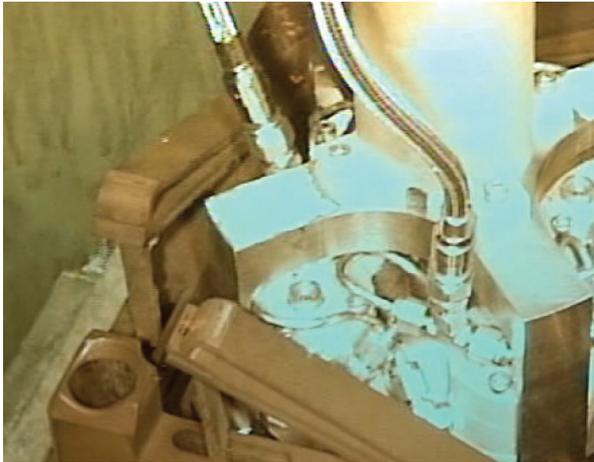


Fuel Assembly Repair

Background

The term “fuel repair” is often used interchangeably with “fuel reconstitution.”

Reconstitution is the replacement of one or more failed fuel rods from an otherwise intact fuel assembly with stainless steel dummy rods so that the fuel assembly can be reinstalled in the reactor core.



Top nozzle removal tool during fuel assembly top nozzle removal

Description

Fuel repair/fuel reconstitution is most often performed with the fuel assembly in the site new fuel elevator basket (or in a special fuel repair basket on the tracks of the new fuel elevator). It may also be performed in a special workstation with the fuel in the spent fuel rack. The new fuel elevator allows some operations to be simplified by raising the basket and fuel assembly for easier access. Fuel rod removal is always performed with the basket in the down position in order to maintain minimum permissible water coverage over fuel during fuel rod removal. If the repair is performed in the rack, the special work station that is used is placed atop the rack and surrounds the cell where the fuel is placed. The work station provides a working surface and interface for tooling. In either case, the top nozzle is removed from the fuel assembly to expose the fuel rods, and the failed rods are replaced with stainless steel rods. The top nozzle is then reinstalled. Failed fuel rods are put into a storage basket kept at the site in the spent fuel pool. A fuel reconstitution is routinely performed in one shift. Westinghouse can provide an independent elevator system when the new fuel elevator is not available for fuel repair operations or the spent fuel rack cannot be used.

Benefits

The Westinghouse fuel assembly repair system in conjunction with the removable top nozzle (RTN) on Westinghouse fuel gives you the ability to replace failed fuel rods in intact fuel assemblies during an outage, which allows continued use of the fuel assembly to generate power. Fuel repair may provide a viable alternative to core redesign.

Deliverables

We provide qualified Westinghouse personnel to perform all required fuel repair operations. Operations preplanning, on-site project management, detailed field procedures, all required tooling and a final report are all part of the typical Westinghouse deliverables.

Experience

Westinghouse has performed more than 700 fuel assembly repairs since 1988. Multiple sets of equipment are available to enable simultaneous repairs.