

Byron Station to Conduct EP Exercise April 15

Byron Station will conduct an Emergency Preparedness Hostile Action-Based (HAB) Exercise on Wednesday, April 15.

HAB exercises are similar to other EP-related exercises except that the scenario must include a hostile act towards the plant or its personnel. This action must include the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end.

These exercises give the Byron Emergency Response Organization (ERO) the opportunity to utilize its Alternative Facility, located in Dixon. During an off-hours hostile action, the Shift Manager needs assistance from emergency responders. But having them come to the site would put them in danger. So personnel would staff the Dixon facility with an end goal of moving to the site's Technical Support Center

(TSC) and Operational Support Center (OSC) when the threat is over and access is safe.

Wednesday's exercise will also involve the Control Room Simulator and simulated Security CAS and SAS facilities in the Training Building (Rooms 111 and 113) as well as the Emergency Operations Facility and Joint Information Center at Cantera. In addition, law enforcement agencies (local, state and federal) will man an Incident Command Post at an off-site location.

This is an NRC Graded Exercise and off-site agencies will be evaluated by FEMA.

Participants (craft and management) must be in their reporting locations at 0700 with briefings scheduled to begin shortly after that.

Questions can be directed to EP Staff.

Quad Cities has the World's Longest Running Reactor Feed Pump Seals

Quad Cities currently has the longest running diamond face mechanical seals installed in the world, which are installed on the reactor feed pumps (RFPs). These particular mechanical seals are made with a diamond coating on both the rotating and stationary seal faces within the mechanical seal. Only one other nuclear plant in the world, a now-retired plant in Germany, had these seals before Quad Cities installed them in 2011. Since then, the Unit 1 mechanical seals have been running continuously, except for down powers and outage periods, with Unit 1 completing 692 days of continuous operation prior to this spring's refueling outage.

During the most recent refueling outage, Mechanical Maintenance performed an inspection of the 1A RFP outboard mechanical seal. This seal had been running for two complete fuel cycles and the inspection was done to determine its condition and if it would be prudent to continue operating these seal for an additional fuel cycle. The



Above, left: The reactor feed pump mechanical seal. Right: The diamond face seal rotating face, which had experienced 34,000 hours of run time.



seal was found to be in outstanding condition, bordering on what would be considered "like new condition."

The seal was reassembled using all the same subcomponents, with the exception of replacement of some of the O-rings and springs, and was reinstalled onto 1A RFP to run for an additional fuel cycle. Based on the inspection results, the other five seals were not disassembled.

Prior to Unit 1's 2011 refueling

outage, when the diamond face seals were installed, it was very unusual for a mechanical seal on a RFP to make it full fuel cycle. Multiple attempts were made to solve the issue until the diamond face sealing face technology became available. These diamond face seals are currently installed on all six RFPs at Quad Cities, and no issues regarding the seals has arisen since their installation on both units.

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