

NMSS review

Concern 1 Wide-ranging welding deficiencies existed in spent fuel storage casks manufactured by Holtec and its subcontractors sufficient to demonstrate that there were and are fundamental flaws in the casks, and the casks are components to which 10 CFR Part 21 applies; however, neither Holtec nor Exelon made a required Part 21 report.

In response to the allegation, two NRC inspectors from the Spent Fuel Project Office conducted a special inspection at Holtec International Incorporated in Marlton, NJ on May 6-9, 2002. The inspection was conducted as an NRC followup to previous inspection findings to assess the adequacy of corrective actions. Additionally, the inspectors examined the audit findings referenced by the Concerned Individual (CI).

The inspectors identified the Exelon (Commonwealth Edison, or "Com Ed") audit findings associated with the CI and welding deficiencies. The audit was Dry Cask Quality Group (DSQG) Audit Report SR-2000-257 reported in a letter from Commonwealth Edison Company to U. S. Tool & Die, Inc. (UST&D) on August 4, 2000. The audit was performed June 19-23, and July 5-7, 2000. The audit team consisted of the CI (team leader) and seven other auditors, two of whom were welding specialists. The audit resulted in nine findings and 3 recommendations. Finding No. SR-2000-210-06 applied to the welding deficiencies identified. The finding identified 11 separate apparent deficiencies. For example deficiency No. 5 noted that the data sheets for multiple pass weld joints did not provide adequate documentation to determine whether or not the welders had welded beyond their qualified thickness range.

UST&D responded to the audit findings in a letter dated September 5, 2000. The inspectors reviewed the 11 weld deficiencies and the UST&D responses. UST&D determined that 4 of the eleven deficiencies were not valid deficiencies and explained their basis. For the remaining seven deficiencies, UST&D determined the cause of the deficiency and described corrective action and action to prevent recurrence. The inspectors considered the UST&D actions to be appropriate. For example, for problem No. 5 above, UST&D verified that the welders were qualified for the joint in question and other sampled joints. The inspectors noted that none of the findings resulted in rework or repair of the hardware. Corrective actions primarily involved procedure clarifications and welder retraining regarding accurate weld documentation. Additionally, the NRC performed an inspection of fabrication activities, including welding, at UST&D in February, 2002. The results of that inspection did not identify welding problems and considered welding activities to be adequately controlled.

The inspectors concluded that the deficiencies identified by the two welding specialists were not excessive for an eight day audit, and were not substantive in that hardware was not affected. Therefore, the inspectors concluded that the allegation that wide-ranging welding deficiencies existed in spent fuel storage casks manufactured by Holtec and its subcontractors sufficient to demonstrate that there were and are fundamental flaws in the casks, was not substantiated. Additionally, absent the identification of a defect in a basic component as defined in 10 CFR Part 21, the inspectors did not consider a report, in accordance with Part 21, to be required.

Based on the results of our inspection and reviews, including the information furnished by the CI, the staff has determined that the Concern was not substantiated. Consequently, this Concern is being closed. **Concern 2** Holtec spent fuel storage casks were manufactured with materials from suppliers who were not approved bidders to supply materials for

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safety-related use; however, these suppliers were never audited by Holtec or Exelon to establish product acceptability as required.

The inspectors identified the Com Ed audit findings associated with the CI and materials suppliers. The audit was also the Dry Cask Quality Group (DSQG) Audit Report SR-2000-257 discussed above. Finding No. SR-2000-210-07 applied to materials suppliers. The finding identified five apparent deficiencies. One of the deficiencies involved a supplier of thread gages who was not on the approved vendor list and was not audited as required by Holtec procedures. The other deficiencies involve apparent past due dates for vendor re-audits, and opinions that the vendor audit records were incomprehensible and lacked sufficient objective evidence in the audit checklist. UST&D responded to the audit findings in the previously mentioned response letter dated September 5, 2000. The inspectors reviewed the 5 material supplier deficiencies and the UST&D responses. UST&D determined that 2 of the 5 deficiencies were not valid deficiencies and explained their basis. For the remaining three deficiencies, UST&D determined the cause of the deficiency and described corrective action and action to prevent recurrence. The inspectors considered the UST&D actions to be appropriate. For example, for the problem involving thread gages, UST&D acknowledged the error in purchasing the measuring equipment from an unapproved vendor, had the gages' calibrations verified by an approved vendor, reviewed and identified other gages purchased from unapproved vendors, and had them verified. UST&D noted that no calibration discrepancies were identified by the recalibrations. UST&D also revised its procedures to prevent recurrence. The inspectors noted that none of the findings resulted in invalidation of work or required repair of the hardware.

The inspectors noted that the materials used for fabrication are almost exclusively provided to UST&D from Holtec using Holtec's approved suppliers. Additionally, the NRC performed an inspection of fabrication activities, including material controls, at UST&D in February, 2002. The results of that inspection did not identify material supplier control problems and considered the material supplier controls to be adequate. The inspectors concluded that the allegation was substantiated, but not a safety or regulatory concern.

Based on the results of our inspection and reviews, including the information furnished by the CI, the staff has determined that the concern was substantiated. However, the staff has determined that there is not a significant safety or regulatory concern requiring further NRC action. Consequently, this Concern is being closed.