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SORENSEN,G.C. Washington Public Power Supply System
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SCHWENCER,A. Licensing Branch 2

SUBJECT: Forwards four oversize drawings,closing out NUREG-0892,SER Outstanding Issue 29 re vacuum breaker valves.Valve response meets containment design bases for response time & flow capacity.Aperture cards are available in PDR.

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September 28, 1983
G02-83-872

Docket No. 50-397

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

Dear Mr. Schwencer:

Subject: NUCLEAR PROJECT NO. 2
VACUUM BREAKER VALVES, NUREG-0892, CLOSURE OF SAFETY EVALUATION REPORT, OUTSTANDING ISSUE NO. 29

Reference: USNRC Letter No. 29488, F. Eltawila/J. Kudrick to W. R. Butler, "Meeting Summary Vacuum Breaker Performance, Discussion with Representatives of Susquehanna Steam Electric Station (SSES), Limerick Generating Station (LGS), Shoreham Nuclear Power Station (SNPS) and Washington Public Power Supply System (WNP-2)", dated June 20, 1983

On June 7, 1983, Continuum Dynamics Inc. (CDI) and the Supply System presented to members of the Containment System Branch, the results of our program to document design adequacy of the WNP-2 drywell-to-wetwell vacuum breaker valves for service under all containment transients. The presentation (as appended to the cited reference) reviewed the Supply System's program of analysis, redesign, remanufacturing, and full scale static and dynamic testing of these valves. At the time of the presentation, CDI had not completed final calibration of the vacuum breaker valve dynamic models using the test results obtained in May at Anderson Greenwood & Co.'s flow facility.

The vacuum breaker models as described in NEDE-22178-P have now been fully calibrated and verified by CDI using the cited WNP-2 valve unique flow test data. The critical result of this work is that the loading bases used to redesign the valve are, in all cases, fully bounding over the test calibrated dynamic model results. Additionally, the valve disc impact velocities and response times are well within design basis limits and remain as reported in our presentation of June 7. In short, under worst case combined faulted loading conditions, the valve response is fully elastic, operable (i.e., limited valve component deflections), and meets all containment design bases for response time and flow capacity.

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In summary, stemming from a program of comprehensive analysis, redesign, and testing the Supply System concludes that the WNP-2 drywell-to-wetwell vacuum breaker valves now have fully documented design packages for service under all containment transient loads.

For your information, reduced size layout drawings of the final valve configuration are attached. The salient design enhancements were covered in our presentation of June 7.

With this submittal the Supply System considers Outstanding Issue No. 29 of the WNP-2 Safety Evaluation Report, NUREG-0892, to be closed.

If you have any further questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,

Alan Hosler for

G. C. Sorensen, Acting Manager
Nuclear Safety and Regulatory Programs

DMB/tmh
Attachments: 1) Assembly Drawing No. 4-3825, Sheets 1 & 2
2) Auxiliary Equipment Drawing No. 4-3800, Sheets 1 & 2

cc: R Auluck - NRC
WS Chin - BPA
A Toth - NRC Site