Mr. Rob Short
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Dear Mr. Short,

Thank you for your letter dated February 8, 2002 in which you posed twelve detailed questions concerning the regulatory status of oil-bearing hazardous secondary materials under the Resource Conservation and Recovery Act (RCRA). Specifically, you requested clarification on numerous aspects of the exclusion at 40 CFR section 261.4(a)(12)(i), which was promulgated in the August 6, 1998 *Federal Register* (63 *FR* 42110). I apologize for the delay in responding to your questions. Because of the variety and detail of your questions, I have chosen to enclose, as separate document, each of your questions along with our corresponding response.

I would like to reiterate that under Section 3006 of RCRA (42 U.S.C. Section 6926), individual States can be authorized to administer and enforce their own hazardous waste programs in lieu of the federal program. Please also note that under Section 3009 of RCRA (42 U.S.C. Section 6929) States retain authority to promulgate regulatory requirements that are more stringent than federal regulatory requirements. While I have tried to provide general guidance on the RCRA program for the issues you raised in your letter, I recommend that you consult the agency implementing the authorized RCRA subtitle C program in the state where your specific facility or activity is located to help determine the status of the waste stream in question.

Finally, let me clarify that in your questions you use the term “residuals” to describe materials that may be eligible for the exclusion at 261.4(a)(12)(i). I refer to these materials as “oil-bearing hazardous secondary materials” in my responses, consistent with the language of that regulation. I use the term “residuals” to describe any materials that are not ultimately inserted into the refining process, and are discarded. If you have any further questions, please contact Ross Elliott of my staff at 703-308-8748.

Sincerely yours,

Robert Springer, Director
Office of Solid Waste

Enclosure

RO 14677

ENCLOSURE

Questions from Mr. Rob Short, Tetra Services, L.C., February 8, 2002 and Answers from the Environmental Protection Agency, Office of Solid Waste

Tetra is requesting written clarification from the EPA regarding issues identified within the following sections of this correspondence. The identified issues address the regulatory status of Residuals which are managed, transferred, stored, and processed under the conditions of the Exclusion. The identified issues also address the regulatory status of equipment used to manage, transfer, store, and process Residuals under the conditions of the Exclusion.

Issues Regarding the Management of Residuals Under the Exclusion

1. What Residuals Qualify Under the Exclusion? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals (i.e., sludges, by-products, or spent materials) that result from a petroleum refining operations (SIC code 2911) and are to be inserted into the petroleum refining process (SIC code 2911). Applicability of the Exclusion extends to Residuals which exhibit a hazardous characteristic (e.g., D018) and Residuals which are listed under subpart D of RCRA (e.g., F037, F038, K048 - K052, and K169 - K172). However, the Exclusion is limited to Residuals resulting from petroleum refining operations (SIC code 2911).*

Answer: First, your question describes the exclusion at 40 CFR 261.4(a)(12)(i) as applying to "all residuals" from petroleum refining operations; a more accurate statement is that the exclusion applies to *oil-bearing hazardous secondary materials* that are generated from petroleum refining operations *and* that can be legitimately recycled at a petroleum refinery, under the conditions set out in the exclusion. In the final rule published in the August 6, 1998 *Federal Register* (63 *FR* 42110), while we did not specify a minimum oil content for these oil-bearing hazardous secondary materials, we did stress that there must be some recoverable amount of hydrocarbons to make the recycling legitimate. (See also answer to Question 12 below).

Regarding the types of oil-bearing hazardous secondary materials to which the exclusion applies, generally it does not matter whether the materials are hazardous because they are listed in 40 CFR, Part 261, subpart D, or because they exhibit a hazardous characteristic under Part 261, Subpart C. The exclusion applies to oil-bearing *hazardous* secondary materials, irrespective of whether they are listed or exhibit a hazardous characteristic. Of course, certain residuals from recycling (that are discarded) may be regulated differently depending upon whether the initial material met a listing, versus exhibited a characteristic (*e.g.*, see answer to Question 2 below regarding use of the F037 code).

