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 BOUCHEY, G.D. Washington Public Power Supply System  
 RECIP. NAME RECIPIENT AFFILIATION  
 SCHWENCER, A. Licensing Branch 2

SUBJECT: Responds to NRC 820922 ltr re resolution of Licensing Review  
 Group II Issue 3-CPB concerning channel box deflection, Util  
 channel mgt program for facility discussed.

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201



## Washington Public Power Supply System

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Docket No. 50-397

November 19, 1982  
G02-82-936

Mr. A. Schwencer, Chief  
Licensing Branch No. 2  
Division of Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Schwencer:

Subject: RESOLUTION OF LRG-II  
CHANNEL BOX DEFLECTION ISSUE

Reference: NRC Letter, A. Schwencer (NRC) to RL Ferguson (SS),  
"Resolution of LRG-II Channel Box Deflection Issue  
(LRG-II Issue 3-CPB)," dated September 22, 1982.

In the referenced letter, you requested that we respond as soon as possible on the channel box deflection issue for WNP-2 in order that this item be resolved.

The Supply System has initiated a channel management program for WNP-2. The elements of this program include:

- Compiling complete operating history records for each channel. Data to be collected include channel location, orientation of welded sides, exposure and control history.
- Compiling complete analytical history records for each channel including fast fluence ( $>1$  MeV), and flux gradient history.
- Measurement of post-operation channel box deflection.

The Supply System is planning to measure channel box deflection after each refueling outage for selected channels which are discharged to the spent fuel pool. The reuse of discharged channels will be determined based upon these measurements as compared to predetermined criteria. Other items which will be addressed in this program include development of channel manufacturing history data and analytical prediction capability.

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Mr. A. Schwencer  
Page Two  
November 19, 1982  
G02-82-936

The Channel Management Program has already resulted in some potential improvement in channel operation. Data from Commonwealth Edison measurements which recently became available indicate that major channel bow may be a strong function of channel manufacturing history rather than location of the channel within the core. Their data indicate that prime candidates for channel bow are manufactured from mismatched halves. This means that the channel was manufactured from two pieces of stock material not from the same original material batch. Also, Commonwealth Edison channels which experienced major bow, in many cases, were never on the core periphery.

Based on this information, the Supply System has identified which of the WNP-2 channels are manufactured from mismatched halves (75 out of 764) and we have set up special plans to manage the use of these channels to minimize potential channel bow. These measures include taking advantage of core locations which are not adjacent to control blades and, in addition, identification of locations of minimal exposure and fast flux tilt.

In addition to the above channel management program, the Supply System is proposing to take a number of operational actions to monitor channel distortion in the core. Prior to startup after each reload, scram time testing and rod notch testing will be performed. For rods which fail the above test, the pressure test described in NEDE-21354-P (4.4.2) will then be performed.

Very truly yours,



G. D. Bouchey (MD 370)  
Manager, Nuclear Safety & Licensing

WCW:jms

cc: R. Auluck - NRC  
WS Chin - BPA  
R. Feil - NRC-Site

