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SUBJECT: Informs of changes to commitments made in 940722 ltr re
visual insp & replacement of containment penetration
modules.

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U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
COMMITMENT MODIFICATION
WESTINGHOUSE CONTAINMENT PENETRATION MODULES -
SCOTCHCAST STRAIN RELIEF AND VARGLAS INSULATED
CONDUCTORS**

Reference: Letter GO2-94-170, dated July 22, 1994, JV Parrish (SS) to NRC, "10CFR21 Report, Westinghouse Containment Penetration Modules"

The purpose of this letter is to inform you of changes to commitments pertaining to visual inspection and replacement of containment penetration modules. The referenced letter identified a degraded condition in the non-safety-related Rod Position Indication System at WNP-2. This condition was due to a material defect in electrical containment penetration modules. These modules consisted of basic components which were procured for safety-related containment integrity application and safety- and non-safety related electrical integrity application. The condition resulted in moisture intrusion due to the use of a hygroscopic module material (Scotchcast), a significant moisture intrusion path, and a condensing environment. The moisture intrusion, in turn, resulted in conductor corrosion in modules with an applied DC potential current.

The module defect was evaluated and determined to not present a safety hazard for existing applications at WNP-2. Although the vendor, Westinghouse, did not complete the evaluation for potential industry impact within the Supply System's 10CFR21.21(c)(1) reportability time-frame, a possibility existed that the defect could create a substantial safety hazard, were it to remain undetected in safety-related electrical applications. Therefore, the Supply System reported the condition and committed in the referenced letter to replace containment penetration

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modules containing Scotchcast prior the end of the R-12 (1997) Maintenance and Refueling Outage, and perform visual inspections, during each refueling outage, of those modules which were not replaced.

Subsequent to submittal of the referenced letter, Westinghouse completed an independent evaluation and concluded that the problem with moisture absorption into containment electrical penetrations was limited to a combination of a hygroscopic material (Scotchcast) and a specific sleeving material (Varglas) with long-term exposure to a condensing environment. Westinghouse verified that the Scotchcast/Varglas application is unique to WNP-2.

The Westinghouse evaluation identified 20 other facilities which use Scotchcast in penetrations and verified that penetration assemblies using Scotchcast would perform properly when installed in its specified (i.e., non-condensing) environment.

This conclusion is supported by the initial Supply System evaluation which established that, although the hygroscopic Scotchcast material was used with various conductor sleeving materials and configurations, significant corrosion existed only in one specific Scotchcast/Varglas configuration which was installed in a condensing environment. Destructive examination of penetration modules also supported the assumption that moisture intrusion and the resultant module degradation was a slow process. Due to the limited data available at that time, the Supply System assumed a conservative position of continued inspection and replacement.

Twelve modules were replaced during the R-9 (1994) Maintenance and Refueling Outage. During the R-10 (1995) Maintenance and Refueling Outage, the Supply System completed replacement of seven additional modules, performed destructive examinations of recently-removed Scotchcast modules, and conducted insulation resistance testing of those Scotchcast modules which were not replaced. All safety-related Scotchcast/Varglas modules exhibiting the elements of degradation have been replaced.

A significant amount of information has been acquired since completion of the R-9 Outage evaluations. Specifically, it is concluded that additional module replacement and inspection efforts are not necessary. This is based, in part, on results from the detailed evaluations and analyses performed during the R-10 Outage. The additional testing and evaluation efforts support the following Westinghouse and Supply System conclusions pertaining to module condition:

- limitation of problem to conditions including the hygroscopic material, a significant moisture intrusion path due to the absence of a seal between the epoxy and the conductor sleeving material, a significant source of moisture, and applied DC potential (i.e., the Scotchcast/Varglas module configuration, with DC potential current applied, in a condensing environment); and
- the slow nature of the moisture intrusion and corrosion degradation process; and

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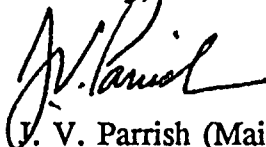
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- the validity of electrical testing for verification of module condition.

The existing modules are operable for both electrical and containment integrity functions. Accordingly, continuation of the containment penetration replacement project results in an economic burden with no commensurate improvement in safety.

This submittal is provided for information only. No staff action is requested. Should you have any questions or desire additional information regarding this matter, please contact me or D. A. Swank at (509) 377-4563.

Sincerely,



J. V. Parrish (Mail Drop 1023)
Vice President, Nuclear Operations

LCF/ml

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