Finally, I note that you have included the waste codes K171 and K172 in your question, corresponding to the spent hydrotreating (K171) and hydrorefining (K172) petroleum catalysts, indicating that these particular wastes might be recycled under the exclusion in 40 CFR 261.4(a)(12)(i). We discussed the recycling of these catalysts a great deal in the proposed and

final rules[1]. However, we did not specifically discuss recycling these two listed spent catalysts as "oil-bearing hazardous secondary materials" under 261.4(a)(12)(i)[2], beyond stating in the preamble that this exclusion can apply to "..any oil-bearing material generated at a petroleum refinery, including oil-bearing wastes currently regulated as listed hazardous wastes (e.g., K048–K051), and including refinery wastes newly listed under today's rulemaking that are suitable for insertion into normal petroleum refining operations." 63 *FR* at 42118. Therefore, I would make the following clarification.

First, if petroleum catalysts are removed from one particular refining process, but still can be used elsewhere in the refining process for continued use as a catalyst, then these materials are not wastes, irrespective of the exclusion at 261.4(a)(12)(i). Second, where the catalysts are spent and removed from the refining process either for disposal or recycling, but oil is first recovered and inserted back into the refining process, this oil can be considered a "recovered oil" (see 40 CFR 261.4(a)(12)(ii)) and is excluded from the definition of solid waste (although the spent catalyst retains its original waste code, K171 or K172). Finally, the exclusion at 40 CFR 261.4(a)(12)(i) does not preclude a refinery owner/operator from viewing the entire spent catalyst as an "oil-bearing hazardous secondary material," in those situations where some type of processing (as discussed in response to Question 2 below) yields material that is inserted into the refining process (e.g., oil), and where the remaining material is discarded (in this case, as F037 per this exclusion).

Let me note that the record supporting the August 6, 1998 rulemaking reflects the fact that in many instances, oil is *added to*, not *recovered from*, spent petroleum catalysts, in order to reduce the pyrophoric (self-heating) nature of these wastes. 63 *FR* at 42157. Therefore, I stress that the recycling must be legitimate in all instances under all of the scenarios described above. Furthermore, under 261.4(a)(12)(i), I believe it is unlikely that a refinery would insert bulk spent catalyst into a refining process such as a distillation unit or a petroleum coker, for the purpose of oil recovery, due to obvious technical limitations. In the example of the coker, such insertion could also significantly degrade coke quality, a possible indication of sham recycling. 63 *FR* at 42125. However, because there still may be situations where hydrocarbons can be legitimately recovered either from spent petroleum refining catalyst, or other oil-bearing material that contains spent petroleum refining catalyst, the exclusion at 261.4(a)(12)(i) could be applied. An example might be where the catalyst is subjected to some preprocessing steps, after which the oil is returned to petroleum refining process for further refining. I also note that my office presently

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[1]See 63 *FR* at 42116. See also numerous comment responses regarding catalyst recycling issues in *Petroleum Refining Listing Determination, Proposed Rule Response to Comment Document, Part IV*, June 1998.

[2]Several types of catalyst recycling were discussed in this rulemaking: 1) reclamation ('regeneration') of spent petroleum catalysts for reuse as catalysts; 2) reclamation of metals from spent catalysts, such as vanadium; and 3) a national variance from the definition of solid waste for partially-reclaimed metals from the metals recovery process.

is reviewing a petition for rulemaking on issues that may impact how this exclusion is applied to spent catalysts, particularly with regard to the classification of spent catalyst that meets the K171 or K172 listing description, but could be reclassified as F037 should the generator apply the exclusion described above. Any future action the Agency proposes to take on this matter will be duly noticed to the public.

