

Bridge-Free Tooling: Invader

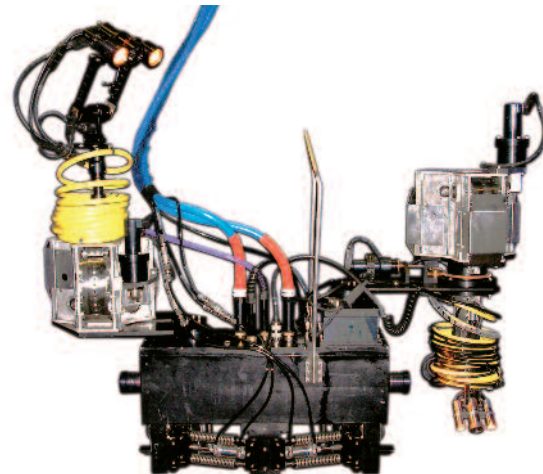
Multiple inspection cameras and maximized weld coverage during fuel movement

GEH's new Invader provides nuclear power plants with an array of cameras to assist in visual inspections during critical path activities. Using the shroud flange as a guide, the Invader performs inspections without the installation of a track or rail system. The Invader is another example of the many Bridge-Free Tooling offerings from GE Hitachi Nuclear Energy.

Developed in conjunction with Exelon and R.O.V. Technologies, this remotely operated system reduces critical path impact and radiation exposure for workers. Through advanced camera and remote positioning technology, it allows examiners to examine In-Vessel Visual Inspection (IVVI) components from the annulus floor to the feedwater spargers.

Remote operation of the Invader also allows for non-interrupted fuel movement. Inspections may be performed during fuel movement, critical path, and parallel activities, minimizing overall critical path time. Allowing workers to operate the Invader remotely ensures reduced radiation exposure, helping plants meet their As Low As Reasonably Achievable (ALARA) goals.

A longer overall IVVI window is created with Invader by removing the IVVI window from critical path activities and scheduling it parallel to other in-vessel activities. With a longer window, the number of certified personnel needed for the outage is reduced. This reduction in personnel requirements minimizes outage costs and resource availability risk.



Benefits

- Non-interrupted critical path activities
- Improved visual inspection capabilities
- Reduction of personnel needed for In-Vessel Visual Inspections
- Optimized IVVI windows and refuel floor schedules
- Reduction in IVVI activity radiation exposure

Features

- Bridge-Free Tooling—operates on the steam dam instead of a track
- Multiple camera systems that target different IVVI components and configurations
- Ability to perform inspections during fuel movement, critical path, and parallel activities



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