SECY-97-083

APRIL 14, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/
Executive Director for Operations

SUBJECT: CLASSIFICATION OF HANFORD LOW-ACTIVITY TANK WASTE FRACTION AS INCIDENTAL

PURPOSE:

To transmit to the Commission, for review and approval, the attached draft letter (Attachment 1) from C. Paperiello, U.S. Nuclear Regulatory Commission, to J. Kinzer, U.S. Department of Energy (DOE EXIT), at Hanford. The draft letter provides the results of the staff evaluation of the letter request dated November 7, 1996 (Attachment 2), from J. Kinzer, to C. Paperiello, asking Commission agreement that the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste [i.e., not high-level waste (HLW)] and, therefore, would not be subject to NRC licensing authority. Incidental waste classification is related to DOE's plans for the treatment of HLW in the Hanford site single-shell tanks (SSTs) and double-shell tanks (DSTs), segregation of the waste into HLW and low-activity waste (LAW) fractions, and ultimate disposition of these wastes.

SUMMARY:

The November 7, 1996, letter from J. Kinzer, DOE, to C. Paperiello, NRC, requested NRC agreement that Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste (i.e., not HLW) and, therefore, would not be subject to NRC licensing authority. In a March 1993 letter to DOE, NRC specified criteria for classification of waste as "incidental."

DOE is currently in the early planning stages of waste treatment selection and facility design, and the information provided by DOE supporting the incidental waste classification for the low-activity fraction of wastes removed from SSTs and DSTs is somewhat preliminary, particularly with respect to performance assessment (PA). Staff concludes that the preliminary information provided by DOE supports the assertion that the LAW portion of the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste in accordance with the criteria listed in the March 1993 letter; however, there is insufficient information to make an absolute determination. A draft letter response to DOE has been prepared.

BACKGROUND:

On June 9, 1988, staffs from NRC and DOE met to discuss DOE's plans to remove, stabilize and dispose of wastes contained in 28 DSTs at the Hanford site and to discuss NRC concerns with respect to the classification of those wastes (i.e., as "high-level" or "low-level waste") for ultimate disposal. (DST wastes were the focus of discussions at that time.) The NRC definition of HLW in Appendix F of 10 CFR Part 50 is source-based; therefore, the bulk of the tank waste could theoretically be classified as HLW because the waste in the tanks is a mixture from various sources, including reprocessing. However, when the Atomic Energy Commission promulgated the Appendix F definition, it specifically noted that the definition did not include "incidental" waste resulting from fuel reprocessing plant operations, such as ion-exchange beds, sludges, contaminated laboratory items, clothing, tools, radioactive hulls, and other irradiated and contaminated fuel structure hardware (34 FR 8712, June 3, 1969; 35 FR 17530, November 14, 1970).

In subsequent correspondence and further meetings, spanning a period from June 1988 to September 1989 (detailed in the "Chronology," Attachment 3), DOE proposed an approach to classifying DST wastes that included use of an overall material balance of tank waste at the Hanford site to demonstrate that the largest practical amount (> 90 percent) of total site activity attributable to "first-cycle solvent extraction" would be segregated so that only the residuals would be grouted. The staff agreed that the DST waste planned for disposal by grouting in near-surface vaults was not HLW, and that NRC licensing would not be required (September 25, 1989, letter from R. Bernero, NRC, to A.J. Rizzo, DOE).

Following the staff's letter of agreement, NRC received a petition for rulemaking from the States of Washington and Oregon requesting that the Commission revise the definition of HLW so as to establish a procedural framework and substantive standards by which the Commission would determine whether reprocessing waste is HLW and, therefore, subject to the Commission's licensing authority [July 27, 1990, Petition for Rulemaking (PRM) from the States of Washington and Oregon (PRM-60-4)]. NRC denied the petition in February 1993 and later informed DOE that it would regard the residual fraction of the separated wastes removed from the DSTs as "incidental" provided "...that the waste (1) has been processed (or will be further processed) to remove key radionuclides to the maximum extent that is technically and economically practical; (2) will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C low-level waste as set out in 10 CFR Part 61; and (3) will be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR Part 61 are satisfied" (March 2, 1993, letter from R. Bernero, NRC, to J. Lytle, DOE, Attachment 4).