2. Is the Exclusion Applicable to Residuals Requiring Processing Prior to Insertion into the Petroleum Refining Process? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals (i.e., sludges, by-products, or spent materials), including Residuals that require processing or reclamation prior to insertion of the entire Residual or a reclaimed portion of the Residual, into the petroleum refining process.*

Answer: The Agency has acknowledged that some oil-bearing hazardous secondary materials cannot be directly inserted into particular petroleum refining processes, and therefore may require some type of processing or preparation beforehand (*e.g.*, centrifugation, desorption, settling, etc.). 63 *FR* at 42113-42114, 42128. We generally view these activities as part of normal petroleum refining activities. During the rulemaking, we were particularly concerned with the management of any discarded residuals generated from the processing of oil-bearing hazardous secondary materials, and thus developed an approach to ensure that these discarded residuals continue to be managed appropriately. In responding to public comments when the exclusion was promulgated, we said:

> "In the final rule, EPA clarifies that the exclusion for oil-bearing secondary materials returned to the refining process only extends to the materials actually re-inserted into the refinery process. In cases where oil-bearing secondary materials are reclaimed prior to re-insertion, any residuals that may result from the reclamation process and that are not returned to the refinery process retain the hazardous waste listing and must be managed as hazardous wastes. In the final rule, the Agency is modifying the descriptions for the F037 waste code to include any residuals from the processing of listed (refinery) hazardous wastes."[3]

The language above was intended to clarify that residuals that are not ultimately inserted are not excluded, and that these discarded residuals are classified as F037 if the original oil-bearing hazardous secondary material was a listed hazardous waste. I would emphasize that the exclusion applies to the oil-bearing hazardous secondary materials from the point they are generated, even though some preprocessing may be required before insertion, and even if this preprocessing generates residuals that are not inserted (and are thus not excluded under this provision).

[3]Section II.B.2., Notice of Data Availability (NODA), Response to Comment Document, Part II, June 1998.

3. Are Residuals Qualifying Under the Exclusion, Considered Generated Wastes? - *It is Tetra's interpretation that the Exclusion, similar to other exclusions under 40 CFR 261.4, eliminates the "point-of-generation" for qualifying Residuals. Therefore, a Residual which is managed under the conditions of the Exclusion is never "generated," and is exempt from the definition of solid waste.*

Answer: The exclusion from the definition of solid waste for oil-bearing hazardous secondary materials under 40 CFR 261.4(a)(12)(i) applies at the point the material in question is first generated, and continues to apply provided the conditions set out in the exclusion are met. If the applicable conditions are satisfied, we agree that the secondary material was never a solid waste for the purposes of RCRA subtitle C. As stated above in the answer to Question 2, the exclusion applies to the oil-bearing hazardous secondary materials from the point they are generated, even though some preparation or processing may be required before insertion. Also, any residuals from this processing that are not inserted are not excluded, and would be classified as F037 (if the original oil-bearing hazardous secondary material was also a listed hazardous waste).

4. Does the Point of Insertion Into the Petroleum Refining Process Influence the Ability of a Residual to Qualify Under the Exclusion? - *It is Tetra's interpretation that the Exclusion places no limitations on location in the petroleum refining process in which a qualifying Residual can be inserted. The point of insertion has no bearing on the ability of a Residual to qualify under the Exclusion.*

Answer: While the language in 40 CFR 261.4(a)(12)(i) does not set out specific 'limitations' on the point of insertion into the petroleum refining process for an oil-bearing hazardous secondary material, there are some implicit limitations. As discussed in the preamble to the August 6, 1998 *Federal Register*, the recycling of oil-bearing materials under this exclusion must be legitimate. 63 *FR* at 42121, 42125, 42127. Therefore, the point of insertion into the petroleum refining process must be consistent with the type of oil-bearing materials being recycled, such that legitimate recovery of hydrocarbons in an ongoing production process is occurring. Put another way, the oil-bearing hazardous secondary materials must be "suitable for insertion into normal petroleum refining operations." 63 *FR* at 42118.

