

PROJECT SUMMARY

I. Introduction

Construction permit applications have been voluntarily submitted by ExxonMobil Oil Corporation (ExxonMobil) and Air Products and Chemicals, Inc. (Air Products) for a single project involving the production of ultra low sulfur diesel and the required hydrogen.

The application for ExxonMobil is a revision to the original construction permit which was for production of ultra low sulfur diesel (referred to as the uLSD Project). This revision is to address a change in the project related to the supply of hydrogen needed for this project. That original permit was issued based upon the project resulting in a less than significant increase in volatile organic material (VOM) emissions.

The application for Air Products and Chemicals, Inc. is for construction of a hydrogen plant (referred to as the Hydrogen Plant Project), which will be designed and operated to produce hydrogen that will be sent to the adjacent ExxonMobil Refinery, along with the byproduct steam from the hydrogen production process. The hydrogen plant will provide the hydrogen needed for the refinery's Ultra Low Sulfur Diesel (uLSD) project.

Because the emissions from the project (uLSD Project and the Hydrogen Plant) plus all other net increases in emissions are significant, the project is subject to 35 IAC 203: Major Stationary Sources Construction and Modification (MSSCAM). After reviewing all materials submitted by ExxonMobil Oil Corporation and Air Products and Chemicals, Inc., the Illinois EPA has determined that the project will use work practices that will comply with all applicable Board emissions standards and meet the Lowest Achievable Emission Rate (LAER) as required by MSSCAM. The proposed limits would be accompanied by recordkeeping, reporting and monitoring requirements.

II. Source Description

ExxonMobil Oil Corporation operates an oil refinery in Will County. Will County is designated as attainment for all pollutants except ozone and PM_{2.5}. Because the original application for the uLSD Project was submitted at a time that Will county was designated as severe ozone nonattainment (1-hour standard) the Illinois EPA will be subjecting these related projects (uLSD and Hydrogen Plant) to this standard. Note that Will county has subsequently been reclassified as moderate nonattainment for the 8-hour ozone standard. For PM_{2.5}, emissions of PM₁₀ will be used as a surrogate in accordance with USEPA guidance. Accordingly, this project is less than significant for emissions of PM, PM₁₀ and PM_{2.5}. Emissions of attainment pollutants are less than significant.

ExxonMobil has determined that the current hydrogen production capacity of the refinery is inadequate for the uLSD project and that additional supply is needed. The hydrogen for this project would be supplied by a new hydrogen plant located at the Refinery but will be owned and operated by Air Products. The operation of the new hydrogen plant would be accompanied by volatile organic material (VOM) emissions that alone would not be considered

significant. The Illinois EPA is considering ExxonMobil's uLSD project and Air Products' Hydrogen Plant a single project for purposes of New Source Review.

For purposes of this permit, the Hydrogen Plant is considered a support facility for the ExxonMobil Joliet Refinery that is being installed in conjunction with the Refinery's uLSD Project. Therefore, for purposes of applicability of New Source Review regulations, the Hydrogen Plant (in conjunction with the uLSD Project) is being treated as a modification to an existing major stationary source, the ExxonMobil Joliet Refinery.

III. Emissions

The hydrogen plant would be accompanied by volatile organic material (VOM) emissions that alone would not be considered significant. However, the emissions from this project when combined with all other net increases in emissions from the existing source (ExxonMobil - Joliet Refinery) over the calendar years 2002 through 2006 exceed 25 tons, therefore this project results in a significant net emissions increase triggering the requirements for LAER and offsets.

The only new or modified units associated with the uLSD project are components and individual drain systems, both of which emit VOM. These units will have specific emission limits and LAER requirements in the permit.

The hydrogen plant will consist of heaters, miscellaneous process vents, components and individual drain systems, all of which emit VOM. These units will have specific emission limits and LAER requirements in the permit.

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 sources of volatile organic material. This project readily complies with all applicable Board standards.

V. Proposed Permit

The conditions of the proposed permit contain limitations and requirements to assure that this facility will comply with all applicable Board emissions standards and meet the Lowest Achievable Emission Rate (LAER) as required by MSSCAM.

The permit conditions also establish appropriate compliance procedures, including inspection practices, recordkeeping requirements, monitoring requirements and reporting 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.

VI. Request for Comments

It is the Illinois EPA's preliminary determination that the facility 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 permit with federally enforceable limits for this construction project.

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 166.

JMS: