RE1200201

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D.C. 20555-0001

January 11, 2002

MEMORANDUM TO: Mario V. Bonaca, Chairman
ACRS Plant License Renewal Subcommittee

FROM: Noel Dudley, Senior Staff Engineer

SUBJECT: SUMMARY OF THE JANUARY 8 AND 10, 2002, MEETINGS OF THE NRC STAFF AND INDUSTRY CONCERNING THE STATUS OF LICENSE RENEWAL REVIEWS

I attended the January 8, 2002, meeting between the NRC License Renewal Steering Committee and industry representatives . Mr. Jon Johnson, NRR, lead the discussion for the staff. Mr. Michael Tuckman, Duke Power Company, lead the discussion for the industry. Representatives for Hatch, Turkey Point, North Anna/Surry, McQuire/Catawba, and St. Lucie provided the status of the license renewal reviews for their plants and identified concerns about the process. Selected slides used during these presentations are attached.

All licensees reported good communications with the staff and timely completion of milestones. However, several concerns were raised involving challenges to the stability and predictability of the license renewal process by emerging issues. These issues included station blackout scoping, fire protection programs, instrument cables, and referencing the Generic Aging Lessons Learned (GALL) report in renewal applications. The staff and NEI discussed revising the proposed appeal process to assure industry that appeal reviews would be impartial.

On January 10, 2002, the staff and THE Nuclear Energy Institute (NEI) met to discuss the station blackout scoping issue. The staff position is that the electrical systems, structures, and components (SSCs) that could be used to restore off-site power should be within the scope of license renewal. For various reasons, the industry does not agree. For example, the industry contents that the Station Blackout Rule does not change a plant's current licensing basis to include these electrical SSCs. The staff and NEI identified five questions that need to be answered to resolve this issue and plan to meet again.

Attachment: 1. Selected Industry Slides from the January 8, 2002 NRC and Industry Meeting Concerning the Status of License Renewal Reviews.
2. Slides from the January 10, 2002 Meeting Concerning Station Blackout Issues

cc: ACRS Members

cc via e-mail w/o atts.:
J. Larkins
S. Bahadur
ACRS Fellows and Staff

ATTACHMENT 1

Selected Industry Slides from the
January 8, 2002 NRC and Industry Meeting
Concerning the Status of License Renewal Reviews.

LICENSE RENEWAL

SUMMARY - TURKEY POINT

- All open and confirmatory items resolved
- All license renewal activities are on or ahead of schedule
- NRC revised schedule indicates a Commission decision by July 17, 2002
  - Improvement appears feasible

Peach Bottom Atomic Power Station

Exelon and NRC
Management Meeting
James Meister
Fred Polaski
January 8, 2002

1

Purpose of Meeting

- Update NRC management on progress of Peach Bottom LRA review.
- Inform NRC management of any significant issues.
- Provide performance expectations for next two months.

2

Concerns

- Emerging industry issues are challenging the stability and predictability of the license renewal process, and may impact the Peach Bottom Application
- Perception that NRC technical staff believe that **all** GALL programs are required to manage aging effects

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Summary

- Communications and interactions have been good. NRC Project Managers doing good job.
- License Renewal standardization and predictability is being challenged.

10

License Renewal Management Meeting

Surry Power Station

North Anna Power Station

January 08, 2002

Closing Remarks

- Communication dialog has been excellent and timely.
- Teleconference/review process has reduced the actual number of formal RAIs issued to 36% of the potential RAIs.
- The LRA review schedule is being maintained.

Closing Remarks

- Five Challenging Issues
  - SBO Scoping
  - Fire Protection Programs
  - Instrument Cables
  - Concrete Aging
  - Criterion 2 Scoping
- Upcoming Milestones
  - RAI Responses
  - Scoping Inspections

Duke Energy.

McGuire - Catawba License Renewal

Duke/NRC Management Meeting

January 8, 2002

Duke Energy.

Accomplishments

- September 19, 2001 - NRC/Duke Management Meeting
- September 24 & 25, 2001 - McGuire Environmental Scoping Site Audit & Public Meetings
- October 16-18, 2001 - Safety Scoping & Screening Methodology Audit completed
- October 22 & 23, 2001 - Catawba Environmental Scoping Site Audit & Public Meetings
- December 18 & 19, 2001 - ASLB Prehearing Conference in Charlotte

Safety Review

- Good communications continue to advance the application review
  - Topical telecons covering draft RAIs have been helpful in understanding perspectives and clarifying information requests
  - NRC staff questions indicate the thoroughness of their review
- Some staff positions (particularly some of those addressed in letters to NEI) appear to be new interpretations and will require more plant-specific and industry-wide dialogue
- All formal safety RAIs to be issued by the end of January

