

DEC 19 1979

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Docket No. 70-1143  
 License No. SNM-1120

MEMORANDUM FOR: Leland C. Rouse, Chief  
 Advanced Fuel and Spent Fuel Licensing Branch  
 Division of Fuel Cycle and Material Safety

FROM: Willis G. Browne  
 Advanced Fuel and Spent Fuel Licensing Branch  
 Division of Fuel Cycle and Material Safety

SUBJECT: SUMMARY OF MEETING WITH WESTINGHOUSE - PLUTONIUM  
 FUELS DEVELOPMENT LABORATORY (PFDL), AT SILVER SPRING,  
 MARYLAND, DECEMBER 6, 1979

Meeting Attendees:

Westinghouse

Jack J. Bastin  
 Jack L. Shoulders  
 John C. Cwynar  
 Ron DiPiazza

NRC

Leland C. Rouse  
 Richard H. Odegaarden  
 Willis G. Browne

Discussion:

Mr. Bastin said that Westinghouse PFDL has completed their investigation of the FL-10-1 inner container problems and that the final report will be forwarded to the NRC during the week of December 10, 1979. Mr. Bastin, Mr. Shoulders and Mr. Cwynar discussed the additional information that had been obtained since the meeting on November 16, 1979 and the conclusions they have reached as a result of this information.

It was discovered by SRL, through dye penetrant tests, that the weld of the end cap on the FL-10-1 inner container was faulty and that there were two small channels through which gases could pass. Photographs of metallographic sections, through these fault areas, that SRL had prepared showed the channels through the weld.

Based in the procedures used for loading the FL-10-1 inner container, welding of the end cap and then testing the integrity of the container, and the records of the operations performed by the PFDL operator, it was clear that the helium leak

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Leland C. Rouse

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check did not result in a position identification of the larger than normal leak in the weld. Apparently the operator assumed that the seals on the test equipment were faulty on the basis of the long evacuation time that was necessary for checking the inner container integrity.

SRL provided PFDL with photographs of the bulged and collapsed cans that they had removed from the FL-10-1 inner shipping container (Serial Number RL 070). PFDL performed tests on similar cans and were able to essentially duplicate the failure modes shown in the photographs taken by SRL. They showed us the test cans and pointed out the similarities between the cans and the SRL photographs of the RL 070 cans.

PFDL concluded that helium used to leak test the RL 070 shipping container seals, entered the inner canister through the two channel defects in the weld bead of the top end cap and pressurized the inner container and the cans in the inner container. When the pipe cutter was used to remove the bottom end cap, the sudden depressurization of the inner container without releasing the pressure inside the cans, caused the cans to swell and caused the ejection of the cans from the open container. Samples taken by SRL confirmed the presence of helium in the plastic bag contained atmosphere surrounding the product cans.

To prevent a recurrence of this type of problem in the future, PFDL recommends that their Certificate of Compliance (9009) be amended to require a dye penetrant test of all inner container welds, after completion of the leak test specified for the inner container under Item 9 of the Certificate of Compliance. Mr. Odegaarden will review the final report when it is submitted.

Handwritten initials 'WB' or similar.

Willis G. Browne  
Advanced Fuel And Spent Fuel  
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