

Spent-fuel-handling Tool

Background

Increasing competitive pressures within the electric utility marketplace are forcing nuclear power plants to focus on ways to reduce the duration of refueling outages. As the leading global supplier of both new and upgraded fuel-handling equipment for nuclear power plants and in response to customer requests, Westinghouse subsidiary PaR Nuclear, offers the second generation of its nuclear combustion engineering (CE)-type spent-fuel-handling tool (SFHT).

Description

PaR has revised the standard SFHT to include a new grapple design that uses a J-hook configuration similar to the refueling machine grapple for CE-type fuel assemblies. The new SFHT is designed to directly replace any existing L-hook designs, providing the same form, fit and function.

Options available are:

- Rack alignment plate that centers the grapple end in a typical rack cavity
- Spring-loaded or threaded hand-grapple latching
- Either flange or threaded (smaller diameter) mid-tool connection for closer wall approach, if required

Support

PaR offers an innovative approach to post-installation service and support for the SFHT, wherein it focuses on equipment performance before, during and after an outage. PaR's field engineering performs an evaluation on the condition of the utility's current fuel-handling equipment and generates a performance appraisal report. This appraisal process includes: equipment survey, equipment reliability evaluation and equipment performance evaluation. It also includes recommendations for condition and performance improvements based on the plant's outage goals.

Benefits

The refueling window offers utilities the most room for improvement during an outage. To reduce fuel movement time, the speed of the fuel movement must be increased. Since 1995, PaR has been dedicated to supplying equipment that reduces fuel movement time, saving customers significant amounts of time and money. PaR's revised SFHT delivers all of these benefits.

Experience

PaR is the original equipment manufacturer for fuel-handling equipment at more than 80 nuclear power plants in seven countries, and continues to supply complete fuel-handling systems to new power plants around the world. The new SFHT has been designed, tested and installed at CE-type plants and is available to all CE pressurized water reactor (PWR) owners.



Closed grapple



Grapple actuator handle (closed)



Grapple J-hook (partially open)



Grapple actuator handle (open)



Grapple and rack alignment plate

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