

March 21, 1996

Mr. Ed Chu
Lead Assistant Engineer
General Electric Company
175 Curtner Avenue
San Jose, CA 95125

SUBJECT: REQUEST FOR A TECHNICAL REVIEW OF A DRAFT INFORMATION NOTICE
REGARDING TRAVERSING INCORE PROBE OVERWITHDRAWN

Mr. Chu:

The U.S. Nuclear Regulatory Commission (NRC) is planning to issue an information notice discussing a problem reported by the licensee for LaSalle County Station Unit 1 (Docket No. 05000373) regarding the traversing incore probe. We ask that you review the enclosed draft of that information notice to ensure the technical information is accurate. Your cooperation in this matter is appreciated. Please return any comments you may have as soon as possible. A copy of this request and your response will be placed in the Public Document Room for review by the public. Your response should be mailed to:

U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001
ATTN: Egan Wang, NRR/PECB
MAIL STOP: 011E4

Please address any questions you may have on this matter to Egan Wang of my staff. Mr. Wang may be reached by phone (301) 504-1076. If no comments are received by close of business March 29, 1996, we will assume the technical information in the notice is correct.

[Original signed by]
Alfred E. Chaffee, Chief
Events Assessment and
Generic Communications Branch
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Enclosure: Draft Information Notice

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

March xx, 1996

NRC INFORMATION NOTICE 96-xx: TRAVERSING IN-CORE PROBE OVERWITHDRAWN AT
LASALLE COUNTY STATION, UNIT 1

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to a traversing in-core probe (TIP) that was overwithdrawn at LaSalle County Station, Unit 1. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On October 31, 1995, while LaSalle Unit 1 was operating at 96-percent power, a failure occurred on the 1B (TIP) machine. The licensee was running a test for nuclear instrument calibrations. During the insertion of the 1B TIP detector, the operator received indications that the detector was withdrawing. An attempt by the operator to stop the TIP was unsuccessful. The TIP withdrew past its shielded storage location to the drive unit itself. A reactor building (RB) area radiation monitor (ARM) (next to the drive units) pegged upscale (1 rem/hour) and alarmed in the control room. At the surface of the platform supporting the TIP drive machines, radiation surveys showed 7 Rem/hr. Licensee's calculations showed potential dose rates of 250 Rem/hr one foot away from the unshielded detector. The operators entered emergency operating procedures for secondary containment control (because of high radiation levels at the 740-foot elevation level of the reactor building). Personnel were warned to stay clear of the area and an ALERT was declared based on the high radiation levels. The operational support center and the technical support center were activated. The licensee subsequently established high radiation and contamination boundaries for restricting access controls in the reactor building. With the plant condition stabilized and the radiological boundaries established, the licensee terminated the ALERT. There was no impact on the operation of Unit 1 or Unit 2, and they remained at full power. The event involved no radiological releases and no exposures of personnel.

Licensee personnel performed an inspection of the 1B TIP on November 7, 1995. The inspection revealed that the drive chain between the drive motor and the feed and takeup reel had separated at the master link, apparently because of

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improper assembly. This separation caused the takeup reel to recoil due to a tensioner spring on the reel and to pull the TIP detector all the way out onto the reel, an unshielded area. The root cause investigation as to why the master link separated is ongoing.

Discussion

The NRC staff discussed this event and the general design of the TIP with a General Electric representative. Because of the design of the TIP, when the drive chain between the drive motor and the feed and take-up reel separates at the master link, the fail-to condition is to recoil the take up reel and pull the TIP detector all the way out onto the reel, which is usually unshielded. This kind of event is not unusual because of the way the TIP is designed.

Irradiated components, such as BWR TIP and attached drive cables can create substantial radiation fields in accessible RB areas. Without timely worker and control room actions in response to local and remote RB ARM alarms, the local radiation fields outside their shielded rooms, from an inadvertent activated TIP withdrawal has the potential for inadvertent worker exposures in excess of regulatory limits.

Related Generic Communications and Correspondence

The following generic communications and correspondence discuss previous related events:

Information Notice 88-63, "High Radiation Hazards From Irradiated Incore Detectors and Cable," dated August 15, 1988.

IN 88-63, Supplement 1, dated October 5, 1990.

IN 88-63, Supplement 2, dated June 25, 1991.

INPO Significant Event Report 50-85, "Uncontrolled Personnel Radiation Exposure," dated November 4, 1985.

This information notice requires no specific or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Dennis M. Crutchfield, Director
Division of Reactor Program Management
Office of Nuclear Reactor Regulation

Technical contacts: Egan Y. Wang, NRR
(301) 415-1076
Internet:eyw@nrc.gov

James E. Wigginton, NRR
(301)-415-1059
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Attachment: List of Recently Issued NRC Information Notices