DOE F 1325.8 (8-89) EFG (07-90)

United States Government | Department of Energy

memorandum

Preliminary Draft

DATE: MAY 11 1994

REPLY TO ATTN OF: EM-331

SUBJECT: Spent Fuel Meeting Minutes Between DOE and EPA April 7 and April 19, 1994

TO: Distribution

There have been two recent meetings between the Department of Energy (DOE) and the Environmental Protection Agency (EPA) focusing on Spent Nuclear Fuel (SNF). The following is a summary of the two meetings. The meetings were held at EPA Headquarters in Crystal City, Virginia, on April 7 and 19, 1994. The attendance list for both meetings is shown in Attachments 1 and 2, respectively.

April 7

The April 7 meeting was, in essence, an introductory meeting between DOE and EPA to introduce the various offices involved, and to determine whether it was worth while for the two agencies to enter into discussions concerning spent fuel. DOE indicated that spent fuel was a priority to the agency and efforts were underway to develop an inventory of all the spent fuel in the complex. DOE explained that there were 80-100 fuel types in storage around the DOE complex. EPA asked if there were efforts underway to broadly group or categorize the fuels in such a way as to eliminate some of them as potentially Resource Conservation and Recovery Act (RCRA) waste. One such category could include SNF, comparable to Naval SNF, which EPA previously indicated did not exhibit RCRA hazardous waste characteristic. EPA stated, that if DOE was asking EPA whether spent fuel was a solid waste, it would require coordination with another office in EPA. The EPA representatives stated that they could not guarantee that spent fuel would be a priority with other offices within EPA. EPA also went on to say that they were able to make a determination on the Navy's spent fuel, without addressing the solid waste issue. DOE stated the EPA suggested approach appeared to have merit and would be explored.

Other topics which were mentioned at the April 7th meeting, but not discussed in great detail were the following:

- Savannah River EIS and targets
- The EH Spent Fuel Vulnerability Report
- West Valley Fuel

It was agreed DOE would brief EPA on the various types and the storage configurations, of DOE spent fuel at the next meeting.

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April 19

On April 19, Al Hoskins (ID/WINCO) briefed EPA Headquarters on the types, locations, and future plans for DOE-owned SNF. EPA wondered why DOE was moving to dry storage. DOE explained that they are looking at storage for 50 years and dry storage was more economical and had fewer problems than wet storage.

There was a brief discussion on the status of Department spent fuel activities. DOE stated that they have completed the Spent Fuel Vulnerability (Phase I) Report and noted Phase II was due out the end of April. DOE felt that the next step was to look at different fuels and determine if they could be grouped into categories. EPA asked how much fuel was corroded, because they felt that the degradation of the material and cladding for some of the fuels may call into question the applicability of Process Knowledge, to show that this material is not hazardous. An Office of Solid Waste representative said they just sent out clarification to their Regions on when a secondary material meets the definition of a "spent material". They felt this memorandum (Attachment 3) might be a good starting point for DOE. EPA also provided DOE with a copy of a memorandum on the Spent Fuel Rods at West Valley, which was sent to the Hazardous Waste Compliance Branch. (Attachment 4).

DOE concluded the meeting by stating that they would be willing to provide a separate briefing on the Spent Fuel Vulnerability report, since the people at the current meeting were not the ones who could answer specific questions on the report. DOE also said they would provide EPA with a copy of the Phase II report, once it is approved.

If you should have any questions concerning these meeting minutes, please feel free to call Mary Beth Burandt of my staff on 903-7113.

Betty J. Shackleford, Acting Director
Regulatory Integration Division
Office of Program Integration
Office of Environmental Management

Attachments

Preliminary Draft

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4/7/94 Spent Fuel Mtg

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Attachment 1

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Attachment 2

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FILE COPY

MAR 24 1994

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: Definition of Spent Material

FROM: Michael Shapiro, Director
Office of Solid Waste

TO: Hazardous Waste Management Division Directors
Regions I-X

The purpose of this memorandum is to clarify when a secondary material meets the definition of "spent material". A spent material is "any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without further processing." 40 CFR §261.1(c)(1). A number of EPA Regions have requested assistance from EPA Headquarters on making regulatory determinations for secondary materials that may meet the regulatory definition of spent material. For many secondary materials this determination is important because spent materials being reclaimed are solid wastes. 40 CFR §261.2(c)(3). However, sludges and byproducts that exhibit a characteristic of a hazardous waste and commercial chemical products (whether listed or characteristic) are not solid wastes when reclaimed. 40 CFR §261.2(c).