Environmental Review

- Good communications with NRC project manager led to successful site visits and public meetings for both plants
- Environmental RAIs have been issued with responses due to support site-specific Supplemental Environmental Impact Statements
  - McGuire responses 1/2102
  - Catawba responses 2/13/02
- Separate resolution timeframe agreed to for SAMA RAI responses, supporting both Duke and NRC resource needs

Hearing Process

- The Atomic Safety and Licensing Board held a pre-hearing conference in Charlotte on December 18-19, 2001
- Both the Blue Ridge Environmental Defense League and the Nuclear Information and Resource Service along with Duke and the NRC staff participated in this conference
- The ASLB is expected to provide additional direction to these proceedings by the end of January

Expectations

- Expectations to be accomplished by next NRC/Duke Management Meeting (March timeframe)
  - Duke to prepare responses to environmental, SAMA and safety RAIs, submit to NRC by agreed upon dates
  - NRC and Duke find a way to have constructive dialogue on the staff position papers that also supports the Duke RAI response schedule
  - Work with Region II to prepare for scoping/screening inspection in March

LICENSE RENEWAL

SUMMARY - ST. LUCIE

- Frequent communications between FPL and NRC are occurring

ATTACHMENT 2

Slides from the January 10, 2002 Meeting
Concerning Station Blackout Issues

License Renewal Meeting
Station Black Out

January 10, 2002

Agenda

Introductions	All	*10 min.*
10 CFR 50.63 and Its Application to 10 CFR Part 54	NRC	*20 min.*
Industry Generic Position	NEI	*20 min.*
Open Discussion	All	*90 min.*
License Renewal Class of 2001 Feedback	VEPCO/Duke/Exelon	*30 min.*
NRC Feedback	NRC	*20 min.*
Closing Remarks and Action Items	All	*20 min.*

Attachment

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

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 and 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.

LICENSE RENEWAL MEETING

STATION BLACKOUT

10 CFR 50.63 AND ITS APPLICATION TO 10 CFR PART 54

Jim Lazevnick (NRC/NRR)

January 10, 2002

10 CFR 50.63 AND ITS APPLICATION TO 10 CFR PART 54

- 10 CFR 54.4(a)(3), REQUIREMENTS

  "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

- SBO RULE REQUIREMENTS

  10 CFR 50.63(a)(1) requires SBO duration shall be based on following factors:
  (i) The redundancy of the onsite emergency ac power sources
  (ii) The reliability of the onsite emergency ac power sources
  (iii) The expected frequency of loss of offsite power
  (iv) **The probable time needed to restore offsite power**

10 CFR 50.63 AND ITS APPLICATION TO 10 CFR PART 54

- FOUR FACTORS UNDER 10 CFR 50.63(a)(1) CONSISTENT WITH OPERATIONAL EXPERIENCE (NUREG-1032)

  - Time to restore offsite power (hours)
    Median ---------- 0.6
    90% Restored---------- 3.0
  - Median emergency diesel repair time (hours) ---------- 8.0

- FOUR FACTORS UNDER 10 CFR 50.63(a)(1) DEVELOPED INTO LICENSEE GUIDANCE FOR DETERMINING COPING DURATION

  - NRC Regulatory Guide 1.155
  - NUMARC 87-00

10 CFR 50.63 AND ITS APPLICATION TO 10 CFR PART 54

- ALL LICENSEES USED GUIDANCE IN RG 1.155 AND NUMARC 87-00 TO DETERMINE PLANT REQUIRED COPING DURATION

- CONCLUSION

  - Four factors under 10 CFR 50.63(a)(1) used in plant evaluations to demonstrate compliance with 10 CFR 50.63

  - The systems, structures and components included in the four factors meet the requirements of 10 CFR 54.4(a)(3) to be included within the scope of license renewal