Issues Regarding the Transfer of Residuals Under the Exclusion

5. Can Qualifying Residuals be Transferred Under the Exclusion? - *It is Tetra's interpretation that the transfer of qualifying Residuals is allowed between petroleum refineries (SIC Code 2911). However, the transfer of Residuals can not involve the use of intermediate "non-refinery" facilities (non-SIC code 2911 facilities). Such transfer is not limited beyond the ability of the petroleum refineries to demonstrate that the Residuals are not being accumulated speculatively or managed under conditions constituting land placement prior to insertion into the petroleum refinery process. In addition, such transfer can be conducted between co-owned petroleum refineries (intra-company transfer) and non co-owned petroleum refineries (inter-company transfer).*

Based on the same considerations, there appears to be no limitation imposed by the Exclusion regarding the number of times a Residual is transferred on-site or between petroleum refineries (SIC code 2911), as long as it can be demonstrated that such transfers are being conducted within the realm of on-going production in the petroleum refining process.

Answer: The specific language of 40 CFR 261.4(a)(12)(i) regarding the 'transfers' you describe, reads:

> "Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent *directly* to another petroleum refinery, and still be excluded under this provision." [emphasis added]

The term "directly" is further described in the preamble to the August 6, 1998 final rule where we stated:

> "The Agency is also requiring that the materials excluded under this provision of today's rule be returned directly to a refinery for insertion. While this is not an issue if materials are recycled onsite, EPA has concerns...about situations where these materials are generated at one refinery for insertion into another, but are not directly sent and instead are sent to an intermediate non-refinery facility for processing." 63 *FR* at 42126-7.

There is no requirement or limitation under 261.4(a)(12)(i) regarding the ownership of either the petroleum refinery where the hazardous secondary materials are generated, or the refinery to which these materials are transferred. Such transfers may occur within the same company, or between companies, without affecting the applicability of this exclusion.

You are also correct that 261.4(a)(12)(i) does not place any specific limit on the number of transfers that may occur under this exclusion. However, the recycling must be *legitimate* in order for the exclusion to apply. Numerous transfers of the same hazardous secondary material, particularly where no hydrocarbon has yet been recovered, should raise concerns as to whether such transfers represent legitimate recycling (*i.e.*, ongoing manufacturing). In addition, numerous transfers could make it more difficult for the generator to demonstrate that the material is not being speculatively accumulated. In responding to comments regarding the speculative accumulation condition in 40 CFR 261.4(a)(12)(i), we stated:

> "Under section 261.2 (f), persons storing excluded materials have the burden of demonstrating (in an enforcement action) that they are meeting the terms of the exclusion. Refineries consequently must be able to demonstrate the duration of storage of all secondary materials which are excluded (including, but not limited to, those processed by quench coking). The rule does not specify a particular record-keeping regime in order to provide flexibility for each facility to be able to demonstrate that there is no speculative accumulation in a manner best fitting the facility's operating practices."[4]

[4]Section II.B.2.d., Notice of Data Availability (NODA) Response To Comment Document, Part II, June 1998

6. What Types of Notification and Record-Keeping are Required for Off-Site Transfer of Residuals Under the Exclusion? - *It is Tetra's interpretation, that Residuals qualifying under the Exclusion are not considered solid wastes, and are excluded from the definition of solid waste at the "point-of-generation." Based on these conditions, Residuals are considered an intermediate product or feedstock material within the petroleum refining sector (SIC Code 2911) and do not require manifesting under RCRA regulations. However, Residuals transferred within the "petroleum refining sector," require conventional bills of lading, and shipments must comply with applicable state regulatory requirements and Department of Transportation regulations, which may include recordkeeping, specific authorized packing, and placarding.*

Answer: You are correct that materials excluded under 40 CFR 261.4(a)(12)(i) are not solid wastes, for purposes of subtitle C regulation, and therefore are not (by definition) hazardous wastes from the point of generation. Therefore, requirements that normally apply to the management of hazardous wastes, such as notification or the use of a hazardous waste manifest, do not apply to these materials, provided the conditions of the exclusion are satisfied. As noted above in the answer to Question 5, under 40 CFR 261.2(f) certain documentation would be necessary to demonstrate that the conditions of an exclusion have been met.

