comply with the future NESHAP. Afton has determined that the flare would enable the plant to be a minor source of HAP. The purpose of the requested revision to the permit is to add limitations that constrain the plant to minor source status so as to not be subject to the NESHAP which would otherwise take effect on May 10, 2008.

## III. Emissions

The principle HAPs emitted from Unit 270 are hexane and methanol. The revised permit would limit use of hexane and methanol in Unit 270 and HAP emissions of Unit 270. The permit would also limit overall emissions of HAP at the source in order to keep HAP emissions below major source levels, i.e., less than 10 tons per year of any individual HAP and less than 25 tons per year of all HAPs combined.

The new flare has emissions of nitrogen oxides (NO<sub>x</sub>) and carbon monoxide (CO) as a result of combustion in the flare. However, the emissions of these pollutants are not significant.

The revised permit would limit the HAP emissions from the plant so that it would not be a major source for HAPs, and thus not subject to the emission control

requirements of the NESHAP for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63 Subpart FFFF.

#### IV. Applicable Emission Standards

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The Board has standards for emission of NO<sub>x</sub>, SO<sub>2</sub>, CO, VOM, and PM. This site readily complies with all applicable Board standards.

As a result of this permit action, the plant would not be subject to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP).

#### V. Draft Permit

The conditions of the permit would contain limitations and requirements to ensure that the plant will be operated as a non-major source for emissions of HAPs. The revised permit would limit the HAP emissions from the plant so that it would not be a major source for HAPs, and thus not subject to the emission control requirements of the NESHAP for Miscellaneous Organic Chemical Manufacturing, 40 CFR 63 Subpart FFFF. The permit would set limitations on the amount of HAP used in Unit 270 and ducted to the flare. It would also require that the flare be operated in accordance with the relevant provisions of the NESHAP, which requires a specific level of emission control.

The permit conditions would also establish appropriate compliance procedures, including testing, monitoring, and recordkeeping requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the facility is operating within the limitations set by the permit and is properly controlling emissions.

The provisions of the revised construction permit would eventually be incorporated into the plant's CAAPP permit.

#### VI. Request for Comments

It is the Illinois EPA's preliminary determination that the application for a revised permit 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 a revised permit that would limit the emission of HAPs from the plant.

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 Ill. Adm. Code Part 164.

KTH:kth