

J17. Nine Mile Point 1: BWR-2 Mk1**U.S.A.****Desludging and Decontamination of Radwaste Aisles**

Description: Desludge, remove interferences, and decontaminate the old Rad Waste 225' Operating Aisle, Fill Aisle, East Aisle, "A"+ "B" line. Support activities required for cleanup completion.

Job History: During Unit 1 reactor startup in July 1981, it was necessary to process large amounts of water. Due to overflowing and sump pump back, up this elevation was flooded. Approximately 150 high-waste storage drums were stored there. Many of these drums floated off their carriers and spilled their contents. After several decontamination attempts, it was concluded that a remote robotic device would be needed. TROD was developed by NMPC+Red Zone.

Comments: Projects: Desludging and decontamination. of barrels, barrel carriers, interferences, and open areas; removal of barrels barrel carriers, and interferences; returning 225' elevation sump to an operational condition. These goals were accomplished.

Exposure Savings:

- **Robotics:** TROD was used to empty storage drums, move barrel carriers, remove drum lids, modify the carrier system, desludge drums and floor spaces, hydrolaze walls, remove debris, etc. Use of TROD saved an estimated 1.18 ManSv and possibly up to 1.96 ManSv. Manual Decon and recovery would have resulted in significant radiation doses.
- **Shielding:** The filter sludge's chemical composition may have contributed to the early failure of the paint coating the walls. This damage allowed contamination to be absorbed into the underlying concrete. Sheet lead plates were attached to the west end walls. Only 0.00150 ManSv were expended in this operation. The dose rates in the area were reduced from 0.015 - 0.050 mSv/hr to 0.003 - 0.015 MSv/hr. The savings from this were 0.027 ManSv. Another effective shield use during the manual periods of the operation was maintaining from 1 to 3 feet of water on the floor. This resulted in a 50% reduction in exposure for manual activities.
- **Airborne Radioactive Controls:** A temporary HEPA ventilation system was used to supplement the RW building's own ventilation. This air flow created a favorable condition by drawing contamination away from the work areas.
- **Protective Clothing:** Bubble hoods and plastic suits were used during most work activities.
- **Video Equipment:** Work activities were controlled by a chief RW operator and Chief RP technician in the project control room. Without this video and communication equipment, significantly more dose would have been received.
- **Daily Planning Meeting:** Often these meetings became forums for the work force to vocalize ideas that lead to better work methods and reduce exposure. Work performed 3/16/90-1/31/91 after several ALARA reviews.

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