



Department of Energy
Richland Operations Office
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9958990
CC RECD: 12/08/99

00-SFO-043

DEC 02 1999

Mr. R. D. Hanson, President
Fluor Daniel Hanford, Inc.
Richland, Washington 99352

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JUL 26 2004
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Dear Mr. Hanson:

CONTRACT NO. DE-AC06-96RL13200 - K BASINS SLUDGE CLASSIFICATION

The U.S. Department of Energy, Richland Operations Office (RL) letter to R. D. Hanson, Fluor Daniel Hanford, Inc., from P. G. Loscoe, "Spent Nuclear Fuel (SNF) Sludge Treatment Management Evaluation Recommendation," 99-SFD-143, dated July 6, 1999, provided formal acceptance of the contractor proposal for interim storage of K Basins sludge prior to treatment and disposal to be coordinated with other Remote-Handled Transuranic (RH-TRU) waste on site. One of the assumptions made in the proposal was that upon removal, the K Basins sludge becomes a waste that would designate as TRU waste.

RL has formalized the classification of the K Basins sludge after removal. The Offices of Chief Counsel for RL and Waste Isolation Pilot Plant (WIPP) concur with this classification. The enclosed memorandum from WIPP states that the sludge could be classified as RH-TRU waste. Closure of this issue helps to eliminate the risks associated with the current sludge management path forward.

The K Basins sludge is a TRU waste. Presently, the sludge is so commingled with SNF in the basin, that it cannot be managed separately. Once the SNF and the retrievable debris are separated out, the remaining sludge will be removed. Upon removal from the basins, the sludge will classify as RH-TRU waste and be dispositioned.


Mr. R. D. Hanson
00-SFO-043

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If you have any questions, please contact me, or you may contact Robert G. Holt of my staff on (509) 376-1062.

Sincerely,



P. G. Loscoe, Director
Office of Spent Nuclear Fuels

SFO:RGH

Enclosure

cc w/encl:

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Memorandum

Date: October 26, 1999

To: Barbara Williamson

Cc: Elizabeth Rose

From: Barry Goldstein

Subject: K-Basin Sludges

One of the sources of confusion on the issue of whether K-Basin sludges are RH-TRU wastes stems from the fact that the radioactive wastes in the sludges are derived from SNF. There is little guidance as to how to classify a radioactive waste type derived from a radioactive waste type. For example, a pump used to move HLW liquids from one location to another is now contaminated with HLW, and is declared as waste. Is the pump now HLW? According to statutory and regulatory definitions, HLW results from the reprocessing of SNF. The pump did not result from such reprocessing, so what type of radioactive waste is it?

DOE Order 5820.2A answered the question for radioactive wastes derived from TRU wastes in that the definition of TRU waste explicitly stated that "regardless of source or form", waste that met the radiological criteria of TRU waste was TRU waste. I know of no equivalent guidance for SNF. Does radioactive waste derived from SNF remain SNF, or does one look to the sludges themselves without regard to source or form?

Clearly, the radioactive wastes in the K-Basin sludges are derived from SNF, and not from cement, dust, biological debris, etc. Unfortunately, the new DOE Order 435.1 no longer allows one to disregard form or source. This is the crux of the problem.

Regardless, I agree, based on the corrected guidance you sent me, that certain radioactive wastes derived from SNF can be managed as RH-TRU. These would include pieces and corrosion products of the SNF found in the K-Basin sludges. It would thus appear that the radioactive wastes in the K-basin sludges are RH-TRU. As such, it is appropriate to label the K-Basin sludges as RH-TRU. However, I reach that result from a different analysis using the corrected guidance and decision tree. The answer to the first question of the decision tree is "Yes" for the SNF particulates and corrosion products in the sludges. Then we go the question "Is it fuel withdrawn from a nuclear reactor after irradiation?". The answer is again yes for the SNF particulates and corrosion products in the sludges. Obviously, the constituent elements of the SNF have NOT been separated by reprocessing; they are the result of unintentional chemical reactions. The question then becomes "Is it test specimens, . . .". The corrected guidance tells us that "fuel pin fragments and diverse particulate that cannot be readily retrieved and packaged with the fuel assemblies and intact pin" may be managed as RH-TRU. The radioactive wastes in the sludges satisfy this description. Hence, I agree that the sludges are contaminated with RH-TRU waste, and, as such, must be managed as RH-TRU waste for purposes of disposal (assuming their surface dose rate exceeds 200 mrem/hr.).

I will recommend that WIPP revise the decision tree to reflect the corrected guidance.

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Subject: CONTRACT NO. DE-AC06-96RL13200 - K BASINS SLUDGE CLASSIFICATION

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