517

best copy

GPU 517

1. EGW
2. ~~HES~~
3. Fitz

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

0006
12 P.
12E55

To: R. L. Pittman, Nuclear Service

From: B. A. Karrasch, Control Analysis (2278)

CONFIDENTIAL
COUNSEL ONLY

Cust.: Duke Power Company

File No. or Ref.:

Subj.: SPR 158-Natural Circulation Mode of Operation

Date: February 7, 1974

The subject SPR recommended a reduction in the Natural Circulation Level setpoint to minimize RCS cooldown due to filling the OTSG's upon loss of all Reactor Coolant Pumps. An analysis of the natural circulation data acquired to date at Oconee shows that the level setpoint can be reduced from 95% on the operate range to 50%. This new setpoint will produce more than adequate natural circulation flow for decay heat removal and cooldown. Feeding of the OTSG's should remain through the auxiliary feedwater nozzles during the natural circulation mode.

We cannot at this time recommend a modification to the control system to give the operator ability to control OTSG level in the control room when no RC pumps are operating. This change would be most difficult to implement and we feel that it is not necessary. If the level setpoint is changed to 50% and if the auxiliary feedwater reaches the OTSG within one minute of the loss of main feedwater, (as it should) the cooldown transient will be greatly minimized. If the operator sees excessive cooldown occurring, he can stop and start the emergency feedpump from the control room.

We recommend the following action be taken on Contracts 3 through 13 to prevent the excessive cooldown that Oconee II experienced during the loss of station power.

1. Reduce natural circulation level setpoint to 50% on the operate range.

2. Prior to reaching 40% power in the Power Escalation Sequence, the response time of the Emergency Feedwater System should be verified during a simulated loss of station power. That is, each customer's unique system capabilities should be checked out for this occurrence; such things as instrument air pressure loss, effect of using auxiliary instead of normal electrical supplies, and that all proper electrical transfers are made should be investigated. Merely lining up all valves and starting the Emergency Feedwater Pump is not an adequate checkout of the system for a loss of station power.

45/

D9 7-16-74

0138 0392

Please forward this information to the respective sites and incorporate the level setpoint change on Contracts 3-13.

BAK

cc: JD Carlton
LR Pletke
GD Quale
RF Ryan
KE Suhrke
RR Beach
MJ Worsham
JP Ittner
DL Allison
DB Tuledieski
KV Straub
RL Reed
WS Delicate
WA Cobb
CE Barksdale
CE Mahaney