

DmB

October 23, 1985

In reply, please
refer to LAC-11211

DOCKET NO. 50-409

Mr. James G. Keppler
Regional Administrator
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

SUBJECT: DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
PROVISIONAL OPERATING LICENSE NO. DPR-45
RESPONSE TO CONFIRMATORY ACTION LETTER

Reference: (1) Letter, Keppler to Taylor, dated October 23, 1985

Dear Mr. Keppler:

You sent us a Confirmatory Action Letter regarding an apparent improper response of the reactor protective system (Reference 1). We have reviewed the items listed and our response follows.

NRC ITEM 1

Conduct a thorough review to determine if a trip signal actually was received by the Reactor Protection System (RPS).

DPC RESPONSE

A thorough review has been conducted. It has been concluded that a scram signal was not received. An alarm signal was received which gave one visual indication of a possible trip condition.

NRC ITEM 2

If such a signal was received, determine why the control rods failed to automatically insert.

DPC RESPONSE

N/A

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NRC ITEM 3

If such a trip signal was not received, determine why the annunciator was activated.

DPC RESPONSE

Due to an apparent failure of an oscillator circuit on the trip stage of NI-6 that should have ensured that both the alarm and trip relays actuated at the same time, the annunciator came in approx. 2% power before the trip signal actuated. A very slow increase in power to approx. 110% indicated on the $150 \times 10^{-5}\%$ scale, in conjunction with a possible noise spike of a few percent activated the annunciator but not the trip. We were able to duplicate the separation between the annunciator and the trip relays many times, with the same results. This has been observed by the NRC Resident Inspector and the personnel sent from Region III.

NRC ITEM 4

Determine what caused the signal that nuclear instrumentation observed and why nuclear instrument channel number 5 was not affected.

DPC RESPONSE

At this power level ($10^{-5}\%$) there was a spread of 5%-10% between NI-5 and NI-6. The 0500 readings on 10/23/85 showed NI-5 to be at 56% and NI-6 to be 62% on the $150 \times 10^{-5}\%$ scale. This spread would allow NI-6 to reach an actuation condition without NI-5 reaching an actuation point.

NRC ITEM 5

Maintain all affected equipment related to the Reactor Protection System in such a manner that it can easily be kept or placed in the "as found" condition. Therefore, take no action which would destroy or cause to be lost, (other than necessary to protect the health and safety of the public) any evidence which would be needed to investigate or reconstruct this event.

DPC RESPONSE

Although some minor adjustment was done on NI-6, it can be placed in the as-found condition. No further action will be taken on the drawer, pending NRC concurrence of the course of action deemed necessary.

NRC ITEM 6

Review operator actions taken immediately following his recognition of the failure to trip and determine if these actions were in accordance with your procedures and policies (specifically, determine why the control rods were manually inserted rather than by inserting a manual trip signal.)

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DPC RESPONSE

The operator's indication of an apparent trip condition was annunciator D5-4, his power level indication was at 110%, which is well below the nominal scram point of 115%. He immediately reduced power to sub-critical by inserting #1 control rod. The ATWS procedure allows either a manual scram or control rod insertion. (Ref: LACBWR Op. Manual Vol. I, Sec. 4.12.) This was accomplished.

NRC ITEM 7

A formal report of your findings and conclusions will be submitted to the Region III office within 30 days

DTC RESPONSE

This letter constitutes the requested response.

NRC ITEM 8

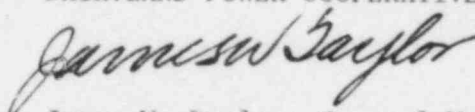
We further understand that startup will not occur until authorization to restart is obtained from the Regional Administrator or his designee.

DPC RESPONSE

The investigation has been discussed with and testing performed under the cognizance of NRC representatives. Restart will await authorization by the Regional Administrator or his designee.

Very truly yours,

DAIRYLAND POWER COOPERATIVE



James W. Taylor, General Manager

FL:JDP:LWK:dh

cc - Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

NRC Resident Inspector

J. Stang, NRC Project Manager