UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

AUG 18 1987

MEMORANDUM FOR: Themis P. Speis, Deputy Director
for Generic and Regulatory Issues
Office of Nuclear Regulatory Research

FROM: Aleck W. Serkiz, Senior Task Manager
Reactor and Plant Safety Issues Branch
Division of Reactor and Plant Systems, RES

SUBJECT: SUMMARY OF MEETING WITH NUCLEAR UTILITY GROUP ON STATION BLACKOUT (NUGSBO) ON USI A-44

MEETING DATES:	August 11, 1987	August 13, 1987
LOCATION:	Phillips Building 7920 Norfolk Avenue Bethesda, Maryland	Metro No. 3 Metro Center, Suite 600 Bethesda, Maryland

PURPOSE OF MEETINGS: The purpose of these meetings was to continue discussions of guidelines and procedures dealing with NUMARC Initiative 2. These were the 11th and 12th meetings held with NUGSBO since the first meeting in July 1986.

ATTENDEES: See attached attendee lists

REFERENCES:
(1) Letter to NRC Chairman Palladino from J. H. Miller, NUMARC, June 17, 1986.
(2) "Assuring the Adequacy of Station Blackout Response Procedures - Guidelines and Technical Bases," Revision 0.0, July 16, 1987 (prepared by the Nuclear Utility Group on Station Blackout).

Reference 2 was the principal topic of discussion and review at the August 11, 1987 meeting. Previous meetings have focused on these NUGSBO guidelines. The outcome of this meeting was as follows:

1) These guidelines appear to be technically sound and generally acceptable to the staff.

2) Some further revisions to Reference 2 are necessary, the more important being:

a) Utilization of the USI A-44 station blackout definition.
b) Utilization of the staff's definition of Alternative AC (AAC) power sources as defined in the proposed rule.

c) More explicit direction regarding the development of procedures dealing with loss of ventilation of energized electrical equipment necessary for safe shutdown during a blackout.

3) Outstanding items requiring further discussions are as follows:

a) The need for an additional electric circuit breaker in Configurations 1B and 2A.
b) Wording on page 14 of the staff's proposed RG 1.155 which deals with AAC design criteria.
c) Single point vulnerability effects.

Copies of the following documents were provided to NUGSBO to expedite comparison of the NUGSBO documents with the planned regulatory requirements:

(1) Selective pages of the staff's proposed Rule, which included a definition of the AAC source,
(2) Draft RG 1.155 (formerly Task SI 501-4), which included the staff's guidance for Q/A and tech spec requirements associated with non-safety grade equipment embodied in AAC sources,
(3) Generic Letter 85-06 dated April 16, 1985, "Quality Assurance Guidance for ATWS Equipment that is not Safety Related."

The August 13, 1987 meeting focused on differences between NUGSBO's procedures and guidelines and the NRC staff's Rule requirements and RG 1.155. Three NUGSBO reports identified as NUGSBO-8710,-8720 and -8750 were the focus of discussion at this meeting. Table 1 (enclosed) provides a comparison between the respective sections of RG 1.155 and the 3 NUGSBO documents noted above. To facilitate future discussions, NUGSBO will consolidate these 3 reports into a singular report.

Considerable progress was made in these two meetings towards incorporating the NRC staff's views and needs in the NUGSBO coping assessments, procedures and guideline reports. The common goal of these meetings is to arrive at a technically acceptable NUGSBO report (or references) that can be referenced in the proposed RG 1.155 and identified as being an acceptable approach to meeting the safety requirements attendant to USI A-44, Station Blackout.

There are several areas of disagreement (see Table 1) that will require followup discussions with NUGSBO. The next meeting is tentatively scheduled for August 19, 1987.

