



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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CHICAGO, IL 60604-3590

FEB 26 2015

Mr. Ray Pilapil
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, Illinois 62794-9276

REPLY TO THE ATTENTION OF:

Dear Mr. Pilapil:

The U.S. Environmental Protection Agency has reviewed the draft Construction Permit No. 14070042 (Draft Permit) proposed by the Illinois Environmental Protection Agency (IEPA) for ExxonMobil Oil Corporation's Fluidized Catalytic Cracking Unit (FCCU) Feed Dewatering Project. The project will occur at ExxonMobil's Joliet, Illinois, refinery located at the intersection of I-55 and Arsenal Road near Channahon, in Will County, Illinois. The project will include the installation of a new cold feed settling drum, a new parallel pump, and piping, valves, instrumentation and other components, to allow removal of water from feed prior to introduction to the FCCU. The project will cause an increase in actual throughput at the FCCU and all downstream process units.

EPA has the following comments on the Draft Permit:

- 1. EPA's review of the application indicates that the project is a physical change in or change in the method of operation of the FCCU and other downstream units.**

The Draft Permit states that the project is subject to Nonattainment New Source Review (NNSR) for emissions of Nitrogen Oxides (NOx) but it is not subject to Prevention of Significant Deterioration (PSD) review for any pollutant. Additionally, the Draft Permit explains that as the units associated with the project "do not undergo a physical change or change in the method of operation," this project does not trigger a requirement for Lowest Achievable Emission Rate (LAER) for these units. However, according to the application and subsequent discussions with IEPA and ExxonMobil, the project will involve physical connections to the FCCU that will increase throughput and likely change the composition of the feed to the FCCU and downstream process units, tankage and loading to barges.

- a. Notwithstanding the FCCU definitions in 40 C.F.R. §§ 60.101(m) and 60.101a, EPA believes that, for purposes of New Source Review (NSR), the physical connections

that would be made to the FCCU in order to enable increased throughput to the FCCU constitute a physical change or change in the method of operation of the FCCU.

- b. EPA believes that the change in the FCCU feed composition and the composition of material fed to downstream emission units constitutes a change in the method of operation of those units. In addition, it is not clear whether or not the project will result in a change in any operating parameters at the FCCU or any of the downstream emission units in order to accommodate the increased throughput or change in the feed composition to the FCCU or other units.
 - c. Please revise the emissions calculations, PSD and LAER applicability analyses and the Draft Permit, as appropriate, to reflect that the project will result in a physical change or change in the method of operation of the FCCU and other downstream emission units, or explain with supporting information why the project should not be considered a physical change in or change in the method of operation of the FCCU or any downstream emission unit. We recommend that IEPA review the full project approval reports, such as capital expenditure reports or other approvals, to determine the full scope of this project.
- 2. It is not clear from our review of the application whether or not the baseline actual emissions reported in Table B-1 of the application were properly calculated.**

The application shows that the applicant selected a baseline period of June 2006 to May 2008 (Table B-1) for the purpose of calculating baseline actual emissions for PSD applicability. We have the following concerns:

- a. Based on discussions with IEPA and ExxonMobil during the public comment period, we understand that ExxonMobil installed a Continuous Emissions Monitoring System (CEMS) for NO_x emissions from the FCCU in May 2007 and another NO_x CEMS for pretreater heaters 17-B-1 and 17-B-2 during the baseline period. However, the application does not include the CEMS data. At a minimum, the application and the permit record should include monthly emissions data for each month of the baseline period including data for the months with and without the CEMS operating. For the period without CEMS data, the application should show how emissions were estimated for that period including a discussion on the source(s) and appropriateness of any emission factors used.
- b. The application notes that a 2005 NSR Consent Decree, Case No. 05 C 5809, (2005 Consent Decree) required ExxonMobil to install emissions controls on the FCCU and

other units. As a consequence of the 2005 Consent Decree and subsequent permit actions, the application notes that the FCCU is now subject to a NO_x limit of 20 parts per million (ppm), 365-day rolling average. The PSD regulations at 40 C.F.R. § 52.21(b)(48)(ii)(c) require that the baseline actual emissions be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the emission unit must currently comply. Only emissions that would have exceeded any currently-applicable emission limit can be adjusted consistent with the averaging period of the currently-applicable emission limit(s). The applicant should explain, with supporting data, how it adjusted the baseline actual emissions downward for each CEMS and non-CEMS measurement that would have exceeded any emission limit that currently applies, consistent with the averaging period of the currently-applicable emission limit.

