June 1, 2000

Mr. Mark C. Luce, Sr. Environmental Engineer
Chevron Research and Technology Company
100 Chevron Way, P.O. Box 1627
Richmond, CA 94802-0627

Re: Request for Clarification of Issues Raised by EPA's November 29, 1999 memo on the "Petroleum Refinery Residual Listings/ Solid Waste Definition Exclusion Rule" (63 FR 42110, August 6, 1998)

Dear Mr. Luce:

Thank you for your letter of February 9, 2000 in which you requested clarification of issues related to the regulatory status of spent hydroprocessing catalysts and clarification of my recent memorandum dated November 29, 1999, on spent catalysts from dual purpose hydroprocessing units.

In your letter you suggested that since the issuance of the petroleum listing rule, EPA has introduced new concepts not previously used and that "new definitions" no longer correspond to industrial terms of art used during the listing effort. You noted that Chevron has complied with the November 29, 1999 memorandum, under protest, even though Chevron believes the interpretation is not legally or technically justified. You stated in your letter that Chevron is managing millions of pounds of spent hydrocracking catalyst as though it were a listed hazardous waste due to the fact that "in addition to cracking hydrocarbon, the unit also converts sulfur and nitrogen into compounds that are separated downstream." You then argue that these spent catalysts should be considered spent hydrocracking catalyst, and not subject to the hazardous waste listings, by your understanding. You requested EPA confirm that your guidance is appropriate for identifying the status of these spent catalysts and that, if it is not, explain how your definitions are different from the waste streams identified in the Federal Register.

In response to the first issue, the Agency does not agree it has altered the petroleum listing regulation in any way and continues to believe that subsequent interpretations recently contained in our letter of November 29, 1999 are entirely consistent with the regulation. Therefore, we do not believe we need to re-define what we have listed through further notice and comment rulemaking.

In response to your second issue, the status of the category of spent catalyst you described in general terms, we continue to consider spent catalyst that performed a treating function to be listed hazardous waste. However, as we clarified in a more recent memorandum, dated June 1, 2000, (attached for your convenience), the Agency does not consider spent catalysts from petroleum hydroprocessing reactors to be a listed hazardous waste solely because some incidental and minimal amount of hydrotreatment of feeds occurs in hydrocracking reactors. In any case, without specific information on the units you describe, we are unable to draw a definitive conclusion about the status of the catalyst.

For your request of an analysis of your guidance, we offer the following comments. Overall, we cannot agree that it is appropriate for identifying the status of spent hydroprocessing catalyst. The initial step the guidance utilizes to separate hydrocracking from other hydroprocessing catalysts, *i.e.*, percentage of C3+ obtained across a unit, is contrary to the approach used in the listing determination. The Agency rejected reliance on percentages of feed that are reduced in molecular size as a criterion for differentiating between catalysts covered by the listing and those not covered by the listing. Instead, we relied on the definitions in the Petroleum Supply Annual and stipulated that the way to differentiate these catalysts is based on function performed by a catalyst in the refining process. Therefore, we conclude that the guidance cannot be used to make decisions governing whether or not a catalyst is covered by the listing determination.

One additional comment on the guidance is that the guidance states in the first paragraph that "[EPA] chose not to list hydrocracking spent catalyst" in the recent listing. This is potentially misleading. While EPA chose at this time not to list hydrocracking catalyst, EPA did not determine that this catalyst does not pose a significant hazard and reserves the right to conduct a listing determination on this wastestream in the future.

Although your letter does not contain specific information about a particular hydroprocessing unit and associated catalyst to which we can provide a specific response regarding its regulatory status, it is our understanding that several Chevron facilities use the Chevron / ABB Lummus Global ISOCRACKING technology. We further understand that the Chevron/ABB Lummus ISOCRACKING process has a two-stage operation in which the first stage performs a hydrotreating function by removing sulfur, nitrogen, and traces of metals from the feed, while cracking some of the feed, and a second stage processes hydrogenated feed that contains very few heteroatoms and cracks the remaining feed using a separate catalyst. In the case of this particular unit, EPA would consider the spent catalyst removed from the first stage of the process to be a listed hazardous waste (K171). We would consider the catalyst removed from the second stage to be a spent hydrocracking catalyst, and not subject to the hazardous waste listings. However, the spent catalyst from the second stage of the ISOCRACKING process is subject to evaluation under EPA's hazardous waste characteristics regulations.

I want to note that Chevron exercised prudent and appropriate judgement in managing its waste in a compliant manner while you raised your concerns. Should you have any additional questions regarding the regulatory status of the spent hydroprocessing catalysts, please contact Patricia Overmeyer of my staff at (703) 605-0708.

Sincerely,

Elizabeth Cotsworth, Director
Office of Solid Waste