Aleck W. Serkiz, Senior Task Manager
Reactor and Plant Safety Issues Branch
Division of Reactor and Plant Systems, RES

Enclosures: As stated

cc: See next page

4. In Appendix A, General Design Criterion 17 is revised read as follows:

APPENDIX A--General Design Criteria for Nuclear Power Plants

* * * * *

II. Protection by Multiple Fission Product Barriers

* * * * *

Criterion 17-Electric power systems. (a) An onsite electric power system and an offsite electric power system shall be provided to permit functioning of structures, systems, and components important to safety. The safety function for each system (assuming the other system is not functioning) shall be to provide sufficient capacity and capability to assure that (1) specified acceptable fuel design limits and design conditions of the reactor coolant pressure boundary are not exceeded as a result of anticipated operational occurrences and (2) the core is cooled and containment integrity and other vital functions are maintained in the event of postulated accidents.

(b) The onsite electric supplies, including the batteries, and onsite electric distribution system, shall have sufficient independence, redundancy, and testability to perform their safety functions assuming a single failure.

(c) Electric power from the transmission network to the onsite electric distribution system shall be supplied by two physically independent circuits (not necessarily on separate rights of way) designed and located so as to minimize the extent practical the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. A switchyard common to both circuits is acceptable. Each of these circuits shall be designed to be available in sufficient time following a loss of all onsite alternating current power supplies and the other offsite electric power circuit, to assure that specific acceptable fuel design limits and design

~~conditions of the reactor coolant pressure boundary are not exceeded.~~ ~~One of these circuits shall be designed to be available within a few seconds following a loss-of-coolant accident to assure that core cooling, containment integrity, and other vital safety functions are maintained.~~

~~(d) Provisions shall be included to minimize the probability of losing electric power from any of the remaining supplies as a result of, or coincident with, the loss of power generated by the nuclear power unit, the loss of power from the transmission network, or the loss of power from the onsite electric power supplies.~~

~~(e)~~ The reactor core and associated coolant, control, and protection systems, including the station batteries, shall provide sufficient capacity and capability to assure that the core is cooled and containment integrity is maintained in the event of a station blackout ~~(as defined in §50.2) for a specified duration. The following~~ factors shall be considered ~~in specifying the station blackout duration: (1) the redundancy of the onsite emergency ac power sources, (2) the reliability of the onsite emergency ac power sources, (3) the expected frequency of loss of offsite power, and (4) the probable time needed to restore offsite power~~.

Dated at Washington, DC, this ____ day of _____ 1987.

For the Nuclear Regulatory Commission.

_____

Samuel J. Chilk

Secretary of the Commission.

Underlined text indicates additional praragraph to GDC 17.

Proposed Initiative 5

ASSESSING THE ABILITY TO COPE WITH A STATION BLACKOUT EVENT

Procedures and Technical Bases

Revision 2.0

August 10, 1987

NUCLEAR UTILITY GROUP
ON STATION BLACKOUT
SUITE 700
1200 SEVENTEENTH STREET, N.W.
WASHINGTON DC 20036

ASSESSMENT OF COPING DURATION REQUIREMENTS

REVISION 2.0

OCTOBER 14, 1986

NUCLEAR UTILITY GROUP
ON STATION BLACKOUT
SUITE 700
1200 SEVENTEENTH STREET, N.W.
WASHINGTON, D.C. 20036

Initiative 2

ASSURING THE ADEQUACY OF STATION BLACKOUT RESPONSE PROCEDURES

Guidelines and Technical Bases

REVISION 0.0

AUGUST 10, 1987

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ON STATION BLACKOUT
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Enclosures: As stated

cc: See next page

cc: B. Sheron, RES/DRPS
W. Minners, RES/DRPS
A. Thadani
F. Rosa
A. Rubin
P. Baranowsky
C. Liang
J. Raval
J. M. McGarry, III (BCP&R)
M. Childers (NU)
PDR

TABLE 1 - Reference Table (NRC/NUGSBO mtg of 8-13-87)

