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T.S. 6.9.2

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

Limerick Generating Station, Unit 1
Facility Operating License No. NPF-39
NRC Docket No. 50-352

Subject: Special Report-Unit 1 HPCI/RCIC Injection into the RCS

Reference: LER 1-03-003 Unit 1 Scram on Low Reactor Level dated 6/23/03

This Special Report is being submitted pursuant to the requirements of Limerick Generating Station (LGS) Unit 1Technical Specifications 3.5.1.f, 3.7.3.b and 6.9.2 concerning Emergency Core Cooling System (ECCS) injection into the Reactor Coolant System. High Pressure Coolant injection (HPCI) and Reactor Core Isolation Cooling injected into the Reactor Coolant System following a low reactor level event on April 23, 2003 (ref.)

On April 23, 2003 with Unit 1 operating at 100% power (OPCON 1), the unit scrammed automatically at 02:07 hours due to rapidly decreasing reactor water level at +12.5 inches. Reactor level decreased to about -62 inches after all three Reactor Feed Pumps tripped on low suction pressure due to inadvertent closure of the Deep Bed Demineralizer Suction Valve (HV-016-191). Immediately HPCI and RCIC began injecting water (-38 inches) into the reactor vessel, and at 02:09 hours HPCI flow was minimized. At 02:12 hours condensate flow was returned to the reactor vessel when the condensate deep bed demineralizer bypass valve (HV-16-190) was opened. At 02:15 hours HPCI was secured. The 1A Reactor Feed Pump was then placed in startup level control at 02:27 hours and level was stabilized between +12.5 inches and +54 inches. At 3:52 hours RCIC flow was secured.

Reactor parameters prior to the transient were as follows:

Reactor Power	3458.6	MWt
Reactor Coolant System Pressure	1047	PSIG
Reactor Coolant System Temperature	526	deg F
Core Flow	85.2	Mlbm/hr
Feedwater Flow	15.06	Mlbm/hr
Feedwater Temperature	434.8	deg F
Condensate Storage Tank Water Temperature	109	deg F
Suppression Pool Water Temperature	73.3	deg F

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The HPCI system actuation and injection was automatic as a result of low reactor water level. The average HPCI flow was approximately 5600 gpm. HPCI operated continuously for approximately 8 minutes while injecting for a total of approximately 3 minutes. This constitutes the 6th HPCI actuation and injection. The current usage factor for the safety injection nozzles for HPCI injection is less than 0.70.

During this transient, RCIC was used for level control. The actuation and injection was automatic as a result of low reactor water level. The average RCIC flow was approximately 600 gpm. RCIC operated continuously for approximately 18 minutes while injecting for a total of approximately 14 minutes during reactor cool down. This constitutes the 24th RCIC actuation and injection.

The event was evaluated (A1420939) for the potential fatigue impact on the reactor pressure vessel (RPV) nozzles. The HPCI injection was through feedwater loop A (nozzles N4A, B, C) and core spray loop B (nozzle N5A). The RCIC injection was through feedwater loop B (nozzles N4D, E, F). The analysis of the event when compared to the design thermal cycles (B11-A001-V-083) concluded that there is no increase in the usage factor and the fatigue usage factor for the feedwater and core spray nozzles remains bounded by the original design value as described in FSAR Section 3.9.3.

If you have any questions or require additional information, please do not hesitate to contact us.

Sincerely,

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Vice President, LGS

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