In particular, EPA Headquarters has been asked whether in order to meet the definition of spent material, a material must: 1) be spent as a result of contamination, and 2) be nonfunctional in the sense that it could not continue to be used for its original purpose. We have consistently interpreted this definition as applying to "materials that have been used and are no longer fit for use without being regenerated." 50 FR at 618 (January 4, 1985); 48 FR at 14476 (April 4, 1983). We thus consider "contamination", as used in the definition of spent material, to be any impurity, factor or circumstance which causes the material to be taken out of service for reprocessing. (See also 50 FR at 624, indicating that the reference to contamination was added to clarify that a material such as a solvent may continue to be used for its original, though not identical, purpose and not yet be classified as a solid waste.)

Attachment 3

Similarly, we consider the part of the definition stating that a spent material "can no longer serve the purpose for which it was produced" as being satisfied when the material is no longer serving its original purpose and is being reprocessed instead. EPA has consistently maintained this interpretation since it promulgated the definition of spent material.[1]

This is the only interpretation that makes environmental sense, since once used materials are taken out of service and sent for reclamation they pose the same potential risks and are handled in the same manner regardless of the reason they are taken out of service. Put in terms of a specific example, lead acid batteries that are taken out of service and sent to a lead reclaimer pose the same risks and are handled the same way no matter how many or how few physical and chemical impurities they contain, and no matter how much or how little the presence of impurities contributed to the decision to stop using the battery in the first place. See United States v. Ilco Inc., 996 F. 2d 1126 (11th Cir. 1993), where the court held that all batteries sent to a secondary lead smelter for recovery were "spent materials" without regard for the reason the batteries were taken out of service.

As another example, when a generator removes mercury-bearing thermostats from buildings as part of an upgrade to the building's heating system, the thermostats could continue to be used for the remaining portion of their useful lives. However, assuming the generator intends to ship these thermostats to a reclamation facility for mercury recovery, these thermostats would be considered to be spent materials irrespective of the reason for their removal and the fact that the thermostats were potentially capable of being used as thermostats in another building.

Background/Analysis

Under RCRA Subtitle C regulations, a spent material is "any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing." 40 CFR §261.1(c)(1). This definition was promulgated in the 1985 final rule amending the definition of solid waste. 50 FR 614, January 4, 1985.

The preamble to the final rule makes it clear that the "as a result of contamination" language was added to avoid classifying as waste a used material that was actually being put to further direct use. 50 FR at 624. The preamble gives the example of a solvent that is not clean enough to clean circuit boards but still clean enough for use as a metal degreaser.

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[1] See 50 FR at 650 (January 4, 1985), indicating that spent batteries, spent mercury, spent acids and caustics remain subject to regulation when reclaimed regardless of the reason these wastes are removed from service, November 6, 1986 letter from Matt Straus to H. Bzura stating that copper etchants sent for reclamation were defined as "spent materials (i.e., materials that have been used [sic] are no longer fit for use without being regenerated, reclaimed, or otherwise reprocessed)." See also April 14, 1989 letter from Stephen Cochran to Robert Olesovic indicating that ignitron tubes containing mercury sent for reclamation were spent materials irrespective of the reason that the tube was taken out of service.

The reason the "as a result of contamination" language was chosen is because many spent materials such as solvents and spent activated carbon typically become spent because of impurities. The Agency did not intend to restrict the definition of spent materials to only those materials which became spent as a result of this type of contamination. On the contrary, in the same rule that the Agency defined spent material, EPA promulgated regulatory requirements under Subtitle C for spent lead-acid batteries being reclaimed. The Agency explicitly classified spent lead-acid batteries as spent materials in the final rule. 50 FR at 625. These batteries become "spent" for a variety of reasons (e.g., overcharging, frozen electrolyte, leakage) all of which EPA regards as being "contamination" for purposes of the definition.

