November 14, 2001

Mr. Alan Nelson
Nuclear Energy Institute
1776 I Street, NW., Suite 400
Washington, DC 20006-3708

Mr. David Lochbaum
Union of Concerned Scientists
1707 H Street, NW
Suite 600
Washington, DC 20006-3919

SUBJECT: PROPOSED STAFF GUIDANCE ON SCOPING OF EQUIPMENT RELIED ON TO MEET THE REQUIREMENTS OF THE STATION BLACKOUT RULE (10 CFR 50.63) FOR LICENSE RENEWAL

Dear Messrs. Nelson and Lochbaum:

The purpose of this letter is to provide you with the opportunity to comment on the enclosed guidance clarifying the scope of equipment relied on to meet the station blackout (SBO) rule that is within the scope of license renewal. This is consistent with our goal to more efficiently resolve license renewal issues identified by the staff or the industry as outlined in NRR Office Letter No. 805, "License Renewal Application Review Process." Based on your response to this letter, the staff will decide how to finalize and implement this guidance.

The staff developed this guidance to ensure that scoping of SBO equipment in accordance with the requirements of 10 CFR 54.4(a)(3) is conducted in a manner consistent with the original staff evaluations of licensee compliance with the requirements of the SBO rule (10 CFR 50.63) to include equipment necessary for recovery. We are requesting comments on the proposed guidance, in particular the boundary of the recovery equipment that should be within the scope, and we request that you submit comments within 30 days following the date of this letter to ensure a timely resolution of this issue. The staff plans on incorporating this position into the improved renewal guidance documents (NUREGs 1800, and/or 1801) in a future update. It is also possible that comparable changes might need to be made to NEI 95-10, Revision 3, "Industry Guidance for Implementing the Requirements of 10 CFR Part 54 - The License Renewal Rule." If you have any questions regarding this matter, please contact Peter Kang at 301-415-2279.

Sincerely,

/***RA***/

Christopher I. Grimes, Chief
License Renewal and Standardization Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Project 690

Enclosure: As stated

cc w/encl: See next page

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NRC Staff Position on the License Renewal Rule (10 CFR 54.4) as it Relates to the Station Blackout Rule (10 CFR 50.63)

Staff Position

Consistent with the requirements specified in 10 CFR 54.4(a)(3) and 10 CFR 50.63(a)(1), the plant system portion of the offsite power system should be included within the scope of license renewal. The reasons for support of this position follow:

Rationale

The license renewal rule, section 10 CFR 54.4(a)(3), requires that "all systems, structures, and components relied on in safety analyses or plant evaluations to perform a function that demonstrates compliance with the Commission's regulations for.....station blackout (10 CFR 50.63)" be included within the scope of license renewal. The station blackout rule, section 10 CFR 50.63(a)(1), requires that each light-water-cooled power plant licensed to operate be able to withstand and recover from a station blackout of a specified duration that is based upon factors that include: "(iii) The expected frequency of loss of offsite power; and (iv) The probable time needed to recover offsite power." The station blackout rule in this regard is consistent with the staff findings identified in the statement of considerations and NUREG-1032. In particular, with regard to factor (iv), the staff found that offsite power is more likely to be recovered (0.6 hours median time to restore) than the emergency diesel generators (8 hours median time to repair) ending a station blackout event.

Station blackout (SBO) is the complete loss of ac electric power to the essential and nonessential switchgear buses in a nuclear power plant. It does not include the loss of ac power fed from inverters powered by station batteries nor loss of ac power from an SBO defined alternate ac power source. The SBO rule was added to the regulations in 10 CFR Part 50 because, as operating experience accumulated, concern arose that the reliability of both the onsite and offsite ac power systems might be less than originally anticipated, even for designs that met the requirements of General Design Criteria 17 and 18. As a result the SBO rule required that nuclear power plants have the capability to withstand and recover from an SBO of a specified duration (the coping duration).

Licensees' plant evaluations followed the guidance specified in NRC Regulatory Guide 1.155 and NUMARC 87-00 to determine their required plant specific coping duration. The criteria specified in Regulatory Guide 1.155 to calculate a plant specific coping duration were based upon the expected frequency of loss of offsite power <u>and</u> the probable time needed to restore offsite power, as well as the other two factors (onsite emergency ac power source redundancy and reliability) specified in 10 CFR 50.63(a)(1). Therefore, the offsite power systems were relied on in plant evaluations to perform a function (restoration of offsite power) that demonstrates compliance with the Commission's regulations for station blackout (10 CFR 50.63).

The offsite power systems to U.S. nuclear power plants consist of the country's transmission systems (the grid) and the plant systems that carry that power into the plants' electrical distribution systems which power safety equipment. The staff notes that it is not its intent to impose aging management programs on this country's transmission systems. As a practical

matter its authority in this area is limited. The staff has historically relied upon the well-distributed, redundant, and interconnected nature of the grid to provide the necessary level of reliability to support nuclear power plant operations. Responsibility for the continued reliable operation of the grid rests with the North American Electric Reliability Council (NERC, an industry oversight organization which includes ten Regional Councils), the Federal Energy Regulatory Commission (FERC, an independent regulatory agency within the Department of Energy (DOE)), and the transmission system operators themselves. The NRC staff has established ongoing communications with NERC, FERC, and DOE to discuss grid reliability trends important to nuclear power plant operation; and NRC staff monitor grid operations on a daily basis.

Nuclear power plant operators control operation of their portion of the offsite power systems inside their plants. By ensuring that the appropriate passive components that are long-lived within this portion of the offsite power systems are subject to an aging management review, we will ensure that the bases underlying the SBO requirements are maintained over the period of license renewal. This is consistent with the Commission's expectations in including the SBO regulated event under section 10 CFR 54.4(a)(3) of the license renewal rule.

Alternate ac power sources were accepted under the SBO rule as an alternate means of withstanding an SBO. The definition of an alternate ac power source is contained in 10 CFR 50.2. Based upon our review of 10 CFR 50.63,10 CFR 50.2, the SBO Regulatory Guide 1.155, and the statement of considerations for the SBO rule, the staff finds that the intent of the SBO rule was to accept alternate ac power sources only as a means of coping with an SBO once the coping duration required by 10 CFR 50.63(a)(1) had been established. It is therefore not appropriate to accept alternate ac sources as a means of recovering from a station blackout and to limit the scope of equipment in license renewal which demonstrates compliance with the SBO rule to such alternate source.

NUCLEAR ENERGY INSTITUTE

Project No. 690

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