In August 1996, DOE and the Washington State Department of Ecology issued a "Final Environmental Impact Statement for the Tank Waste Remediation System" (TWRS), which describes their plans for treatment and ultimate disposition of the HLW currently stored in both SSTs and DSTs. The preferred option for tank waste remediation is the Phased Implementation Alternative, which consists of an initial demonstration phase followed by process scale-up. The tank wastes will be removed from the tanks, and separated by activity, into a high-activity portion to be vitrified, then disposed of as HLW, and a low-activity portion (i.e., LAW) currently slated for immobilization followed by disposal on-site. The current DOE projected immobilization method is vitrification although molten metal processing is also being considered. DOE intends the waste separation and classification of the LAW to meet the incidental waste criteria described in the March 1993 letter. Disposal of incidental waste would not be subject to NRC licensing authority.

DISCUSSION:

In Attachment 2, DOE requested NRC's agreement by April 1997 that the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental. In response, NRC and contractor staff [Center for Nuclear Waste Regulatory Analyses (CNWRA)] performed an expedited review of the "Technical Basis for Classification of Low-Activity Waste Fraction from Hanford Site Tanks" (Technical Basis report) and supporting documents, including the "Hanford Low-Level Tank Waste Interim Performance Assessment" (Interim PA), to determine whether there is reasonable assurance that the tank waste fraction slated for disposal as LAW meets the three incidental waste classification criteria specified in the March 1993 letter.

The information provided by DOE in support of Hanford TWRS incidental waste classification is preliminary in relation to selection of specific treatment alternatives and design of treatment facilities, etc. Although DOE's waste management plans are still being developed, the available information was evaluated in regard to the criteria listed above to determine whether there is reasonable assurance that the LAW fraction can be classified as incidental. A draft letter response to DOE incorporating the conclusions of this review has been prepared. The review is summarized below.

Criterion One:

Criterion One from the March 1993 letter specifies that "...wastes have been processed (or will be further processed) to remove key radionuclides to the maximum extent that is technically and economically practical." The Hanford site tank waste inventory contains approximately 3.4 x 10^{18} Bq (91.6 MCi) of activity that will be processed for disposal as HLW or LAW. Approximately 99.9 percent of this activity is cesium-137 and strontium-90.

Available separation technologies were identified for each of the main radionuclides of interest [cesium-137, strontium-90, transuranics (TRU), technetium-99, selenium-79, carbon-14, iodine-129, hydrogen-3, and uranium isotopes] and individually evaluated to determine the status of the technology and the radionuclide removal efficiency. Many of the available separation technologies have only been used on a laboratory scale and were, therefore, not considered to be technically practical. Separation processes that were determined to be technically practical were then examined for economic practicality based on cost per curie (3.70 x 10^{10} becquerel) removed. Three separation technologies were deemed both technically and economically practical. At the present time it is expected that all three will be used. Initially, a simple solids-liquids separation will be performed on the waste to yield a low-activity liquid fraction containing the bulk of the non-radioactive materials (including about 3 percent solids carryover) and a high-activity fraction containing most of the solids. The solids-liquids separation process is expected to be relatively simple to complete and will remove approximately 2.1 x 10^{18} Bq (55.6 MCi) of activity, consisting primarily of strontium-90 and TRU. Additional removal of TRU wastes from selected tanks and single-cycle ion exchange removal of cesium-137 from certain wastes will leave approximately 3.1 x 10^{17} Bq (8.5 MCi) of activity in the LAW; or approximately 2 percent of the estimated 15.6 x 10^{18} Bq (422 MCi) generated at the Hanford site (based on a December 31, 1999, decay date). No further separation processes were deemed both technically and economically practical.

It is considered that Criterion One for classifying the Hanford site LAW fraction as incidental waste will be met if the waste management plan presented in the Technical Basis report is followed. Note that if actual radionuclide inventories, either in the tanks or following separation, are significantly higher than those projected, compliance with this criterion will require re-evaluation.