Regarding whether a material must be nonfunctional to meet the definition of spent material, the fact that a material can continue to be used for its original purpose is not relevant to the issue of whether or not it is a spent material when it is clear from the facts that the material will not be used but instead will be treated by reclamation. The mere potential for continued original use does not preclude a material from being defined as spent. As stated above, the fact that it is actually removed from service establishes, as to this generator, that it can no longer serve its original purpose.

If all that were required to avoid RCRA Subtitle C regulation would be a showing that a secondary material could continue to be used, then generators would be able to circumvent RCRA simply through changing their operating practices to remove secondary materials just prior to that material being unfit for its original use. Thus, spent solvents that are heavily contaminated but might still be fit for metal degreasing (even though they were being sent to be regenerated into new solvents), spent lead-acid batteries that still had a charge (or were capable of holding a charge), and mercury-bearing thermostats removed from buildings sent for reclamation would not be subject to RCRA regulation in spite of the fact that the generator was no longer using the material but instead was sending it to be treated by reclamation.

Clearly, this result is not consistent with the cradle-to-grave purpose of RCRA Subtitle C regulation. Used materials taken out of service and sent for reclamation also pose the same risks and are handled in the same manner regardless of the reason they are taken out of service. For this reason, EPA has consistently interpreted spent materials as including materials which could continue to be used for their original purpose but are, in fact, being taken out of service for reclamation, showing that for this generator they can no longer serve the purpose for which they were produced.[2]

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[2] See May 20, 1987 letter from Matthew Straus to Peter Russell indicating that spent pickle liquor becomes a spent material/solid waste when it is removed from pickling line baths for reclamation regardless if it can continue to be used. See also July 15, 1990 letter from Sylvia Lowrance to Ralph Eschborn indicating that photographic fixer bath sent for reclamation is a spent material even though the solution could continue to be used as a fixer.

Conclusion

Because spent materials being reclaimed (or to be reclaimed) are within the definition of solid waste, it is important to be able to distinguish among spent materials, other categories of solid wastes such as sludges, and products which are still in use that have not been discarded. Spent materials are distinguished from products and other categories of solid wastes in that they have been used previously and have been taken out of service and are going to be treated by reclamation. Examples of spent materials include spent lead-acid batteries, used mercury switches, spent solvents, spent catalysts and spent etchants.

This memorandum states the Agency's consistent interpretation of the existing regulations. However, EPA recognizes the issues regarding the regulatory definition of spent material and we may consider revising the regulatory definition in the future. If you have further questions on this issue, please call Mike Petruska of my staff at (202) 260-8551.

cc: Susan Bromm
Susan O'Keefe
NEIC, Frank Covington
ASTSWMO, Tom Kennedy

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1) John 2) Phil F. 3) GM

U.S. E.P.A.
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HAZ WASTE COMP. BR.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Spent Fuel Rods as Solid Waste at West Valley Demonstration Project (WVDP)

FROM: Ken Gigliello, Chief Nancy Browne for
Technical Assistance and Training Branch

Mike Flynn, Acting Chief Mike Flynn
State and Regional Programs Branch

TO: George Meyer, Chief
Hazardous Waste Compliance Branch

We have reviewed the October 29, 1990 memo from DOE stating that spent fuel rods at the West Valley Demonstration Project are not solid waste. We agree with your assessment that, because the demonstration program does not produce a new useable product or recycle the fuel rods, the rods are not excluded from the definition of solid waste. If you have any further questions please contact Ellen Epstein at (FTS)260-4849 or Reid Rosnick at (FTS)260-4755.

cc: Rich LaShier
Reid Rosnick

Attachment 4

DEPARTMENT OF ENERGY

FACSIMILE MEMORANDUM

To: Mike Lee

From: Chris Ginberg **202-586-8869**

Date: 9/20/94

Subject: Spent Fuel Mtg.s

Number of pages (including this cover sheet) 11

Message: