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MAY 22 1984

JOHN S. KEMPER
VICE PRESIDENT
ENGINEERING AND RESEARCH

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
Washington, D.C. 20555

Docket Nos.: 50-352
50-353

Subject: Limerick Generating Station, Units 1&2
TMI Action Plan Items II.K.3.13 and
and II.K.3.15

Reference: (1) NUREG-0991 (Limerick Safety Evaluation Report)
(2) Telecon between R. E. Martin (NRC) and J. L. Phillabaum (PECO) on May 1, 1984.

File: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

Confirmatory issue sixty-five of the reference (1) report identified conformance with TMI Action Plan Item II.K.3.13 as requiring the NRC staff to verify installation of equipment for the automatic restart of RCIC on low water level before an operating license is issued. Modifications to provide automatic operation of the RCIC system to trip at high water level and auto restart at low water level have been installed.

The reference (1) report identified conformance with TMI Action Plan Item II.K.3.15 as confirmatory issue sixty-six which requires the NRC staff to verify installation of a modification that consists of adding a time delay to the high flow trip logic of HPCI/RCIC before an operating license is issued. Installation of a time delay to the high flow trip logic of HPCI/RCIC has been completed.

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The FSAR will be revised in Revision 33 as shown on the attached draft FSAR pages to close confirmatory issues sixty-five and sixty-six as agreed upon in the reference (2) telephone call.

Sincerely,

John S. Kemper

JLP/gra/0507841055

cc: See Attached Service List

cc: Judge Lawrence Brenner (w/o enclosure)
Judge Richard F. Cole (w/o enclosure)
Troy B. Conner, Jr., Esq. (w/o enclosure)
Ann P. Hodgdon, Esq. (w/o enclosure)
Mr. Frank R. Romano (w/o enclosure)
Mr. Robert L. Anthony (w/o enclosure)
Charles W. Elliot, Esq. (w/o enclosure)
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Atomic Safety & Licensing Appeal Board (w/o enclosure)
Atomic Safety & Licensing Board Panel (w/o enclosure)
Docket & Service Section (w/o enclosure)
Martha W. Bush, Esq. (w/o enclosure)
Mr. James Wiggins (w/o enclosure)
Mr. Timothy R. S. Campbell (w/o enclosure)
Ms. Phyllis Zitzer (w/o enclosure)
Judge Peter A. Morris (w/o enclosure)

This section is not applicable to LGS.

- II.K.3.10 PROPOSED ANTICIPATORY TRIP MODIFICATION

This section is not applicable to LGS.

- II.K.3.11 JUSTIFICATION IN THE USE OF CERTAIN PORVs

Response

There are no PORVs at the LGS. The ADS system employs five safety-relief valves to relieve high pressure in the reactor so that flow from LPCI and/or the CS systems enters the reactor in the event that RCIC and/or the HPCI system cannot maintain the reactor water level. See Sections 5.2.2 and 7.3 for further discussion.

- II.K.3.12 CONFIRM EXISTENCE OF ANTICIPATORY REACTOR TRIP UPON TURBINE TRIP

This section is not applicable to the LGS.

- II.K.3.13 SEPARATION OF HPCI AND RCIC SYSTEM INITIATION LEVELS - ANALYSIS AND IMPLEMENTATION

Position

Currently, the reactor core isolation cooling (RCIC) system and the high pressure coolant injection (HPCI) system both initiate on the same low water level signal and both isolate on the same high water level signal. The HPCI system will restart on low water level but the RCIC system will not. The RCIC system is a low-flow system when compared to the HPCI system. The initiation levels of the HPCI and RCIC system should be separated so that the RCIC system initiates at a higher water level than the HPCI system. Further, the RCIC system initiation logic should be modified so that the RCIC system will restart on low water level These changes have the potential to reduce the number of challenges to the HPCI system and could result in less stress on the vessel from cold water injection. Analyses should be performed to evaluate these changes. The analyses should be submitted to the NRC staff and changes should be implemented if justified by the analysis.

Response

Analysis performed by the BWR Owners Group (NEDO-24951) has concluded that changing the initiation setpoint of HPCI/RCIC is unwarranted. The same NEDO report did recommend a modification to the RCIC circuitry to permit auto-restart of RCIC on low level after a high level trip. Therefore, modifications to the RCIC trip circuitry ~~are currently underway~~ HAVE BEEN MADE to delete the high water

level turbine trip and to apply this signal to the auto close circuit of the steam supply valve. This ~~will~~ provides automatic operation of the RCIC system to trip at high water level and auto restart at low water level. ~~This will be implemented prior to fuel load.~~

- II.K.3.15 MODIFY BREAK DETECTION LOGIC TO PREVENT SPURIOUS ISOLATION OF HPCI AND RCIC SYSTEMS

Position

The high pressure coolant injection (HPCI) and reactor core isolation cooling (RCIC) systems use differential pressure sensors on elbow taps in the steam lines to their turbine drives to detect and isolate pipe breaks in the systems. The pipe break detection circuitry has resulted in spurious isolation of the HPCI and RCIC systems due to the pressure spike which accompanies startup of the systems. The pipe break detection circuitry should be modified so that pressure spikes resulting from HPCI and RCIC system initiation will not cause inadvertent system isolation.

Submit sufficient documentation to support a reasonable assurance finding by the NRC that the modifications, as implemented, have resulted in satisfying the concerns expressed in the previous requirements.

Response

The HPCI-RCIC steam line isolation logic ~~is currently being~~ HAS BEEN modified to address the spurious isolation of these systems due to the pressure spike which accompanies startup of them. The modification consists of adding a time delay to the high flow trip logic of HPCI/RCIC. This ~~will~~ prevents the instantaneous pressure spike from causing a system isolation. ~~This will be implemented prior to fuel load.~~

- II.K.3.16 REDUCTION OF CHALLENGES AND FAILURES OF RELIEF VALVES - FEASIBILITY STUDY AND SYSTEM MODIFICATIONS

Position

The record of relief valve failures to close for all boiling water reactors (BWRs) in the past 3 years of plant operation is approximately 30 in 73 reactor-years (0.41 failures per reactor-year). This has demonstrated that the failure of a relief valve to close would be the most likely cause of a small-break loss-of-coolant accident (LOCA). The high failure rate is the result of a high relief valve challenge rate and a relatively high failure rate per challenge (0.16 failures per challenge). Typically, five valves are challenged in each event. This results in an