THE CINCINNATI GAS & ELECTRIC COMPANY

CINCINNATI, OHIO 45201

Docket No. 50-358

August 24, 1981

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: WM. H. ZIMMER NUCLEAR POWER STATION - UNIT 1 - RESPONSE TO NRC GENERIC LETTER 81-04 - EMERGENCY PROCEDURES & TRAINING FOR STATION BLACKOUT EVENTS

Dear Mr. Eisenhut:

Enclosed for the use of the staff are six copies of the CG&E response to the NRC February 25, 1981 generic letter 81-04 to all licensees of operating nuclear power reactors and applicants for operating licenses (except for St. Lucie Unit Nos. 1 and 2).

The enclosed material will be submitted formally to the NRC on August 31, 1981 as part of FSAR Revision 76. This will be in response to Supplement 1 to the SER (SSER-1), Section 1.9, Summary of Confirmation Items, and will specifically address SSER-1 Subsection 8.1.2, Station Blackout Events.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

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WM. H. ZIMMER NUCLEAR POWER STATION

Response to D.G. Eisenhut Letter Dated February 25, 1981,
"Emergency Procedures and Training for Station Blackout Events"

Item A: The actions and equipment necessary to maintain the reactor coolant inventory and heat removal with only DC power available, including consideration of the unavailability of auxiliary systems such as ventilation and component cooling.

Response: The licensee does not believe that a complete loss of AC power is a credible accident for the Wm. H. Zimmer Nuclear Power Station. Even if the unlikely occurrence of a total loss of offsite power is postulated, three independent 3600 kilowatt diesel generators are available to provide emergency AC power. The existing accident analyses demonstrate that if suppression pool cooling is available, one diesel generator is sufficient to ensure fuel, reactor, and containment integrity.

If a Station Blackout (ie, loss of offsite and onsite AC power) is postulated, four systems are available to mitigate this event:

Reactor Core Isolation Cooling (RCIC)
Safety/Relief Valves (SRV's)
Diesel Driven Fire Pump (DDFP)
Primary Containment

The operator actions performed are those required by the Station Emergency Guideline Procedures and Emergency Contingency Procedures developed by the BWR Owner's Group and approved by the NRC staff.

Item B: The estimated time available to restore AC power and its basis.

Response: In the worst-case analysis, several hours are available in which to restore AC power with no adverse effects to the core or environment. After this point, several courses of action are available. The decision as to which course of action to take would be made based on the particular conditions at the time and the likelihood of AC power restoration. Once AC power is restored, containment cooling systems and RPV injection systems would immediately return containment and RPV parameters to within acceptable limits.

Item C: The actions for restoring offsite AC power in the event of a loss of the grid.

Response: The present Cincinnati Gas & Electric System emergency procedures provide adequate guidance for fastest system restoration in the event of a complete shutdown. The procedure is reviewed and revised periodically. It provides for independent restoration of start-up power to the generating stations. When the interties with neighboring utility systems are unavailable, restoration begins at the generating stations having "black start" capability. The company system emergency procedures will be updated to include the providing of start-up power to Zimmer Station prior to its operational date.

Item D: The actions for restoring offsite AC power when its loss is due to postulated onsite equipment failures.

Response: The offsite AC power is supplied from two independent sources. The primary 345 kV source is backed up by an alternate 69 kV source, either source has the capability to supply the station's auxiliary power needs. The company system emergency procedures will be updated to include the offsite AC power procedures to the Zimmer Station prior to its operational date.

Item E: The actions necessary to restore emergency onsite AC power. The actions required to restart diesel generators should include consideration of loading sequence and the unavailability of AC power.

Response: Emergency onsite Diesel Engine Generators are described in FSAR Section 8.3.1.7. Since Diesel Engine control power is supplied by the Station DC batteries and the air start capability is maintained with DC powered air compressors, once the fault preventing diesel engine generator start has been corrected, engine start capability is maintained without the availability of AC power. Emergency Diesel Generator loading sequence is also automatically controlled by DC control power as described in FSAR Section 8.3.1.7.10, and this capability would be maintained during Station Blackout.

Item F: Consideration of the availability of emergency lighting, and any actions required to provide such lighting, in equipment areas where operator or maintenance actions may be necessary.

Response: Installed emergency DC lighting is provided to ensure personnel safety throughout the station in case of an AC outage. This DC lighting will be upgraded to meet the requirements of Appendix R.

Item G: Precautions to prevent equipment damage during the return to normal operating conditions following restoration of AC power. For example, the limitations and operating sequence requirements which must be followed to restart the reactor coolant pumps following an extended loss of seal injection water should be considered in the recovery procedures.

Response: Upon loss of AC power, non-safety related systems are automatically loadshed. Essential equipment is automatically sequenced on by its associated Emergency Diesel Generator and is designed for such automatic start operation. After restoration of AC power, systems would be returned to service as needed using approved operating procedures which include initial conditions, precautions, and limitations involved in safely returning the equipment to service.

Item H: The annual requalification training program should consider the emergency procedures and include simulator exercises involving the postulated loss of all AC power with decay heat removal being accomplished by natural circulation and the steam-driven auxiliary feedwater system for PWR plants, and by the steam-driven RCIC and/or HPCI and the safety-relief valves in BWR plants.

Response: Operator training and familiarity with the Station Blackout and the unique problems associated with the total loss of AC power will better prepare them to respond in the Staion Blackout situation. This training will be provided in the regular cycle training curriculum and will include emergency response drills and simulator training to familiarize all operators with the conditions involved and responses required.

Due to low probability for the occurrence of a Station Blackout and the good probability for restoring AC power in the time available before degraded conditions are reached, it is felt that Zimmer is adequately designed and prepared for this emergency.

Station Blackout is a highly unlikely occurrence requiring multiple simultaneous failures as an initiating event. Although only remotely possible, Station Blackout does represent a serious plant casualty. Current operating procedures and equipment design are adequate to delay any serious consequence for a significant length of time. During this time, actions to restore offsite and/or onsite power would be taken to ensure the return of an AC power source before unacceptable plant conditions were reached.