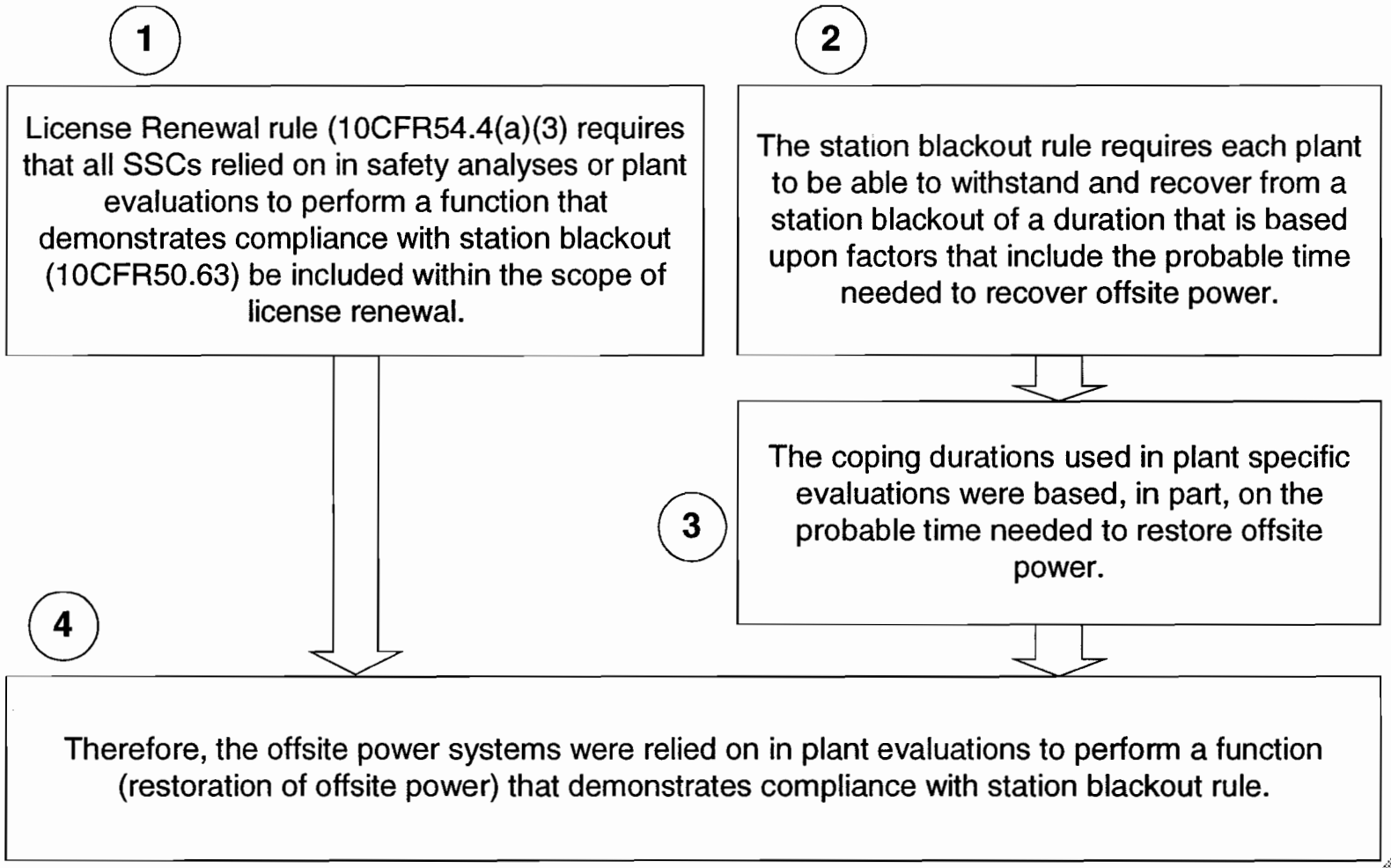
Industry Discussion on Proposed Staff Guidance on Scoping of Equipment Relied on to Meet Station Blackout Rule

January 10, 2002

Understanding 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."*
- *"By ensuring that the appropriate passive components that are long-lived with 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."*

Proposed Staff Rationale:



Functions that Demonstrate Compliance

- The current licensing bases for plants do not rely upon restoration of offsite power as the means to *recover* from a SBO event
- Compliance with *Recovery* portion of SBO rule is demonstrated by ensuring that a capability for recovery is provided
- This capability is demonstrated, in accordance with 10 CFR 50.63(c)(1)(ii), through procedures and training that will be implemented in response to a SBO event
- Restoration of offsite power is not a function that demonstrates compliance with SBO rule

SSCs Included in LR rule

- Statements of Consideration for LR rule discusses bounding the scope of review for SSCs necessary to meet 10 CFR 54.4(a)(3)
- SoCs state an applicant should rely on the plant's current licensing bases, actual plant-specific experience, industry-wide operating experience (that is specifically applicable to the facility), and existing engineering evaluations
- This consideration excludes the broadly scoped historical data, used in support of the Station Blackout Rule, that provide statistical information on the duration of loss of offsite power events

Basis for Plant Specific Coping Durations

- Industry-wide data on the average duration of loss of AC power were used in developing the supporting basis for the SBO rule
- This data identified offsite/onsite power system design and weather as dominant factors which were used in the establishment of coping durations
- Offsite power design characteristics considered were broad and did not address individual system or component characteristics
- In many cases, plant-specific implementation of SBO rule relied upon onsite AC power as primary means of recovery from the SBO event

Summary

- Industry recognizes that recovery from an SBO event is part of the SBO rule
- U.S. plants do not rely upon restoration of offsite power systems in demonstrating compliance with the recovery aspect of SBO rule
- Coping durations were based upon generic offsite and onsite power design characteristics and weather. Offsite power system performance characteristics were not addressed in plant-specific implementation and subsequent compliance with SBO rule
- The scope of equipment to be considered in LR rule, as outlined in Statements of Consideration, is focused on the plant CLB and plant-specific experience