

Date: Wed, 31 May 2000 08:36:30 -0600
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Subject: Blue Alert: Contamination Surveys

Title: Beta Contamination Surveys

Identifier: 2000-OH-WVNS-020 Date: 5/8/2000

Summary: Beta contamination was found in the TSB Site Tool Crib which had gone undetected for an indeterminate period of time. This event reemphasizes the importance of attention to detail and the proper rigor when performing routine tasks. In this case an employee with a "new set of eyes" identified a problem that may have existed for some time. The lessons learned are not restricted to radiological implications only. All personnel should not let the outcome of routine checks/tasks be predetermined by preconceived ideas or impressions. Attention to detail and inquisitiveness and the willingness to spend extra time and effort on questionable areas identified an previous undetected problem. The previously undetected beta contamination in this occurrence was detected because the RCT paid additional attention to the tools which appeared to be dirty (indicative of having been used in the field). This was a discovery which may have been overlooked for a substantial period of time. Personnel should not let the outcome of routine checks/tasks be predetermined by preconceived ideas or impressions

Discussion: On March 20, 2000, West Valley Nuclear Services (WVNS) Radiation Protection personnel performing a routine survey, discovered 62,500 dpm per 100 sq. cm. (on a hand-tool, storage box and tool storage drawer) located in the WVNS tool crib. It should be noted that the tool crib is outside of a radiological buffer area, but inside the WVNS controlled area. The monthly survey consists of collecting smears, towel wipes and using a frisker (portable hand-held GM type) to randomly check tools and cabinet drawers. Initially, a valve seat removal tool was discovered contaminated (with approximately 62,500 dpm beta) in the bottom drawer of cabinet # 8 in the TSB Site Tool Crib. The radiological contamination was discovered inside a thick grease smear on the valve seat removal tool. The Radiological Control Operations (RCO) Supervisor was notified. Upon surveying the remaining items in the drawer, it was determined that the bottom of the drawer and a micrometer box had also been contaminated. The contamination which had been undetected for an indeterminate period of time, was discovered by utilizing a closer proximity between the hand-held frisker probe and the tools which appeared to be dirty (indicative of having been used in the field). Past surveys performed in the TSB Site Tool Crib did not identify the contaminated grease.

Analysis: Interviews conducted with maintenance personnel could not identify the contamination origin. Maintenance could not identify the type or the age of the grease which was contaminated and indicated that this grease is not currently used or stocked by the WVNS. Administrative controls in the past concerning monitoring for radiological contamination of tools brought to the tool crib has not been as structured or as disciplined as the practices currently in place. Review of the current practices indicate that any contaminated tool should be identified in the screening process. No changes are required in the tool crib screening process. Although the origin of the grease (time and date) could not be confirmed, review of the routine radiation protection survey process identified that process improvement could be achieved. It is suspected

that the contaminated grease and tools had been in the tool drawer for some time and had not been identified in routine surveys.

Resolution: Review of the current practices indicate that any contaminated tool should be identified in the screening process. No changes are required in the tool crib screening process. Although the origin of the grease (time and date) could not be confirmed, review of the routine radiation protection survey process identified that process improvement could be achieved.

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