

SUPPLEMENTAL INFORMATION NEEDED

PROPOSED LICENSE AMENDMENT REQUEST REGARDING MEASUREMENT

UNCERTAINTY RECAPTURE POWER UPRATE REQUEST

LIMERICK GENERATING STATION, UNIT NOS 1 AND 2

DOCKET NOS. 50-352 AND 50-353

By letter dated March 25, 2010, Exelon Generation Company, LLC submitted a license amendment request (LAR) regarding a measurement uncertainty recapture (MUR) power uprate for Limerick Generating Station (LGS), Units 1 and 2 (Agencywide Documents Access and Management System, Accession No. ML100850380). The MUR uprate request includes a proposed modification to the standby liquid control system (SLCS) that is required for the implementation of the requested uprate. The U.S. Nuclear Regulatory Commission (NRC) staff is reviewing the LAR and has concluded that the information delineated below is necessary to enable the staff to make an independent assessment regarding the acceptability of the proposed license amendment in terms of regulatory requirements and the protection of public health and safety and the environment.

1. The NRC staff is assessing two-pump SLCS operation for conformance to Title 10 of the *Code of Federal Regulations* (10 CFR), paragraph 50.62(c)(4), which requires a system capable of injecting the equivalent of 86-gallons per minute of 13 weight-percent sodium pentaborate decahydrate solution at the natural boron-10 isotope abundance into a 251-inch inside diameter reactor pressure vessel for a given core design. To establish this equivalency, the reactor vessel inside diameter is required. Please provide the reactor vessel inside diameter for LGS, Units 1 and 2.
2. Criterion 4 of 10 CFR 50.36(c)(2)(ii) requires the establishment of a Limiting Condition for Operation (LCO) for structures, systems or components which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. This requirement applies to the SLCS, as reflected in the current LGS Unit 1 and 2 Technical Specifications. Because the proposed changes result in an LCO that allows any two pumps to remain operable to meet the LCO, the same degree of assurance should be provided that each pump can meet the specified requirements. Verify that system surveillance, testing, inspection, and maintenance requirements for the 'C' standby liquid control system pump will remain the same as those for the 'A' and 'B' pumps, thereby providing the same degree of assurance exists regarding the operability of the 'C' pump, should it need to be placed in service.
3. The Anticipated Transient Without Scram (ATWS) definition in 10 CFR 50.62(b) describes an anticipated operational occurrence followed by a failure of the reactor trip system, for which systems must be in place to mitigate. In this case, the SLCS is demonstrated to perform its reactivity control function under the conditions of a postulated main steamline isolation valve closure. Although injection against the predicted peak pressure is not necessary, the system must perform its function when required. Please provide additional details regarding the selection of the required injection pressure:

- a. Confirm that the selected pressure corresponds to the pressure predicted at an appropriate time after receipt of an injection signal to account for the system automatic initiation delay.
- b. Under conditions indicative of the limiting ATWS pressurization event, what is the average operator time to initiate the SLCS manually?
- c. How many pumps would the operator be instructed to start under ATWS conditions?
- d. What is the pressurization effect of an operator initiating a single pump, followed by an automatic initiation?
- e. Is the possibility described in Item d, above, included in the evaluation of SLCS injection pressures presented in the LAR? If not, why not?