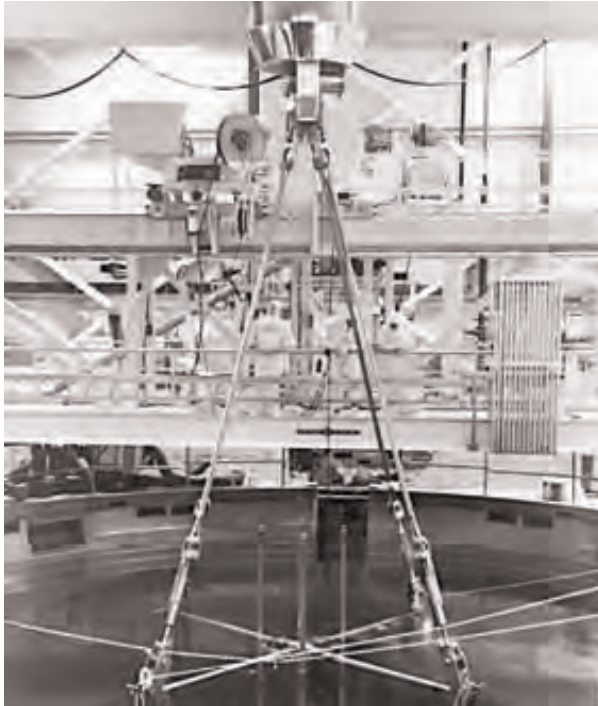


WETLIFT 2000 Underwater-BWR Reactor Disassembly/Assembly

Background

Westinghouse offers a complete line of reactor maintenance, disassembly and assembly equipment that gives you advantages of proven abilities to reduce time and exposure. This mature technology is available as complete systems or individual components to fit the needs of the individual plant.



Dryer/Separator Lift Rig

Description

The WETLIFT 2000™ system consists of four major components:

1. Dryer/separator sling and lift rigs – Slings and lift rigs for all types of underwater lifts
2. Rigid pole-handling system – Heavy-duty interlocking poles with easy-to-use accessories
3. Steam line plugs and installation tooling – Locking main steam line plugs with single or dual underwater installation tooling
4. Watertight gate system – Isolate the equipment pool from the cavity with zero leakage

The dryer/separator sling remotely engages, lifts and moves the dryer and separator to the storage pool with one reactor cavity flooding, while all personnel remain on the refueling floor.

Features

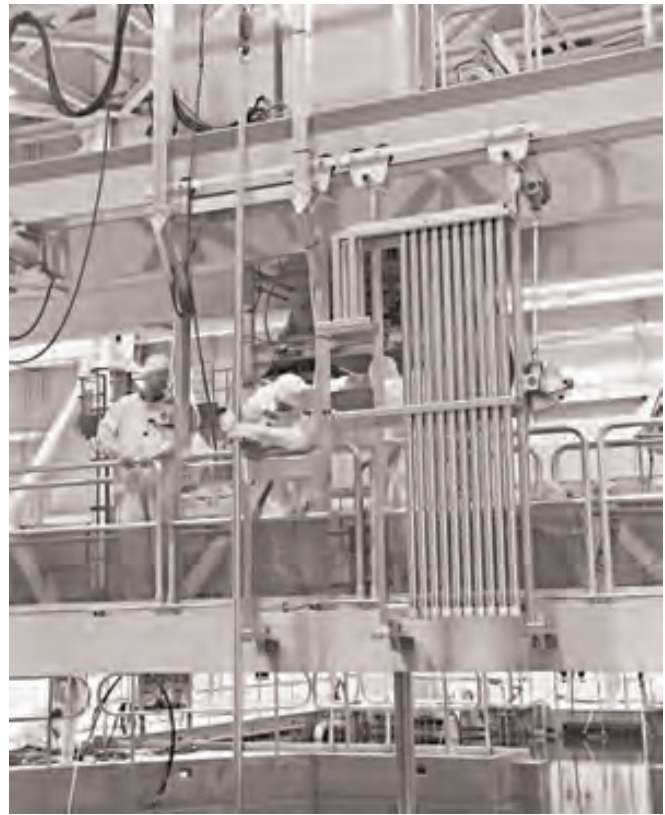
There are numerous support systems for boiling water reactors (BWR) outage work that enhance Westinghouse's ability to provide you with a complete line of BWR equipment and services, such as:

- Bending tool – For local power range monitor detectors, the tool hydraulically bends detectors in the reactor for easy movement and storage in the spent fuel pool

- Head lift rig and stud-tensioner carousel – Lifts the reactor head and stud tensioners with one lift
- TENSOR™ reactor vessel stud tensioner system – Comprises fast and lightweight components for all stud tensioning work
- Auxiliary bridges – Speed reactor work and are designed for plant-specific needs
- Multi-lift tool – Replaces control rod blades quickly by lifting them with the double-blade guides and fuel support piece
- SpaceSaver™ control rod blade guides – Lightweight, narrow double-blade guides that replace existing units and take one quarter or less space.
- BWR services – Staffed with experienced personnel dedicated to meeting your outage goals
- In-vessel visual inspection services – Possesses latest equipment, which allows visual inspections to be performed during fuel movement and control rod exchange
- Flexible rigging – Accommodates existing plant conditions
- Tooling – Allows most work to be conducted underwater
- Material finish – Electropolished or hard-anodized
- Designs – based on ergonomic experience and remote operation

The rigid pole-handling system is a long-handled tool attached to the refueling bridge. The system has pole sections that can be easily assembled and used by one operator to accomplish reactor maintenance tasks underwater, and to assist in disassembling the reactor internals. Poles can be assembled vertically with different working tool heads to allow precise horizontal, vertical and torsional tool motions.

The main steam line plug tooling allows the plugs to be installed from the refueling bridge underwater. Several methods of installing plugs are available, depending on the plug type and desired automation.



DUIT in mockup reactor performing inspections

The watertight gate system has two main components: a shield plug strongback and a sealing sheet on a reel. The strongback allows the shield plugs to be installed and removed underwater. The rubber sheet is rolled into the storage pool covering the shield plugs, and held in place by a support frame until the water pressure provides a sealing force when the reactor cavity is drained for reactor maintenance. The watertight gate system eliminates leakage and associated cleanup operations.

Benefits

- Critical path reduction
- Exposure reduction
- Personnel safety
- Man-hour reductions
- Low-risk technology