Issues Involving the Storage of Residuals Under the Exclusion

7. Can Residuals Qualifying Under the Exclusion be Stored Beyond 90-days? - *It is Tetra's interpretation of the Exclusion, that 90-day storage requirements are not applicable to qualifying Residuals. Residuals qualifying under the Exclusion are exempt from the definition of solid waste. Therefore, 90-day storage requirements do not apply to Residuals, provided the Residuals are not accumulated speculatively or managed under conditions constituting land placement prior to insertion into the petroleum refining process.*

Answer: You are correct that materials excluded under 40 CFR 261.4(a)(12)(i) are not solid wastes, for purposes of subtitle C regulation, and therefore are not (by definition) hazardous wastes from the point of generation. Therefore, requirements that normally apply to the management of hazardous waste, such as the 90-day storage requirements in 40 CFR 262.34, do not apply to these materials, provided the conditions of the exclusion are satisfied.

8. What is the Regulatory Status of Residuals Stored Prior to Processing for Insertion into the Petroleum Refining Process? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals (i.e., sludges, by-products, or spent materials), including Residuals that require processing or reclamation prior to the insertion of the entire Residual, or a reclaimed portion of the Residual, into the petroleum refining process. Therefore, Residuals which require processing or reclamation, are exempt from the definition of solid waste under the Exclusion. Obviously, storage is probable when processing or reclamation activities are conducted. The storage of such Residuals, prior to processing or reclamation, does not alter the regulatory status of those Residuals, provided the Residuals are not accumulated speculatively or managed under conditions constituting land placement.*

Answer: The storage you reference of the excluded materials prior to either direct insertion, or prior to some processing prior to insertion, into the petroleum refining process would not be subject to regulation under subtitle C, provided the conditions of the exclusion are met. As discussed above in response to Question 2, we acknowledged that some oil-bearing hazardous secondary materials may be unsuitable for direct insertion, and therefore may require some processing prior to insertion into the petroleum refining process. Therefore, because materials that are excluded under 40 CFR 261.4(a)(12)(i) are not solid wastes for purposes of subtitle C regulation from the point of generation (see answer to Question 3 above), storage of these materials is not regulated under subtitle C irrespective of whether or not some degree of centrifuging, filtering, or other processing has to occur prior to insertion into the petroleum refining process.

9. What is the Regulatory Status of Tanks and Containers Used to Store Residuals Qualifying Under the Exclusion? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals, including Residuals that require processing or reclamation prior to the insertion of the entire Residual, or a reclaimed portion of the Residual, into the petroleum refining process. Such Residuals are exempt from the definition of solid waste under the Exclusion, and the storage of such Residuals is not regulated under RCRA. Based on these considerations, tanks used to store Residuals qualifying under the Exclusion are not regulated under RCRA, provided the Residuals are not accumulated speculatively or managed under conditions constituting land placement.*

Answer: That is correct. Tanks and containers used to store oil-bearing hazardous secondary materials qualifying under the exclusion are not regulated under RCRA because these materials are not solid wastes, and therefore are not hazardous wastes, provided the conditions of the exclusion are being met.

Issues Involving the Processing of Residuals Under the Exclusion

10. What is the Regulatory Status of Equipment Used to Process Residuals for Insertion Under the Exclusion? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals, including Residuals that undergo processing or reclamation prior to the insertion of the entire Residual following processing or a recovered portion of the residual following reclamation into the petroleum refining process. In general, a Residual qualifies under the Exclusion based on the intent of inserting either the entire Residual or a portion of the Residual into the petroleum refining process (SIC code 2911), provided the Residual is not speculatively accumulated or managed under conditions constituting land placement. Under the Exclusion, the Residuals would not be considered solid waste, therefore the equipment used to conduct processing or reclamation of the Residual would not be regulated under RCRA.*

Answer: Oil-bearing hazardous secondary materials that are excluded from the definition of solid waste are not hazardous wastes; therefore, the management of these excluded materials (including management in equipment used to process the oil-bearing hazardous secondary materials for insertion) is not subject to the hazardous waste requirements. However, it is

possible that residual materials may be generated during the reclamation process, which will be disposed, and where these wastes meet the definition of hazardous waste, the applicable hazardous waste requirements must be followed regarding their management.

