

# SIEMENS

January 4, 1993

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

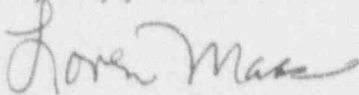
Subject: Reply to Notice of Violation

Ref: Letter, R. A. Scarano to Siemens Power Corporation, "NRC Inspection Report No. 70-1257/92-08," dated December 4, 1992.

Gentlemen:

Enclosed is Siemens Power Corporation's reply to the Notice of Violation transmitted to SPC by the referenced letter. If you have any questions regarding this reply, please contact me at 509-375-8537.

Very truly yours,



Loren J. Maas, Manager  
Regulatory Compliance

LJM:pm

cc: Mr. John B. Martin  
Region V Administrator

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Siemens Power Corporation

Nuclear Division - Engineering and Manufacturing Facility

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**Siemens Power Corporation (SPC) Reply to Notice of Violation Dated December 4, 1992  
(NRC Inspection Report No. 70-1257/92-08)**

Violation 1

CSA U-1.2, dated August 1973 (for the Line 1 vaporization chests), was not adequate to determine that criticality safety criteria were satisfied, in that the CSA failed to incorporate all credible accident conditions, thus failing to adequately determine that no single condition was capable of causing an accidental criticality. Specifically, flooding of uranium hexafluoride vaporization chests (unfavorable geometry vessels), with uranium-bearing solutions from process systems that vented to the connecting process off-gas (POG) system was a credible accident condition that was not analyzed in the CSA. On October 13, 1992, such an event occurred when a process tank containing low enriched (4.0 percent U-235) uranyl fluoride overflowed to the POG system and into an unfavorable geometry vaporization chest, a credible accident.

SPC Response to Violation

SPC admits to this violation.

Reason for Violation

The reason for the deficiency in CSA U-1.2 was a failure to sufficiently predict systems interactions in identifying and analyzing credible accident scenarios.

Immediate Corrective Actions

The following actions were taken in the short term to correct the conditions that caused the tank 10 overflow, to assure a complete identification of credible accident scenarios, and to update the associated CSAs to reflect all necessary controls.

- Conversion line 1 was immediately shut down and conversion line 2 was put on standby. Upon being notified of the event, Safety, Security, and Licensing notified NRC under Bulletin 91-01. The following day (October 14) NRC Region V issued a Confirmatory Action Letter specifying conditions that would need to be met to the satisfaction of NRC Region V prior to conversion line restart.
- An Incident Investigation Board (IIB) was convened to coordinate and oversee a thorough investigation of the event, to identify the potential for similar events in the other conversion line, and to specify the corrective actions to preclude such events.
- A criticality safety calculation was performed to assess consequences of this event under worst case conditions of maximum solution concentration and

depth of solution in the vaporization chest. The calculation showed that the system would remain sub-critical by a substantial margin.

- An independent task force was assembled to evaluate the potential for similar accidents throughout the chemical processing area and to take appropriate corrective actions.
- Addenda were prepared to CSAs U-1.2, U-1.7, and U-1.26 to reflect additional accident scenarios and related criticality safety controls.
- The Startup Council was convened to review the adequacy of the completed corrective actions prior to restarting the conversion lines. Startup approval from the council was granted on October 22. NRC concurrence, i.e. notification that requirements of the Confirmatory Action Letter had been met, was received on October 23.

#### Corrective Action to Avoid Further Violations

Based on an earlier criticality safety occurrence and resulting NRC inspection (NRC Inspection Report No. 70-1257/92-06) as well as subsequent internal evaluation, SPC had already committed to NRC Region V (NRC Enforcement Conference, Sept. 22, 1992, Walnut Creek) to undertake a major program to review the accuracy, adequacy and consistency of all criticality safety analyses and sub-tier documents. This program, reviewed with NRC Region V staff and outlined in a program plan submitted by B. N. Femreite (SPC Richland Plant Manager) to J. B. Martin (NRC Region V Administrator) on December 30, 1992, will include a validation of existing CSA assumptions, revision of CSAs as required (reformatting, enhancing, or reanalyzing), followed by an updating of implementing documentation (Criticality Safety Specifications and Operating Procedures). A copy of this program was also sent to the Director of the Office of Enforcement.

#### Date to be in Full Compliance

The immediate corrective actions to preclude recurrence of this event and to remedy the deficient CSA have been completed. The major CSA update program, discussed in the above paragraph, has been initiated. A projected schedule for completion is included with the program description.

#### Violation 2

Violation 2 addressed deficiencies in SPC's evaluation of the event for reportability and failure to report in conformance with internal reporting requirements. NRC's evaluation of corrective actions submitted by SPC in response to the Confirmatory Action Letter indicated that SPC had corrected this matter. The Notice of Violation indicated that no further written response was required.