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May 28, 1997

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Subject: Clarification to the Safety Evaluation of the LaSalle County Station Response to the Station Blackout Rule (TAC Nos. M68559 and M68560)
LaSalle County Station, Units 1 and 2
Facility Operating License NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Reference: Letter from B. Siegal, U.S. NRC, to T. Kovach, Safety Evaluation of the LaSalle County Station Response to the Station Blackout Rule, dated, March 6, 1992

The purpose of this letter is to request a clarification to the LaSalle County Station Blackout (SBO) Safety Evaluation Report (SER) transmitted with the above referenced letter. Specifically, a clarification is requested regarding the Class 1E Battery Capacity discussed in Section 2.3.2. The SER discussion reflects what appears to be an unintended constraint in the battery capacity design basis. The SER, in addition to stating that the battery capacity calculations used an electrolyte temperature of 60°F, a design margin of 1.0 and an aging factor of 1.25, also states "Battery calculation provided by the licensee indicates a rninimum margin of 8.3% for all Class 1E batteries except the Division -3 batteries.....Based on the above, the staff concludes that the Class 1E batteries have adequate capacity to meet the SBO loads for 4-hours." The SER reference to the minimum margin of 8.3% places the addition of any dc load outside the original calculation licensing basis (i.e., any load addition will result in a margin of less than 8.3%).

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The existing station batteries were sized in accordance with IEEE 485 "IEEE Recommended Practice for Sizing Large Lead Storage Batteries for Generating Stations and Substations" using the LOOP-LOCA duty cycle. In response to the SBO rule, additional battery sizing calculations (for the existing batteries) were performed for the SBO duty cycle to demonstrate adequate capacity to service the SBO loads. These calculations were consistent with the method prescribed in IEEE 485 and were based on a design (capacity) margin of 1.0, an electrolyte ternperature correction of 60°F (65°F for the 250V batteries), and an aging factor of 1.25.

The calculated battery size seldom matches a commercially available battery and it is normal to select the next higher capacity battery. This excess capacity provides the 'remaining' margin. Based on these calculations, the minimum remaining margin prior to recovery was 8.3%, and 6.3% after recovery. Recovery is the required load to close breakers to reestablish AC power to the battery chargers and occurs immediately after the 4 hour SBO event.

In 1992 the battery manufacturer (GNB) advised LaSalle County Station that their published one minute rating for the NCX type batteries was overstated and provided a revised one minute battery rating (this was reported by the manufacturer in accordance with 10CFR21). The revision was incorporated into the SBO battery sizing calculations and resulted in a reduction of the remaining margin. Specifically, the minimum remaining battery margin of any class 1E batteries after an SBO event is now 3.7% after recovery.

One remaining consideration involves some uncertainty regarding battery capacity immediately after recharging. Specifically, battery capacity may be slightly less than maximum capacity immediately after recharging and some additional time (on float charge) may be required to reach maximum capacity. LaSalle County Station considers a margin of 5% or greater to be acceptable and sufficient to address this uncertainty. Considering the existing results (i.e., 3.7% remaining margin on the Division 1 125Vdc batteries), an adjustment in the aging factor is required to maintain a minimimum 5% remaining margin. Specifically, an increase in the remaining margin can be realized at the expense (economic) of reducing the aging factor (e.g., from 1.25 to 1.20). The economic expense is in terms of replacing the battery at an earlier time consistent with the aging factor chosen (e.g., replacement at 84% capacity rather than 80% capacity). In view of the above, LaSalle County Station would like to remove the specific aging factor reference (i.e., 1.25) from the SER. This would allow LaSalle County Station additional flexibility in addressing battery capacity issues (e.g., maintaining a minimum 5% margin) without prior NRC approval. The appropriate procedures would require verification that the batteries have a minimum capacity consistent with the aging factor used in the SBO battery sizing calculations.

In summary, it is recognized that the reduction in remaining margin, although within LaSalle County Station's design basis, may be interpreted as outside the licensing basis as reflected in the SER, and therefore, a documented clarification (e.g., a supplemental SER) is requested. Specifically, it is requested that the clarification address the proposed minimum 5% remaining margin and the adjustment of the aging factor, if necessary, as an acceptable method to maintain this margin.

Please recognize that LaSalle County Station has identified the battery remaining margin for SBO as an issue requiring resolution prior to restarting either of the Units and as such, would appreciate your immediate attention to this matter.

If there are any questions or comments concerning this letter, please refer them to Perry Barnes, Regulatory Assurance Supervisor, at (815) 357-6761, extension 2383.

Respectfully,

W. T. Subalusky
Site Vice President
LaSalle County Station

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