3. ExxonMobil's proposal to revise its projected actual emissions in light of the above requested changes to the baseline actual emissions calculations needs further justification.

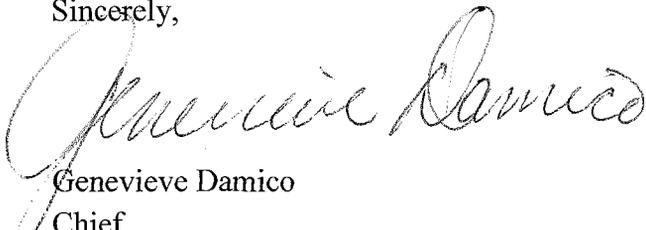
On February 20, 2014, ExxonMobil submitted updated emissions calculations to IEPA in which it proposed to revise its projected actual emissions thereby ensuring that the project is not subject to PSD review. In a subsequent phone conversation with IEPA and EPA, ExxonMobil explained that the calculation of projected actual emissions in the original permit application is based on the maximum *hourly* production rate realized during the period April 2011 to March 2013. This period corresponds to the baseline period used by ExxonMobil for NNSR applicability. In the February 20, 2014 proposal, ExxonMobil proposes to base its projection on the maximum *annual* production rate realized over that same period. Although the PSD rules do not specify whether hourly or annual actual production data must be used to project emissions, 40 C.F.R. § 52.21(b)(41) is very clear about the type of information upon which the applicant must base its projections. Specifically, 40 C.F.R. § 52.21(b)(41)(ii)(a) requires that the applicant must consider "all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved State Implementation Plan." Because the permit application claims to have considered all of the information listed in 40 C.F.R. § 52.21(b)(41)(ii)(a) when it originally projected its actual emissions after the project, ExxonMobil should justify, with supporting data, how its proposed revision to the calculation of projected actual emissions complies with 40 C.F.R. § 52.21(b)(41).

4. The use of the “demand growth exclusion” of 40 C.F.R. § 52.21(b)(41)(ii)(c) may not be appropriate.

Under 40 C.F.R. § 52.21(b)(41)(ii)(c), an applicant may “exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit’s emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth.” The permit application includes ExxonMobil’s estimates of “excludable” emissions in Table B-1. For the FCCU, process heaters and other units, the application states that the emissions that could have been accommodated are based on the highest throughput achieved during the 2006-2008 baseline period. However, we do not believe that all of these emissions following the project are *unrelated* to the project. This is because it appears that the application did not take into account a possible reduction in the emissions as a result of the 2005 Consent Decree that required upgrades to process and emissions control equipment. After the 2005 Consent Decree, it appears that actual emissions considerably decreased as illustrated by the 2011-2013 NNSR baseline emissions. Consequently, any projected increase in emissions (compared to the post-Consent Decree emissions) following the current project is likely “related” to the current project and thus cannot be excluded. We recommend that excludable emissions be limited to emissions actually achieved during the 2011-2013 period or other acceptable period that reflects the actual emissions realized after the conclusion of all equipment upgrades or installations required by the 2005 Consent Decree.

We provide these comments to help ensure that the PSD permit meets all federal requirements, and that the record provides adequate support for the permit decision. We look forward to working with you to address our comments. If you have any questions, please feel free to contact me at (312) 353-4761 or David Ogulei, of my staff, at (312) 353-0987.

Sincerely,



Genevieve Damico
Chief
Air Permits Section