



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION 2
290 Broadway
New York, NY 10007-1866**

JUL 19, 2001

Mr. Louis Mikolajczyk, Chief
Bureau of New Source Review
New Jersey Department of Environmental Protection
P.O. Box 027
Trenton, NJ 08625-0027

Re: Valero Refinery Oxygen Enrichment Project

Dear Mr. Mikolajczyk:

We have reviewed the material submitted by the Valero Refining Company (Valero) on June 11 and June 25, 2001, describing their request to install facilities to inject oxygen into the fluid catalytic cracking unit (FCCU) regenerator at their refinery in Paulsboro. We have evaluated the options for processing this request according to approved rules, and accepted policies and practices. Based on the information we have, we recommend that Valero submit to your agency an application to include oxygen enrichment as an amendment to the currently pending Prevention of Significant Deterioration (PSD) application, unless additional information can justify employing one of the options below.

Option 1: Enforcement Bridge

On rare occasions, EPA may allow construction to commence prior to permitting. However, this approach is generally reserved for emergencies and times of great national need, and is implemented through our enforcement offices. In the absence of a declaration of need from an independent agency, we do not see grounds for employing this option for this project.

Option 2: Minor Permit Modification

When large facilities have multiple modifications in various stages of planning and development, it is important to understand the relationship between the projects, to determine if it is appropriate to process them as separate permitting actions, or jointly. We are concerned with the relationship between the oxygen enrichment project and the project described in the December, 2000 permit application currently pending, described by Valero as the Administrative Consent Order (ACO) PSD project.

EPA guidance¹ lists several factors that may indicate the proper permitting approach. In this case, only one of those factors, financing, clearly separates the projects. The other factors, most importantly planning cycle and expected production rates, indicate that this is probably one project. Below, we suggest questions you may ask to facilitate a more specific response to Valero's proposal. However, EPA is not suggesting that these are the only factors to be considered.

We do not have sufficient information on the following issues. Once you obtain responses from Valero on the items below, we will be willing to reconsider the permit implications of the oxygen enrichment project. However, based on the information we currently have, Valero should submit a PSD application for these changes.

- Does Valero intend to implement other physical changes or changes in the method of operation at the FCCU during the current business planning cycle? We understand that the timing of the ACO PSD application was dictated in part by the current state action against Valero. To the extent that any of the changes requested in that application are currently being implemented, those changes may belong to a previous planning cycle. Valero has indicated the ACO PSD application will be revised significantly in the next few months. The nature of these plans influences the connection between the oxygen enrichment project and the ACO PSD project.
- If Valero does plan to implement other modifications at the FCCU, do they plan to discontinue oxygen enrichment prior to those changes? One factor to consider is whether oxygen enrichment is a temporary enhancement that is not part of long range plans at the facility.
- If Valero does plan to implement other modifications at the FCCU, and intends to continue oxygen enrichment, is the maximum oxygen injection capacity proposed at this time sufficient to provide enough oxygen to meet the requirements of further (planned) expansions at the plant? If facilities were to be installed to provide additional oxygen at that time, that would tend to indicate the projects should be reviewed jointly.

Emissions Estimates

We would like to comment on the method of determining the net emissions increases from the oxygen enrichment project. As we understand the project, the emissions for which the increase must be calculated are those resulting from the injection of oxygen to increase efficiency and production at the FCCU, plus those emissions increases at other units directly caused by this increased throughput. The information we have indicates that the only other unit at the plant affected by this is the catalytic hydrodesulfurization unit, CHD-1. If Valero plans to increase the use of DeSO_x catalyst to counteract

¹See EPA guidance dated June 13, 1989 from the Office of Enforcement and Compliance Monitoring and the Office of Air Quality Planning and Standards, entitled "Limiting Potential to Emit in New Source Permitting." Also see the 1992 memorandum from John B. Rasnic, Director, Stationary Source Compliance Division, OAQPS, to George T. Czerniak, Chief Air Enforcement Branch, Region V, entitled, "Applicability of New Source Review Circumvention Guidance to 3M - Maplewood, Minnesota."

emissions increases related to oxygen enrichment, then we would accept that as a part of the definition of the "project."

The emissions estimates provided to date have not been very specific. Creditable emissions increases or decreases should be quantifiable and, if possible, associated with operational parameters. For example, Valero should specify the maximum designed oxygen injection rate and the expected resulting increase in annual SO₂ emissions. Similarly, if Valero proposes the project as including DeSO_x catalyst, Valero should calculate the amount of DeSO_x catalyst that will be added to decrease annual SO₂ emissions, and specify in the permit application the resulting amount of decrease expected.

We would also like to comment on the appropriate accounting of emissions from the catalytic hydro-desulfurization unit, CHD-1. We understand that the material throughput to this unit will increase as a result of oxygen enrichment. However, we do not know whether the recently revised emissions limits permitting a physical change to the CHD-1 in November 2000, will need to be relaxed due to this increased throughput. If Valero requests these limits be relaxed, then the amount of relaxation beyond those permit limits should be counted as debottlenecked emissions associated with the oxygen enrichment project. If Valero does not plan to request changes to the currently permitted CHD-1 emissions, then the emission changes from that recent permitting exercise should not be considered as part of the oxygen enrichment project emissions. However, they must be considered as part of the facility-wide accounting of contemporaneous increases and decreases, which is required in the review of the ACO PSD project.

Thank you for this opportunity to provide our comments on this proposal. Please feel free to contact Ms. Lauren Steele, of my staff, at (212) 637-3583, if you would like to discuss any of these issues further.

Sincerely,

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Steven C. Riva, Chief
Permitting Section
Air Programs Branch

cc: Max Friedman, NJDEP