

SOUTH CAROLINA ELECTRIC & GAS COMPANY

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O. W. DIXON, JR.
VICE PRESIDENT
NUCLEAR OPERATIONS

April 22, 1983

Mr. Harold R. Denton
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Virgil C. Summer Nuclear Station
Docket No. 50/395
License No. NPF-12
NRC Generic Letter 83-10d

Dear Mr. Denton:

On February 22, 1983, South Carolina Electric and Gas Company (SCE&G) received NRC Generic Letter 83-10d, "Resolution of TMI Action Item II.K.3.5, Automatic Trip of Reactor Coolant Pumps." In this letter, SCE&G was requested to provide plans and schedules for resolution of this issue for the Virgil C. Summer Nuclear Station. The Westinghouse Owners Group (WOG) is pursuing this issue on a "generic" basis. Therefore, SCE&G will collectively work with the WOG in resolving the Reactor Coolant Pump (RCP) trip issue.

In response to Part I of the TMI Action Item II.K.3.5, "Pump Operation Which Can Result in RCP Trip During Transients and Accidents," Westinghouse and the WOG are developing revised RCP trip criteria which will be contained in Revision 1 to the Emergency Response Guidelines (ERGs) scheduled to be issued to SCE&G on July 31, 1983. The revised RCP trip criteria will assure that the need to trip the RCPs will be indicated to the operator for Loss of Coolant Accidents (LOCAs) where RCP trip is considered necessary. The criteria will also ensure continued forced Reactor Coolant System (RCS) flow for steam generator tube rupture and other non-LOCA transients where forced circulation is desirable. Since RCP operation cannot be guaranteed, the ERGs provide guidance for the use of alternate methods for depressurization.

The ERGs contain specific guidance for detecting, managing and removing coolant voids that result from flashing. Symptoms of such a situation are described in these guidelines. Explicit guidance for operating the plant with a void in the reactor vessel head is provided in cases where such operation is needed. Presently, SCE&G addresses voiding in two Emergency

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Operating Procedures (EOPs). EOP-13, based on the WOG's guidelines, provides a maximum natural circulation cooldown rate of 50°/hour to prevent voiding in the reactor vessel. Additionally, EOP-15 provides guidance to operators for venting the reactor vessel in the event that voiding occurs in the reactor vessel.

Operator training at the Virgil C. Summer Nuclear Station currently emphasizes the need to trip the RCPs if component cooling water is not available.

The WOG's response to Part I, Section 2 of II.K.3.5, "Guidance for Justification of Manual RCP Trip," is expected by the end of 1983. A number of analyses have been performed by Westinghouse for the WOG using the approved Westinghouse Appendix K Evaluation Model for the small break LOCA. Better estimate analyses will be performed using the WFlash computer code. These analyses will be used to determine the minimum time available for operator action for a range of break sizes such that Emergency Core Cooling System acceptance criteria of 10CFR50.46 are not exceeded. It is expected that the minimum time available for manual RCP trip will exceed present guidance, thus justifying manual RCP trip.

Good engineering practice has been and will be followed with respect to other considerations, namely instrumentation, emergency operating procedures and operator training. RCS wide range pressure information is provided by diverse and redundant transmitters located in containment. One is manufactured by Barton and the other by Verittrak. Both have been shown to be qualified to IEEE 323-1974 and IEEE 344-1975 criteria for their harsh environment application. In our letter of December 30, 1982, to NRC Region II, SCE&G committed to add two qualified transmitters, to be located in a mild environment, during the first refueling outage after June 30, 1984. These new transmitters will be added to improve the accuracy of the readings during an event.

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Consistent with present technology, SCE&G considers the redundant RCS subcooling monitors presently installed as adequate. A description of the installation and future plans for the system upgrade are contained in a letter to the NRC regarding our inadequate core cooling instrumentation dated March 8, 1983.

Secondary system pressure is monitored by nine (9) Class 1E, IEEE 323-1974 and IEEE 344-1975 harsh environment qualified transmitters manufactured by Barton. There are three (3) such transmitters in each loop. In addition there is one (1) additional transmitter manufactured by Rosemount in each loop, for a total of twelve (12) diverse and redundant sources of indication of this parameter.

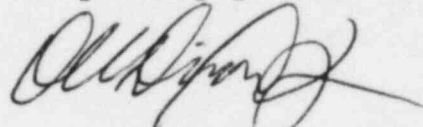
In our letter to the NRC dated April 15, 1982, in response to Generic Letter 82-33, SCE&G stated that the EOP Procedures Generation Package, Item 7.2b of NUREG 0737 which includes the ERGs, will be submitted to the NRC by October 30, 1984. Revision 1 to the ERGs and justification for manual RCP trip will be incorporated in the EOP Procedures Generation Package as applicable. Operator training will be revised to reflect the revised EOPs at that time.

With respect to Part II, "Pump Operation Criteria Which Will Not Result in RCP Trip During Transient and Accidents," SCE&G agrees with the WOG that the preferred and safest method of operation following a small break LOCA is to manually trip the RCPs.

SCE&G considers this submittal as adequate in addressing our plans and schedules for resolution of this issue.

If you have any questions please let us know.

Very truly yours,



O. W. Dixon, Jr.

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cc: (See Page #4)

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