

BNL ALARA CENTER

Processes and Practices Related to Occupational Dose

ID: 47

"WET MOTOR" SEALLESS PUMPS FOR WATER CLEAN UP SYSTEMS IN BWRS

Keywords: REACTOR WATER CLEAN UP; RWCU; PUMPS; SEALLESS PUMPS; WET MOTOR; MAINTENANCE; SEAL REPLACEMENT; DOSE REDUCTION

Description:

About 1 to 4 man-rem are expended every six months for seal replacement and maintenance on standard pumps. Reactor operations may also be curtailed while system is not fully operational. Replacement of the standard 50% capacity mechanical seal pumps initially installed in the Reactor Water Clean Up system by 100% capacity "wet motor" sealless pumps reduces frequent seal replacement maintenance and improves system reliability. Wet motor sealless pumps require only annual inspections and minimal maintenance. In-service cycle inspections have been reported to result in only 0.25 man-rem. Additionally, these pumps are also better capable of withstanding system thermal transients.

References and Selected Abstracts:

1. "Data Base on Dose Reduction Research Projects for Nuclear Power Plants", NUREG/CR-4409, Vol. 4. (Available from National Technical Information Service, Springfield, VA 22161.)
2. Stacks, J.A. and P.J. Macbeth, Private communication to T. Khan, Washington Public Power Supply System, Box 968, Richland, WA 99352.