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 RECIP. NAME: REGION 5 (Post 820201) RECIPIENT AFFILIATION: Region 5 (Post 820201)

SUBJECT: Submits status of corrective actions associated w/ LER
 91-017-00 re automatic start of diesel generators caused by
 offsite grid disturbance. Operator responsible for
 mispositioned switch subj to disciplinary action.

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 TITLE: Licensee Event Report (LER) & Part 21 Rept Combination (50 Dkt)

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October 3, 1991
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Docket No. 50-397

Mr. J. B. Martin
Regional Administrator
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596

Dear Mr. Martin:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NPF-21
STATUS OF CORRECTIVE ACTIONS ASSOCIATED WITH
LER 91-017-00, AUTOMATIC START OF DIESEL GENERATORS
CAUSED BY OFF-SITE GRID DISTURBANCE

WNP-2 voluntarily submitted Licensee Event Report (LER) 91-017-00 on August 7, 1991, to describe an event in which two diesel generators automatically started when an off-site distribution grid disturbance briefly deenergized their respective safety-related buses. This letter is submitted to provide additional information on the status of the corrective actions contained in the LER.

WNP-2 was in a refueling outage at the time of the event. Plant loads were being supplied from the Ashe substation via a backfeed from the 500 Kv distribution. The disturbance was a ground fault on a 500 Kv line leading out of the Ashe substation. The distribution system response to the ground fault was somewhat atypical since substation operator error disabled a portion of the primary protective relaying by mispositioning two relay selector switches. Normally the primary relaying would isolate only the faulted line. However, because the backup relaying was required to isolate the fault with an increased time delay, the backfeed and, concurrently, the safety-related buses were deenergized. As designed, safety-related buses SM 7 and SM 8 were automatically reenergized after four seconds from the 115 Kv off-site power source. The diesel generators did not assume any load. Other plant buses were reenergized from the 230 Kv off-site power source within 43 minutes.

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STATUS OF CORRECTIVE ACTIONS ASSOCIATED
WITH LER 91-017-00, AUTOMATIC START OF
DIESEL GENERATORS CAUSED BY OFF-SITE GRID DISTURBANCE

As noted in the LER, the substation and off-site distribution system are operated by the Bonneville Power Administration (BPA). BPA recognized the potentially serious impact of the event on both WNP-2 and the distribution system in general and expeditiously performed an investigation to determine the root cause of the event. As a result of that investigation, BPA found that activities resulting in the mispositioning of the switches had not been properly logged and that operator tours of the substation had not detected the mispositioned switches for 18 days prior to the event. BPA committed to corrective actions addressing personnel performance failures and equipment design inadequacies.

Personnel performance failures were remediated by:

Counselling all of the operators at Ashe on a one-to-one basis about the incident, its seriousness, the importance of following BPA procedures, and being observant in making their rounds. This was accomplished both through the immediate Chief of Operations at Ashe Substation and the Operations Superintendent of the Snake River Area. Counselling is complete at the Ashe Substation.

Additionally, BPA determined that this counselling should be implemented throughout the entire district because of the possible impact to their system. This further effort is currently in progress and is expected to be complete by October 8, 1991.

The operator responsible for the mispositioned switch was subjected to disciplinary action. This action is complete.

Design related corrective actions included:

Adding annunciation to the Ashe Substation Control Room to alert operators to temporary off-normal relay selector switch positioning used for maintenance or testing. This will ensure that these switches are recognized to be out of the normal operating configuration and provide extra measure of assurance that they are restored to their normal positions at the conclusion of the maintenance/testing evolution.

In addition to the Ashe substation control room annunciation, any change of state of these selector switches will be recorded automatically through a new link between these switches and the events logger. This can be used to provide objective evidence of switch manipulation activities.

The relay selector switch handles themselves have been human factors color coded to facilitate visual determination that the switch is in the correct position.

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All three of these design changes were implemented to every relay selector switch associated with each of the five 500 kV transmission lines tied to the Ashe Substation.

BPA design related corrective actions are complete.

WNP-2 performed an independent root cause analysis and arrived at the same conclusions for cause and contributing factors as BPA found. WNP-2 is confident that these corrective actions are sufficient to prevent recurrence of this or a similar event.

Very truly yours,

G. C. Sorensen

G. C. Sorensen, Manager
Regulatory Programs

MPR/bk

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