

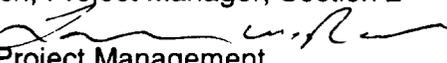


UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

March 1, 2001

MEMORANDUM TO: File

FROM: Lawrence W. Rossbach, Project Manager, Section 2  
Project Directorate III   
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: DRESDEN AND QUAD CITIES - EXTENDED POWER UPRATE  
ELECTRICAL REQUEST FOR ADDITIONAL INFORMATION (TAC NOS.  
MB0842, MB0843, MB0844 AND MB0845)

On December 27, 2000, Exelon Generation Company (EGC, the licensee, formerly Commonwealth Edison Company) submitted a license amendment request for an extended power uprate (EPU) for the Dresden and Quad Cities nuclear power stations. The staff has identified the need for additional information to support our review of the submittal in the electrical area. The attached draft request for additional information (RAI) was telecopied to the licensee on February 16, 2001. These questions were discussed with the licensee by telephone on February 26, 2000, at which time the licensee stated that they would provide supplemental information in this area.

Docket Nos. 50-237, 50-249, 50-254, and 50-265

Attachments: Electrical RAI

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## DRESDEN 2 & 3 POWER UPRATE

### REQUEST FOR ADDITIONAL INFORMATION - Electrical

1. Provide details about the grid stability analysis including major assumptions and results and conclusions of the analysis.
2. Provide details of the isolated phase bus duct cooling system changes necessary for the extended power uprate (EPU).
3. Provide details (test configuration, number of tests, repeatability verifications, vendor's involvement, laboratory involvement, etc.) regarding a test to upgrade the switchgear and breakers to a higher momentary current rating.
4. Provide details of 4160 volt bus and auxiliary transformer overcurrent relay setpoints for operation at EPU condition including coordination with upstream and downstream breakers.
5. Clarify what is meant by to restore the margin at the reactor building dc panels, the amperage capacity of the main feed cables to these panels will be increased. The discussion should include both original and revised margins at the reactor building dc panels, why the margin is changed, and how will the amperage capacity of the main feed cables be increased?
6. The initial conditions and assumptions for station blackout under EPU condition shall include an operating history of 100 days at EPU power condition. Clarify that the assumption used for the maximum decay heat for station blackout (SBO) analysis is for EPU condition.
7. The SBO evaluation did not provide any discussion about adequacy of the areas of concern evaluated. The SBO coping analysis includes an alternate ac power source which will be available within one hour. Provide a discussion about the adequacy of the areas of concern (Drywell Temperature, Suppression pool temperature, condensate storage inventories, battery capacity, control room ventilation, auxiliary electric room ventilation, isolation condenser area heatup, high pressure coolant injection room heatup) for one hour for the SBO event.
8. Provide a discussion why the temperature and pressure profiles using EPU rated thermal power condition will not change for the first hour and after the first hour after the postulated steam line break for the drywell.
9. In Section 10.3.1.1, the licensee stated that the current accident conditions for temperature and pressure are modified for the EPU conditions. Provide a discussion regarding the effect of modified temperature and pressure for the EPU conditions on environmental qualification (EQ) of electrical equipment inside containment.
10. Provide a discussion regarding the effect of humidity for the EPU condition on EQ of electrical equipment.

**ATTACHMENT**

## QUAD CITIES UNITS 1 & 2 POWER UPRATE

### REQUEST FOR ADDITIONAL INFORMATION - (Electrical)

1. Provide details about the grid stability analysis including major assumptions and results and conclusions of the analysis.
2. Provide details (test configuration, number of tests, repeatability verifications, vendor's involvement, laboratory involvement, etc.) regarding a test to upgrade the switchgear and breakers to a higher momentary current rating.
3. Provide details of 4160 volt bus and auxiliary transformer overcurrent relay setpoints for operation at extended power uprate (EPU) condition including coordination with upstream and downstream breakers.
4. The initial conditions and assumptions for station blackout under EPU condition shall include an operating history of 100 days at EPU power condition. Clarify that the assumption used for the maximum decay heat for the station blackout (SBO) analysis is for EPU condition.
5. The SBO evaluation did not provide any discussion about adequacy of the areas of concern evaluated. The SBO coping analysis includes an alternate ac power source which will be available within one hour. Provide a discussion about the adequacy of the areas of concern (drywell temperature, suppression pool temperature, condensate storage inventories, battery capacity, control room ventilation, auxiliary electric room ventilation, reactor core isolation cooling room heatup) for an SBO event.
6. Provide a discussion <sup>of</sup> why the temperature and pressure profiles using EPU rated thermal power condition will not change for the first hour and after the first hour after the postulated steam line break for the drywell.
7. In Section 10.3.1.1, the licensee stated that the current accident conditions for temperature and pressure are modified for the EPU conditions. Provide a discussion regarding the effect of modified temperature and pressure for the EPU conditions on environmental qualification (EQ) of electrical equipment inside containment.
8. Provide a discussion regarding the effect of humidity for the EPU condition on EQ of electrical equipment.
9. In Section 10.3.1.2, the licensee stated that the accident temperature, pressure and humidity conditions outside containment, resulting from a loss-of-coolant accident inside containment may change with power levels as a result of the increased suppression pool temperature. How will the licensee verify the adequacy of EQ of electrical equipment without evaluating the effects of changes?
10. Identify the equipment potentially affected by the EPU condition and discuss how this equipment will be requalified. ( The staff would like to have a meeting with the licensee regarding the new temperature, pressure and radiation profile and equipment test profiles).

**ATTACHMENT**

11. In Section 10.3.1.2, the licensee stated that the accident temperature, pressure and humidity conditions outside containment, resulting from a loss-of-coolant accident inside containment may change with power levels as a result of the increased suppression pool temperature. How will the licensee verify the adequacy of EQ of electrical equipment without evaluating the effects of changes?
12. Identify the equipment potentially affected by the EPU condition and discuss how this equipment will be requalified. ( The staff would like to have a meeting with the licensee regarding the new temperature, pressure and radiation profile and equipment test profiles).