BNL ALARA CENTER

Processes and Practices Related to Occupational Dose

ID: 31

MULTI-STUD TENSIONERS FOR RV HEAD

Keywords: MULTI STUD TENSIONERS; MULTI-STUD TENSIONERS; RV HEAD; REMOTE SYSTEMS; REACTOR VESSEL HEAD TENSIONER; PULLER BAR; TENSIONER; CLAM SHELL TENSIONER

Description:

Reactor assembly and dissassembly on the average expends approximately 24 MAN-REM at BWRs and approximately 50 MAN-REM at PWRs. Detensioning and tensioning of the reactor vessel studs typically accounts for 30-50% of the reactor assembly dissassembly dose. By using a multiple stud tensioning device personnel exposures are drastically reduced and significant critical path time can be saved. For a single reactor site with reactor assembly and dissassembly on critical path, 43 hours critical path time, 196 manhours and approximately 26.3 rem/yr can be saved. The majority of the French and German reactors have been routinely using these detensioning devices with much success.

References and Selected Abstracts:

1. Baum, J., and Matthews, G., "Compendium of Cost Effectiveness Evaluations of Modifications for Dose Reduction at Nuclear Power Plants," NUREG/CR-4373 December 1985. (Available from the National Technical Information Service, Springfield, VA 22161.)

2. Lochard, J., Maccia, C. and Pages, P., "Cost Effectiveness Considerations in Reducing Occupational Radiation Exposure in Nuclear Power Plants," Nuclear Safety, 1983, pp. 821-828.