Criterion Two:

Compliance with Criterion Two, "...wastes will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C [low-level waste] as set out in 10 CFR Part 61," was determined using the estimated total vitrified waste volume (158,000 m^3)(42,000,000 gallons) in conjunction with projected radionuclide activities. From these calculations, which NRC staff verified, the vitrified waste form is expected to meet the limits for Class C or less, as specified. Note that molten metal processing is also being considered for the LAW form. This method would considerably decrease the total waste form volume such that the waste classification could be affected. If the radionuclide inventories in the LAW are significantly higher than those projected in the Technical Basis report, or if the waste form type or total volume is altered, re-evaluation of conformance with this criterion will be necessary.

Criterion Three:

To evaluate Criterion Three, "...wastes are to be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C are satisfied," an Interim PA was prepared. The DOE PA was performed to the requirements of DOE Order 5820.2A, "Radioactive Waste Management," September 26, 1988. This order is similar with respect to the 10 CFR Part 61 performance objectives.

The Interim PA is the first of three PAs planned and is somewhat preliminary; it was conducted before selection of a disposal facility site and design, specific treatment alternatives, or LAW form. Our review identified a number of specific issues and concerns associated with the Interim PA, documented in the February 6, 1997, Request for Additional Information (RAI) (Attachment 5) from M. Bell, NRC, to D. Wodrich, DOE, and discussed in the CNWRA report enclosed in Attachment 1. DOE's responses to the RAI constitute Appendix B to the CNWRA report. Many of the RAI comments cannot be fully resolved until the site, facility design, and solidification process are selected. It is expected that uncertainties and concerns identified with respect to the Interim PA can be satisfactorily addressed in the subsequent PAs.

Although the Interim PA is very limited, it indicates that the performance objectives of Part 61 will be met. Consistent with the preliminary nature of this Interim PA, the staff's preliminary finding is that Criterion Three appears to be satisfied. As the disposal facility site is chosen, the disposal facility design is completed, treatment alternatives are selected, and the LAW form is determined, the various assumptions and input parameters are likely to be further refined. In the draft letter, staff has requested that subsequent PAs be submitted as supplements to the Technical Basis report so that they can be reviewed to confirm the current analysis and resolve any outstanding issues.

Incidental Waste Classification:

Based on the preliminary information provided in the DOE Technical Basis report and the Interim PA, the staff's preliminary finding is a provisional agreement that the LAW portion of the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste and is, therefore, not subject to NRC licensing authority. Staff considers that the information presented is not sufficient to make an absolute determination at this time. Note that if the Hanford tank waste is not managed using a program comparable to that set forth in the Technical Basis report, the incidental waste classification must be revisited by DOE, and NRC consulted. As a fundamental element of the incidental waste classification, DOE must ensure that the contractors that perform LAW separation and disposal do so in accordance with the criteria set forth in the March 1993 letter and the approved Technical Basis report.

Staff requests in the draft letter that subsequent PAs be submitted as supplements to the Technical Basis report so that they can be reviewed to confirm the current analysis and resolve any outstanding issues. Other specific changes that would necessitate DOE re-evaluation and further consultation with NRC include, but are not limited to, the following:

1) Continuing characterization of tank waste results in a determination that the radionuclide inventory in the HLW tanks is higher than that used to develop the Technical Basis report and the Interim PA. This would affect the resolution of all three criteria.

2) The LAW fraction of the Hanford tank waste is not vitrified, or the final volume of the waste form is significantly different from that projected in the Technical Basis report. The waste form is a determining factor in classification of waste as Class A, B, or C (Criterion Two), and would also impact PA (Criterion Three).

3) Final selection of the LAW disposal site, or changes to site characterization parameters will affect the resolution of Criterion Three.

COORDINATION:

This paper has been coordinated with the Office of the General Counsel, and it has no legal objection. There are no resource impacts nor information management implications nor impacts associated with this paper.

CONCLUSION AND RECOMMENDATIONS:

Based on the preliminary nature of the information provided by DOE in the Technical Basis report and Interim PA, staff's preliminary finding is a provisional agreement that the LAW portion of the Hanford tank waste planned for removal from the tanks and disposal on-site is likely to be incidental waste in accordance with the criteria listed in the March 1993 letter and will, therefore, not be subject to NRC licensing authority. This finding is conditional on the NRC staff's review of subsequent PAs and other stipulations described in this paper. As such, it is recommended that the Commission approve the attached letter response to DOE stating provisional agreement with the incidental waste classification for LAW at the Hanford site.