Recd 8-13-87

Staff (1)	Reference NUMARC Document (2)
C1.1	*Rewrite and incorporate into I-1A document, rewrite I-1A summary, create C.1.1 appendix.
1.2	*Rewrite and incorporate into I-1A summary or
1.3	appendix exists at I-2, 4.1(1), 4.3(5).
2	*Exists at I-2, 4.3 with revision to reflect FPC Crystal River situation.
3	N/A.
3.1	Exists in I-1A - Precedure Section.
3.2.1	Exists I-5, 3.1.
3.2.2	Exists I-5, 3.8, 4, 5, 6.
3.2.3	Exists I-5, 3.4, 3.5; I-2, 4.2(4).
3.2.4	*I-5, 3.6 to be revised to include representative ventilation analysis.
3.2.5	*I-5, 4, 6; I-5; N/A; I-5; Add 0-hr coping.
3.2.6	I-5; I-2, 4.2.
3.3	I-5, 4, 5, 6.
3.3.1	*Add to I-5, 5.2 step 3 consistent with Staff
3.3.2	*Add to I-5, 4.2 step 7 consistent with Staff.
3.3.3	*Add to I-2, 3.4; N/A due to assumption of RCI Loss - revise assumption section as to why not applicable.
3.3.4a	*I-2, B.10 revise.
3.3.4b	*I-2, B.3-8 needs additional items consistent with Staff; revised Item B.7.
3.3.4c	*I-2, B.14 issue taken with Staff position I-2, B.10.
3.3.4d	*I-2, B.9; I-2, 3.2.1(2); add to I-2, 3.2.1(2) (1/2 shared).
3.3.5	*N/A: Ref 10.C.F.R., and numerous other regulatory and plant requirements for procedural development, testing maintenance.

Staff	Reference NUGSBO Document
3.3.6	*AAC reliability in I-2, B.15 - add non-IE, non AAC mode should have operability, testing per Staff. Added to I-2, 4.2(12).
3.4	Exists in I-2, 4.
3.5	*Create or take exception with Staff position I-2, 4 or appendix - appropriate for SRP.
pp. 31-37	Exists in I-1A Procedure.
p. 38	*Incorporate outline into I-1A summary or appendix.
pp. 39-41	*Incorporate into I-1A diagrams as appropriate.

* Add Staff definition of:

1) Alt AC
2) SBO

(1) Refers to RG section, or page specified

(2) Reports identify as follows:

I-1A → Rept. 8710
I-2 → " 8720
I-5 → " 8750

Attendees at NRC-
NUGSBO Meeting of 8/11/87

Name	Organization	Phone
Al Serkiz	NRC/RES	301/492-7487
D. Noel	NRC/RES	301/492-7939
W. Minners	NRC/RES	301/492-7827
K. Kniel	NRC/RES	301/492-4705
S. D. Floyd	NUGSBO/CPL	919/836-6901
M. L. Childers	NUGSBO/NU	203/665-3472
Mike McGarry	NUGSBO/BCP&R	202/857-9833
Stephen Maloney	NUGSBO/Devonrue	617/426-4550
Charles S. Ondash	NUGSBO/Devonrue	617/426-4550
Pat Baranowsky	NRC/NRR	301/492-8352
Alan Rubin	NRC/RES	301/492-8303
James E. Knight	NRC/NRR/DEST/SELB	301/492-7456
Paul Gill	NRC/NRR/SELB	301/492-9474
Faust Rosa	NRC/NRR/SELB	301/492-9466
Paul Norian	NRC/RES	301/492-7112
J. Raval	NRC/NRR/SPLB	301/492-9423
C. Liang	NRC/NRR/SRXB	301/492-9459
A. Thadani	NRC/NRR/SAD	301/492-7687

NUGSBO 8/13/87 Meeting
Attendee List

Name	Organization	Phone
Al Serkiz	NRC/RES/DRPS	301/492-7487
Diane Noel	NRC/RES/DRPS	301/492-7939
Stephen D. Floyd	NUGSBO/Carolina Power	919/836-6901
Michael L. Childers	NUGSBO/Northeast Utilities	203/665-3472
Mike McGarry	NUGSBO/BCP&R	857-9833
Stephen Maloney	NUGSBO/Devonrue	617/426-4550
Charles S. Ondash	NUGSBO/Devonrue	617/426-4550
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