

# SIEMENS

January 27, 1994

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

Gentlemen:

## **Follow-Up to Bulletin 91-01 Report on Improper Storage of BWR Fuel Assemblies - NRC Report No. 6548**

On 12/28/93 as part of an ongoing Criticality Safety Update Program, Siemens Power Corporation (SPC) criticality safety personnel discovered that BWR fuel assemblies had been stored in locations not specifically analyzed in the applicable criticality safety analysis (CSA). The condition occurred at SPC's low enriched uranium fuel fabrication plant located in Richland, Washington. This discovery was reported to the NRC Operations Center on 12/28/93 at 1420 hours per the requirements of NRC Bulletin 91-01 (Report No. 6548). SPC internal procedures require a written followup report to all Bulletin 91-01 reportable events and discoveries. This letter fulfills that requirement.

### Background

The vertical fuel assembly storage area for BWR fuel assembly storage (located in the bundle assembly area of the UO<sub>2</sub> Building) has storage locations for a 9 X 20 array of BWR fuel assemblies. Five of these nine rows are column storage locations and are frequently used. The other four rows are only used occasionally. Use of these four rows requires a beam to be placed across the aisle way between the column locations. U bolts are attached to the aisle beams. BWR fuel assemblies hang from the U bolts and are required to have a minimum one foot center-to-center spacing from the column rows. When in the allowed configuration, the center-to-center spacing between the aisle rows is nominally 39 inches.

The 14 incorrectly stored BWR fuel assemblies were in two aisle rows. BWR fuel assemblies were also being properly stored in the two adjacent column rows. The resulting center-to-center spacing between the two aisle rows was less than the specifically analyzed spacing between these rows.

The 14 incorrectly stored BWR fuel assemblies were immediately relocated to specifically analyzed locations. All other criticality safety limits and controls for the storage rack were verified to be met.

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Current Status

The fuel storage racks are in service.

Cause and Corrective Actions

The cause of this discovered condition was a failure of the criticality safety specification (CSS) to incorporate all pertinent limits from the applicable CSA.

The corrective actions completed to date include:

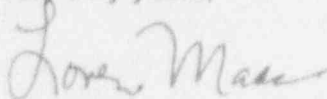
- The CSS and posted limit card were changed to require verification by the Criticality Safety Specialist of proper assembly placement before aisle storage locations can be used.
- The two center U bolt holding nuts on the aisle beams have been tagged out of service.

In addition to completion of the review of this CSA under the Criticality Safety Analysis Update Program, Engineering is evaluating potential modifications to the storage rack to eliminate storage locations that are moveable.

Based on the other criticality safety controls remaining in place and the conservatism incorporated into the criticality safety analysis, conditions required for a criticality accident were not approached. Potential for adverse impacts to on-site workers or the general public was insignificant.

If you have questions regarding SPC's actions in response to this condition, please contact me on 509-375-8537.

Very truly yours,



L. J. Maas, Manager  
Regulatory Compliance

LJM:pm

cc: K. E. Perkins  
NRC Region V