Also, where oil-bearing hazardous secondary materials are excluded because they are being recycled under 261.4(a)(12)(i), they are viewed as in-process materials in a manufacturing process. Therefore, under 40 CFR 261.4(c), if the equipment that is processing these oil-bearing hazardous secondary materials ceases to be operated, the materials in the unit could become subject to regulation if they remain in the unit for more than ninety days, and the unit in turn may become a waste management unit. (This is a longstanding regulation applicable to situations where a hazardous waste is generated in a manufacturing process unit, and where the waste remains in the unit more than ninety days after the unit "ceases to be operated for manufacturing.") See the November 20, 1995 *Federal Register*; 60 *FR* at 57779-80.

11. Is the Exclusion Applicable to Residuals Processed by Contracted Services Prior to Insertion into the Petroleum Refining Process? - *It is Tetra's interpretation that the Exclusion is applicable to all Residuals, including Residuals that undergo processing or reclamation prior to the insertion of the Residual, or a reclaimed portion of the Residual, into the petroleum refining process. There appears to be no condition imposed by the Exclusion, which restricts the ownership of equipment used to process or reclaim Residuals, as long as such processing or reclamation is conducted on-site at petroleum refining facilities (SIC code 2911).*

Answer: That is correct. The exclusion at 261.4(a)(12)(i) specifies that the oil-bearing hazardous secondary material must be generated at a petroleum refinery, and be inserted into a petroleum refinery, without regard to ownership of either the petroleum refinery or the specific reclamation units or processes located at the petroleum refinery. EPA did clarify, however, that the excluded material being sent from one refinery to another cannot be processed at an intermediate, third party, non-petroleum refinery facility prior to ultimately being inserted into a refining process at a petroleum refinery. In preamble to the August 6, 1998 *Federal Register*, EPA clarified the term "directly" as it is used in the following regulatory text: "Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent *directly* to another petroleum refinery, and still be excluded under this provision." [emphasis added.] EPA stated that the materials to be recycled must be sent directly to a petroleum refinery in order to be excluded, and cannot be sent to an intermediate non-refinery facility for processing. (63 *FR* at 42126). See answer to Question 5 above; see also the Agency response beginning on Page II-62, *Petroleum Refining Listing Determination Proposed Rule Response to Comment Document, Part I, June 1998.*

12. Does the Oil Content of a Residual Influence the Applicability of the Exclusion? - *It is Tetra's interpretation that the applicability of the Exclusion is not influenced by the oil content of a Residual. Tetra's interpretation is supported by the EPA's dismissal of comments proposing limits to the Exclusions applicability, based on oil content of Residuals and the recovery efficiency of the petroleum refining process.*

Answer: I disagree with your statement that the applicability of the exclusion is "not influenced by the oil content of a residual," where such a statement suggests that there can be hazardous secondary materials generated at a refinery with *zero* oil content, that would be eligible for this exclusion. While it is true that EPA expressly chose not to specify a *minimum* oil content as a condition in the exclusion, we did state in the preamble to the final rule that there had to be *some* oil recovery. Specifically, we said

> "...the Agency believes it is fundamental to this exclusion that there actually be oil recovered for further refining when these oil-bearing hazardous secondary materials are used in the quenching process. To the extent there is no recovery, or drastically inefficient recovery, the operation could be a type of sham recycling, as discussed earlier." 63 *FR* at 42127.

The rationale for EPA choosing not to establish either a minimum oil content condition, or a "recovery efficiency" requirement, is discussed on the same page of the *Federal Register* cited above, and in the comment response document entitled Notice of Data Availability (NODA) Response to Comment Document Part II, June 1998 (prepared as part of the final rule supporting documents.)