L. Joseph Callan
Executive Director for Operations

CONTACT: B. Jennifer Davis, NMSS/DWM
(301) 415-5874

Attachments:
1. Draft ltr response to DOE
2. Ltr dtd 11/7/96 fm J. Kinzer/DOE to C. Paperiello/NRC (w/o att)
3. Chronology of Hanford Incidental Waste Classification Issue
4. Ltr dtd 3/2/93 fm R. Bernero/NRC to J. Lytle/DOE
5. Ltr dtd 2/6/97 fm M. Bell/NRC to D. Wodrich/DOE

ATTACHMENT 2

Mr. Jackson Kinzer, Assistant Manager
Office of Tank Waste Remediation System
U.S. Department of Energy
Richland Operations Office
P.O. Box 550
Richland, WA 99352

SUBJECT: CLASSIFICATION OF HANFORD LOW-ACTIVITY TANK WASTE FRACTION

Dear Mr. Kinzer:

The U.S. Nuclear Regulatory Commission has received your letter dated November 7, 1996, requesting NRC agreement that the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste [i.e., not high-level waste (HLW)] and, therefore, would not be subject to NRC licensing authority. In response to your request, NRC and contractor staff [Center for Nuclear Waste Regulatory Analyses (CNWRA)] have reviewed

the "Technical Basis for Classification of Low-Activity Waste Fraction from Hanford Site Tanks" (Technical Basis report) and supporting documents, including the "Hanford Low-Level Tank Waste Interim Performance Assessment" (Interim Performance Assessment (PA)], to determine whether there is reasonable assurance that the tank waste slated for disposal as low-activity waste (LAW) meets the incidental waste classification criteria specified in the March 2, 1993, letter from R. Bernero, NRC, to J. Lytle, U.S. Department of Energy (DOE).

Criterion One from the March 1993 letter specifies that "...wastes have been processed (or will be further processed) to remove key radionuclides to the maximum extent that is technically and economically practical." To comply with this criterion, available separation technologies were identified for each of the main radionuclides of interest and individually evaluated to determine the status of the technology and the radionuclide removal efficiency. Three separation technologies were deemed both technically and economically practical. Currently, it is expected that all three will be used. The three technologies include a simple solids-liquids separation, removal of transuranics wastes from selected tanks, and single-cycle ion exchange removal of cesium-137 from certain wastes. Approximately 3.1×10^{17} Bq (8.5 MCi) of activity will remain in the LAW, which corresponds to about 2 percent of the estimated 15.6×10^{18} Bq (422 MCi) generated at the Hanford site (based on a December 31, 1999, decay date).

NRC staff concludes that available separation processes have been extensively examined to determine those that are both technically and economically practical, and that the residual 2 percent of the activity generated at the Hanford site represents the maximum amount of separation currently technically and economically practical for this case. It is considered that Criterion One for classifying the Hanford site LAW fraction as incidental waste will be met if the waste management plan presented in the Technical Basis report is followed. Note that if actual radionuclide inventories, either in the tanks or following separation, are significantly higher than those projected, compliance with this criterion will require re-evaluation by NRC.

Compliance with Criterion Two, "...wastes will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C [low-level waste] as set out in 10 CFR Part 61," was determined using the estimated total vitrified waste volume ($158{,}000\ m^3$)(42,000,000 gallons) in conjunction with projected radionuclide activities. From these calculations, which NRC staff verified, the vitrified waste form is expected to meet the limits for Class C or less, as specified. Note that molten metal processing is also being considered for the LAW form. This method would considerably decrease the total waste form volume such that the waste classification could be affected. If the radionuclide inventories in the LAW are significantly higher than those projected in the Technical Basis report, or if the waste form type or total volume are altered, re-evaluation of conformance with this criterion will be necessary.

To evaluate Criterion Three, "...wastes are to be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR Part 61, Subpart C are satisfied," an Interim PA was prepared. The DOE PA was performed to the requirements of DOE Order 5820.2A, "Radioactive Waste Management," September 26, 1988. This order is similar with respect to the 10 CFR Part 61 performance objectives.

