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JOHN S. KEMPER
VICE-PRESIDENT
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AUG 30 1984

Mr. A. Schwencer, Chief
Licensing Branch No. 2
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Limerick Generating Station
Docket Nos. 50-352 and 50-353
Deferral of Redundant Reactivity
Control System

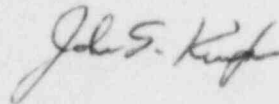
Reference: 1) PECO and NRC conference call dated 8/13/84
2) J. S. Kemper to A. Schwencer letter dated
July 17, 1984

File: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

The additional information requested during the Reference 1
Telecon by Mr. M. Virgilio of your Instrumentation and Control Systems
Branch concerning our request for deferral of the Redundant Reactivity
Control System has been incorporated into the revised justification,
attached. This revised page 2-3 supersedes that contained in the
Reference 2 letter.

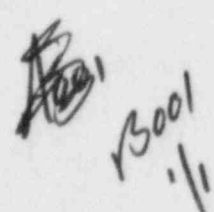
Sincerely,



RJS/mlb/08238403

Copy to: See Attached Service List

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PDR ADOCK 05000352
A PDR



RS001
1/1

Operability of Redundant Reactivity Control System

Description:

The redundant reactivity control system (RRCS) provides a redundant, diverse method of shutting down the reactor in the unlikely occurrence of an anticipated transient without scram (ATWS). The system senses reactor pressure and level to determine if an ATWS event is underway, and if appropriate, automatically initiates Alternate Rod Insertion, Recirculation Pump Trip, Feedwater Runback, and Standby Liquid Control system boron injection. Actuation of the RRCS logic shuts down the reactor independent of the control rod drive system. Operability of RRCS is proposed for deferral until prior to exceeding 5% power by blocking the RRCS logic.

Justification:

This deferral will preclude inadvertent initiation of SLCS boron injection during the low power test period. Prior to initial criticality, all control rods are inserted and the reactor is in the shutdown mode. In the highly unlikely event that an ATWS did occur during operation at less than 5% power the relatively small amount of heat being generated provides plant operators with significantly more time than would exist at full power to manually initiate the actions which the RRCS would automatically initiate.

The Limerick FSAR response to Question 421.30, regarding the failure of an instrument line and an additional concurrent single electrical failure, takes credit for the Alternative Rod Insertion (ARI) function of the Redundant Reactivity Control System (RRCS), for one of the two worst cases analyzed. Prior to exceeding 5% reactor power the RRCS will not be in service, and therefore, the automatic ARI function may not be operational. However, should such a low probability event as that described by the Michelson Concern in RAI 421.30 occur during this time period, an automatic scram would occur due to the closure of the MSIV's on a Low Water Level Isolation signal. A scram signal is initiated by the MSIV position switches when the MSIV's begin to close. The HPCI system would provide sufficient coolant to the reactor so the core would remain covered at all times, and no fuel damage would occur.

At Limerick the ATWS Recirculation Pump Trip (RPT) feature has been incorporated into the RRCS logic, and hence may not be functional until the RRCS is available. However at 5% power the contribution of RPT to mitigating an ATWS event is insignificant. At 5% power the reactor recirculation pumps should be operating at minimum flow, which is comparable to natural circulation core flow at 5% power.

For the above reasons, it is concluded that deferral of RRCS operability until prior to exceeding 5% power does not adversely affect the safe operation of Limerick.

cc: Judge Lawrence Brenner (w/enclosure)
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Judge Richard F. Cole (w/enclosure)
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