

J13. Nine Mile Point 1: BWR-2 Mk1**U.S.A.****Work Inside Reactor Vessel**

Description: Reactor vessel disassembly/reassembly, cavity decontamination, install/remove recirc line plugs, RIVP work, offload/reload core, install/remove main steam plugs and associated work.

A complete offload of fuel was required to support the replacement of the emergency cooling valves 39-01 and 39-02 in the drywell. Recirc line plugs were required to be installed in loops 11 and 15 to avoid vessel drain down. Plug installation required the removal of start-up vibration equipment from the reactor annuls. Replacement of fuel spring clips, control blade replacement, refuel bridge maintenance, and other miscellaneous work.

Identified Good ALARA Practices:

- Mechanical maintenance video taped the reactor disassembly to use for future training.
- Lead blankets were used in the cavity to shield gauges at the base of the cavity wall. (prior reading was .05 Sv/hr)
- The refueling floor was maintained as a non-hot-particle area with the exception of the cavity area, the equipment storage pit area, and the NE\SW corners. This allowed personnel not involved in work in these areas to be dressed in a single set of protective clothing
- Cavity walls were kept wet with a soaker hose during drain down.
- Reactor water level was maintained just below the reactor vessel flange to maintain dose rates ALARA.
- Items were rinsed with water prior to being placed in the spent fuel pit or the cavity/storage pit when flooded.
- Reactor head studs were sleeved and left in place eliminating the need for the need for decon and potential airborne contamination problems.
- The inner and outer bellows areas were filled with water to reduce general area doses rates and minimize airborne contamination.
- Experienced radiation protection technicians were used to cover Refuel Floor activities.
- Training Center classes on Refuel Floor activities and viewing videotapes from past outages proved to be very beneficial.

Short List of Problems and Recommendations:

- The permanent marking of large equipment lay down areas is recommended.
- After the dryer and separator were removed from the storage pit, the water level was not maintained. This resulted in the drying out of the floor surfaces causing increased airborne contamination levels.

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