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SUBJECT: Responds to concerns noted during Insp Rept 50-397/93-23 re R6 differential pressure test info, including timeliness of review of data from 1991 outage & response to Phase I MOV Insp Rept 50-397/91-16.

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November 24, 1993
G02-93-273

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
NRC INSPECTION REPORT 91-16, ADDITIONAL INFORMATION**

Reference: Letter, G02-91-167 dated September 16, 1991, GD Bouchey (SS) to NRC,
"NRC Inspection Report 91-16, Response to Notice of Violation, Response
to Notice of Deviations"

The recent inspection of the WNP-2 MOV Program (Inspection 93-23) identified concerns regarding the R6 differential pressure (dp) test information. One concern involved the timeliness of review of the data obtained during the 1991 outage. The dynamic test data was incomplete and the methodology was suspect. After approximately 18 months of trying to extract worthwhile results, the effort was abandoned and the tests rescheduled.

The other concern regarded our response to the Phase I MOV inspection (91-16). In that letter we stated

"During our current [1991] extended outage the WNP-2 staff . . . utilized the opportunity to conduct additional MOV static baseline testing, and also perform the in situ dynamic differential pressure testing on 22 MOVs. This testing indicated that margin, in terms of thrust, was available for the valves tested as set by our current program."

The inspector interpreted this to mean that the Supply System had concluded that adequate margin existed at the design basis conditions based on an extrapolation of the dynamic differential pressure test results. This is an understandable interpretation but not what was

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NRC INSPECTION REPORT 91-16, ADDITIONAL INFORMATION

intended. Actually, we made our determination based on a qualitative review of dynamic testing results. Each MOV was shown to have margin and the tests were conducted at, or near, the design basis conditions. However, no extrapolation to the design basis condition was possible because adequate pressure data was not available. The Supply System regrets any misunderstanding this statement may have caused.

This letter provides specifics on these issues. It will also demonstrate that the decision not to perform further extensive analysis of the data was a conscious choice on the part of WNP-2.

Dynamic differential pressure testing was in its infancy within the nuclear industry as well as at WNP-2 during the time of the 1991 Refueling Outage (R6). During the testing, it was realized that the existing test methods (MOVATS) were suspect based on preliminary information coming out of the MUG (MOV Users Group) validation testing of the MOVATS TMD (Thrust Measurement Device) test methodology. Nevertheless, the Supply System chose to perform some dynamic testing. The data, when reviewed after R6, revealed problems with information derived from the pressure transducers. Pressure data was inaccurate since the transducers had not been zeroed prior to the test. Test personnel erroneously believed the data collection software internally compensated to 'zero' the data. The testing was valuable more in showing us what information was needed to evaluate MOVs than for the actual data. However, the MOV Program personnel did review the MOVATS traces taken during the dynamic tests and determined that margin existed at the tested condition. This was based on the spring pack displacement to overcome the dp load and the displacement at torque switch trip. This trace review was the basis for the wording in the Inspection Report response letter (Reference).

After R6, the Supply System contacted MOVATS for help in determining an appropriate method of resolving the discrepancies in the pressure readings. MOVATS was unable to provide assistance at that time. Prior to R7, two changes were made to improve data collection. The MOVATS software was changed to provide the ability to zero the transducer and obtain reliable pressure data. Additionally, the Supply System purchased new diagnostic equipment (e.g., Torque Thrust Cell and Strain Gages) to resolve the TMD Open versus Close accuracy problems. Although the change in the software made it possible to take accurate pressure readings during R7, it provided no assistance in evaluating the R6 data.

Also, in the R7 outage time frame, an individual from the Supply System engineering staff attempted to resolve the R6 data by estimating system operating conditions during the tests. This was not a successful effort.

Between R7 and R8 (1993), the MOV Program engineers further communicated with MOVATS, still attempting to develop an evaluation method for the data. When this was not successful, the MOV Program engineers determined that the data was unusable and rescheduled the dp tests for the affected valves. Some of the valves have been retested and some have been deleted from the GL 89-10 Program. The remaining valves are currently rescheduled for dp testing prior to the closure of the GL 89-10 Program.

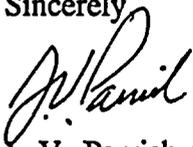
NRC INSPECTION REPORT 91-16, ADDITIONAL INFORMATION

In preparation for the 1993 inspection, the MOV Program engineers found that two Region V utilities had developed a method for evaluating the Open versus Close dp tests. The method relied solely on spring pack displacement and not thrust readings based on a static calibration of the spring pack. Also, one of the utilities was helpful in determining the appropriate method for approximating the zero reference for the pressure transmitters. The method is only an approximation and not to be considered a precise reading. A review of the information was started on September 16, 1993, and was partially completed before the most recent NRC inspection started. The review found no adverse conditions and confirmed that all the affected valves had margin at the design basis. The review results and methodology were discussed with the NRC personnel during the inspection.

As discussed during inspection 93-23, the Supply System agreed to clarify this issue. However, this letter should not be regarded as the response to inspection report 93-23. The response to inspection report 93-23 will be submitted prior to November 30, 1993.

If you have any questions, please contact Mr. Thomas F. Hoyle at (509) 377-4195.

Sincerely



J. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

TFH/bk

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