The Interim PA is the first of three PAs planned and is somewhat preliminary; it was conducted before selection of a disposal facility site and design, specific treatment alternatives, or LAW form. Our review identified a number of specific issues and concerns associated with the Interim PA, documented in the February 6, 1997, Request for Additional Information (RAI) from M. Bell, NRC, to D. Wodrich, DOE, and discussed in the enclosed CNWRA report. DOE's responses to the RAI constitute Appendix B to the CNWRA report. Many of the RAI comments cannot be fully resolved until the site, facility design, and solidification process are selected. It is expected that uncertainties and concerns identified with respect to the Interim PA can be satisfactorily addressed in the subsequent PAs.

Although the Interim PA is preliminary, it indicates that the performance objectives of Part 61 will be met. Consistent with the preliminary nature of this Interim PA, the staff's preliminary finding is that Criterion Three appears to be satisfied. As the disposal facility site is chosen, the disposal facility design is completed, treatment alternatives are selected, and the LAW form is determined, the various assumptions and input parameters are likely to be further refined. Please submit future PAs as supplements to the Technical Basis report so that they can be reviewed to confirm the current analysis and resolve any outstanding issues.

Based on the preliminary information provided in the DOE Technical Basis report and the Interim PA, the staff's preliminary finding is a provisional agreement that the LAW portion of the Hanford tank waste planned for removal from the tanks and disposal on-site is incidental waste and is, therefore, not subject to NRC licensing authority. Staff considers that the information presented is not sufficient to make an absolute determination at this time. Note that if the Hanford tank waste is not managed using a program comparable to that set forth in the Technical Basis report, the incidental waste classification must be revisited by DOE, and the NRC consulted. As a fundamental element of the incidental waste classification, DOE must ensure the contractors that perform LAW separation and disposal do so in accordance with the criteria set forth in the March 1993 letter and the approved Technical Basis report.

Successive PAs should be submitted as supplements to the Technical Basis report so that they can be reviewed to confirm the current analysis and resolve any outstanding issues. Other specific changes that would necessitate DOE re-evaluation and further consultation with NRC include, but are not limited to, the following:

1) Continuing characterization of tank waste results in a determination that the radionuclide inventory in the HLW tanks is higher than that used to develop the Technical Basis report and the Interim PA. This would affect the resolution of all three criteria.

2) The LAW fraction of the Hanford tank waste is not vitrified, or the final volume of the waste form is significantly different from that projected in the Technical Basis report. The waste form is a determining factor in classification of waste as Class A, B, or C (Criterion Two), and would also impact PA (Criterion Three).

3) Final selection of the LAW disposal site, or changes to site characterization parameters will affect the resolution of Criterion Three.

If you have any questions about the details of this letter, please contact Michael Bell of my staff at (301) 415-7286.

Sincerely,
Carl J. Paperiello, Director
Office of Nuclear Material Safety and Safeguards

Enclosure: As stated

ATTACHMENT 3

CHRONOLOGY OF THE HANFORD
INCIDENTAL WASTE CLASSIFICATION ISSUE

I. July 11, 1988, letter from Hugh Thompson, U.S. Nuclear Regulatory Commission, to Michael Lawrence, U.S. Department of Energy (DOE), regarding the June 9, 1988, meeting between NRC and DOE staffs.

Key Issues:

(1) contents of two low-level radioactive waste double-shell tanks (DSTs) to be grouted and disposed of on-site via shallow land burial

(2) contents of two high-level radioactive waste (HLW) DSTs to be vitrified and eventually sent to the geologic repository

(3) further meetings to be held regarding classification of 24 additional DSTs -

(a) single-shell tanks (SSTs) not addressed

(b) need a consensus on the definition of HLW - NRC's definition (10 CFR Part 50) is purely source-based; DOE's definition combines source and activity.

II. November 29, 1988, letter from Ronald Gerton, DOE, to Michael Bell, NRC, requesting concurrence that the DST waste planned for disposal by grouting in near-surface vaults is not HLW, and that NRC licensing is not required.

