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BWR UNDERWATER DISASSEMBLY/ASSEMBLY - WETLIFT 2000

Keywords: CONTAMINATION PREVENTION; RADIATION SHIELDING;
REMOTE SYSTEMS; EXPOSURE REDUCTION

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Objectives: Primary objectives are: to conduct BWR disassembly and assembly operations under water; to reduce contamination and exposure; to speed operations by using remote tooling technology; to improve personnel safety; and to reduce cavity and equipment pool entries.

Other objectives are to reduce critical path time; to reduce exposure; to improve personnel safety; to reduce person-hours; to ease decontamination; and to accomplish this with no physical modifications to existing plant equipment.

Comments: The WETLIFT 2000 system has been used at GPU's Oyster Creek Nuclear Generating Station and allows:

- Reactor cavity flooding immediately after head removal.
- Steam dryer and separator transfer underwater with only one reactor cavity flooding.
- Latching and unlatching of the dryer and separator from refueling bridge.
- Steam plug insertion and withdrawal from refueling bridge.
- Watertight seal of equipment pool shield plugs during reactor vessel maintenance.

WETLIFT 2000 System consists of four major component parts: dryer/separator sling, rigid pole-handling system, steam line plug tooling, and watertight gate system.

Except for the watertight seal, the WETLIFT 2000 system has also been used at CECO's LaSalle County Station.

Remarks/Potential for dose limitation: The principal benefits of the system are:

- Critical Path Reduction
- One cavity flooding for reactor disassembly and assembly
- All operations performed from refueling bridge
- Remote separator, dryer and shield plug hookup and disconnect
- Accurate positioning, insertion & withdrawal of steam line plugs
- Remote latching and unlatching of dryer hold downs & shroud head bolts
- No shield plug leakage cleanup Exposure Reduction

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R-333

- Cavity flooding immediately after head removal
- No cavity work for dryer, separator and steam plug manipulations
- Dryer and separator remain underwater
- Equipment designed for quick decontamination
- Latching and unlatching of dryer hold down and shroud head bolts from refueling bridge
- Steam plug insertion and withdrawal from the refueling bridge
- Significant reduction in respirator and PC work
- Reduced cavity and storage pool entries
- Hook and block stay DRV and contamination-free.

References:

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Funding: N/A

Status: Complete

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