




UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
795 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

January 29, 1979

MEMORANDUM FOR: S. E. Bryan, Assistant Director for Field
Coordination, Division of Reactor Operations
Inspection, IE

THRU:  Fioreselli, Chief, Reactor Operations and
Nuclear Support Branch

FROM: J. F. Streeter, Chief, Nuclear Support Section 1

SUBJECT: CLARIFICATION OF AND PROPOSED CHANGES TO STS RELATING
TO ELECTRICAL POWER SYSTEMS AND A.C. AND D.C.
DISTRIBUTION (AITS F30473H2)

- References: 1. FSAR Figure 8.3.2 (D.C. Cook 2)
2. LER 50-316/78-039/03L-0 (D.C. Cook 2)

D. C. Cook 2 reported in reference (2), during Mode 1 operation, one (AB) of the two plant batteries was declared inoperable when the specific gravity (1.197) of one of its cells was found to be slightly below the minimum Technical Specification 4.8.2.3.2.a.2 value (1.200). During the time the AB battery was inoperable, the emergency diesel generator which supplies emergency 600 VAC to the rectifiers for the other (CD) battery was inoperable due to maintenance.

Corrective actions included transferring the AB loads to the CD battery by closing the DC bus train tie breaker, isolating the AB battery, replacing the degraded cell, and then reversing the procedure to achieve normal DC bus train separation and alignment. The corrective actions were accomplished in about 1/2 hour.

RIII review of the event has led us to conclude that revisions should be considered to the STS relating to electrical power systems and A.C. and D.C. distribution. We request you review and forward to NRR, as necessary, the following STS revision suggestions:

1. Above Mode 5, TS 3.8.1.1 allows continued plant operation for a limited time with an emergency diesel generator (EDG) inoperable. With an EDG inoperable and using Technical Specification Definition 1.6 ("OPERABLE-OPERABILITY"), those 4160 VAC and 600 VAC emergency buses listed in TS 3.8.2.1 which are associated with the inoperable

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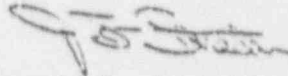
EDG are inoperable since the buses have lost their designed source of onsite emergency power. Similarly, the battery charger listed in TS 3.8.2.3 which is supplied by the affected 600 VAC emergency bus is inoperable since it has lost its designed source of onsite emergency power. Consequently, it would appear that several action statements are simultaneously entered when an EDG becomes inoperable. (Similar scenarios for entries into multiple action statements can be developed for other events.) Furthermore, it would appear that continued operation should be limited by the most restrictive action statement involved.

RIII understands from discussions with the NRR STS group that it was not the intent of the STS to require a licensee to consider the snowball effect described above. The intent as RIII understands it is to only require the licensee to consider continued plant operation in light of the most immediate TS affected. We request that you confirm our understanding.

2. If one dismisses the snowball effect described in paragraph 1 above, the Technical Specifications do not preclude having an EDG inoperable associated with one AC/DC bus train and an inoperable battery associated with the other DC train. As a result, operation is permitted for a period of time with both AC/DC trains degraded. We recommend that NRR establish Technical Specification prohibiting continued operation with components in both trains degraded.
3. RIII understands from conversations with IE:HQ and NRR that licensees can voluntarily enter the action statements associated with the AC and DC distribution by closing tie breakers between redundant buses. We assume that NRR allows this action based upon an analysis which indicates that the capacity of the energy sources (e.g. battery, EDG, etc.) for one train is sufficient to satisfy the power needs for both trains in the event of an emergency. We also assume that NRR allows this action recognizing the fact that closing the tie breaker increases the vulnerability to common mode failure. We request that you determine if our assumptions are correct.
4. The acceptance criterion of 1.200 listed in the Technical Specifications for battery specific gravity appears to be overly restrictive. (We understand that the subject of using 1.200 as

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the acceptance criterion either has been or currently is under discussion between NRR, SD, and industry.) We recommend that the 1.200 acceptance criterion be reduced or that the specific gravity surveillance be conducted after some sort of equalizing charge. Consistently taking readings following a charge would eliminate any problems with getting low specific gravity readings due to electrolyte stratification.



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