Proposed approach to classifying DST wastes: use an overall material balance of tank waste at the Hanford site to demonstrate that the largest practical amount (> 90 percent) of total site activity attributable to "first-cycle solvent extraction" has been segregated so that only the residuals will be grouted.

III. March 6, 1989, letter from A.J. Rizzo, DOE, to Robert Bernero, NRC, stating that the DST waste planned for disposal in near-surface vaults is not HLW, and that NRC licensing is not required. The letter requested NRC concurrence on the stated position.

IV. SECY-89-164, "Classification and Disposal of the Hanford Tank Wastes," dated May 30, 1989, requesting that the Commission approve the transmittal of an enclosed letter dated September 25, 1989, which is summarized below.

V. August 11, 1989, letter from Michael Bell, NRC, to Ronald Gerton, DOE, enclosing the minutes for the August 8, 1989, meeting on classification and disposal of Hanford DST wastes.

Key discussion points:

(1) The States of Washington and Oregon, and the Yakima Indian Nation raised the following concerns:

(a) NRC should maintain an ongoing role over the clean-up operation at the Hanford site to verify that the largest practical amount of total site activity from HLW is isolated for disposal in a deep geologic repository.

(b) The public should have an opportunity to comment on the proposed approach for classifying the Hanford DST wastes.

(2) The staff presentation addressed NRC statutory authority, the classification of HLW, and NRC's views on the concept of incidental waste. The process for determining that residual wastes can be considered incidental waste is as follows:

(a) perform an overall material balance for HLW at the Hanford site;

(b) demonstrate that the largest practical amount (> 90 percent) of total site activity attributable to HLW has been isolated for disposal in a deep geologic repository; and

(c) any residual waste should be only moderately radioactive.

VI. September 25, 1989, letter from Robert Bernero, NRC, to A.J. Rizzo, DOE, regarding the March 3, 1989, letter request for concurrence.

"NRC agrees that the criteria used for classification of the grout feed as LLW are appropriate."

This letter also endorses DOE's plans to sample and analyze the grout feeds before disposal and notes that NRC intends "...to defer judgment on the classification of SST waste until after DOE has completed its program of characterizing that waste."

VII. January 2, 1990, petition (revised and resubmitted on July 27, 1990) from the States of Washington and Oregon requesting that "...the Commission revise the definition of HLW so as to establish a procedural framework and substantive standards by which the Commission would determine whether reprocessing waste...is HLW and, therefore, subject to the Commission's licensing authority."

VIII. Petition was denied on February 26, 1993 (States of Washington and Oregon: Denial of Petition for Rulemaking [7590-01-P]).

"The petition is being denied because the NRC concludes that the principles for waste classification are well established and can be applied on a case-by-case basis without revision to the regulation."

IX. March 2, 1993, letter from Robert Bernero, NRC, to Jill Lytle, DOE, stating that NRC would regard the residual fraction of the separated DST wastes as "incidental," provided "that the waste:

(1) has been processed (or will be further processed) to remove key radionuclides to the maximum extent that is technically and economically practical;

(2) will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C low-level waste as set out in 10 CFR Part 61; and

(3) will be managed, pursuant to the Atomic Energy Act, so that safety requirements comparable to the performance objectives set out in 10 CFR Part 61 are satisfied."

The letter also enclosed a copy of the petition denial.

X. July 23, 1996, meeting between members of the Division of Waste Management and DOE representatives to discuss the Hanford Tank Waste Remediation System, a plan for treatment and ultimate disposition of the HLW currently stored in both SSTs and DSTs. DOE intends to retrieve the tank waste and separate it into a HLW portion, to be vitrified, and into a low-activity portion, also to be vitrified. The low-activity waste is intended to be classified as "incidental," based on the three criteria in the March 1993 letter from Bernero to Lytle.

XI. November 7, 1996, letter from Jackson Kinzer, DOE, to Carl Paperiello, NRC, requesting agreement that the Hanford tank waste planned for disposal on-site is incidental waste that would not be subject to NRC licensing authority.

XII. February 6, 1977, letter from Michael Bell, NRC to Donald Wodrich, DOE, Request for Additional Information.

XIII. February 18, 1977, letter from Don Wodrich, DOE, to Michael Bell, NRC, responding to Request for Additional Information.