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 HINTZ, D.C. Wisconsin Public Service Corp.
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 Document Control Branch (Document Control Desk)

SUBJECT: Submits description of overall validation & verification program & tentative schedule for completion of SPDS.

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 TITLE: OR Submittal: TMI Action Plan Rgmt NUREG-0737 & NUREG-0660

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WISCONSIN PUBLIC SERVICE CORPORATION

800 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

December 30, 1987

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

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
TAC #51250
Response to the SER on SPDS

The NRC issued Supplement 1 to NUREG-0737 (reference 1), which detailed the requirements of the Safety Parameter Display System (SPDS), on December 17, 1982. WPSC responded with a description of the SPDS which was going to be installed at the Kewaunee Nuclear Power Plant (KNPP) (reference 2). We then submitted a Safety Analysis Report (reference 3) which identified and evaluated the plant specific departures from the generic Safety Assessment System (SAS) design.

The NRC requested additional information on data validation, isolation devices and the basis for parameter selection (reference 4). We provided this additional information in our submittals dated August 1, 1984, and September 4, 1984 (reference 5 and 6). We also informed the NRC that the SPDS had been implemented and the operators trained prior to completion of the 1985 refueling outage. The NRC once again requested additional information on the KNPP SPDS (reference 7) which we provided in our response dated August 21, 1986 (reference 8).

The NRC and consultants from Science Application International Corporation (SAIC) conducted an audit of the SPDS on October 7-8, 1986. The results of the audit were sent to WPSC in a Safety Evaluation Report (SER) (reference 9) which concluded that the Kewaunee SPDS does not satisfy the provisions of Supplement 1 to NUREG-0737, and stated that we should negotiate a schedule for the resolution of the open items with our NRC Project Manager. Members of the WPSC staff have discussed our response to the SER with our Project Manager on July 14, September 30 and November 12, 1987.

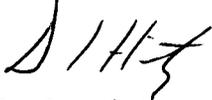
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We informed our Project Manager that we will perform an independent validation and verification (V&V) program in accordance with NSAC-39 (reference 10). Both parties agreed that this would be mutually beneficial to both WPSC and NRC, and we agreed to submitting a formal response by December 31, 1987.

Therefore, we are submitting a description of the overall V&V program (attachment 2), and our tentative schedule for completion of the KNPP SPDS V&V program (attachment 3). This schedule is subject to revision due to the yet undefined scope of the SPDS modification effort; however, we will notify our Project Manager of any significant delays which we may encounter.

Sincerely,



D. C. Hintz
Vice President - Nuclear Power

PMF/jms

Enc.

cc - Mr. Robert Nelson, US NRC
US NRC, Region III

Attachment 1

to

Letter from D. C. Hintz (WPSC) to Document Control Desk (NRC)

Dated December 30, 1987

References

Attachment 1References

- 1) Generic Letter 82-33, "Supplement 1 to NUREG-0737 - Requirements for Emergency Response Capability," dated December 17, 1982
- 2) Letter from C. W. Giesler (WPSC) to D. G. Eisenhut (NRC) dated April 15, 1983
- 3) Letter from C. W. Giesler (WPSC) to D. G. Eisenhut (NRC) dated September 2, 1983
- 4) Letter from S. A. Varga (NRC) to C. W. Giesler (WPSC) dated March 26, 1984
- 5) Letter from D. C. Hintz (WPSC) to D. G. Eisenhut (NRC) dated August 1, 1984
- 6) Letter from D. C. Hintz (WPSC) to D. G. Eisenhut (NRC) dated September 4, 1984
- 7) Letter from M. B. Fairtile (NRC) to D. C. Hintz (WPSC) dated August 8, 1986
- 8) Letter from D. C. Hintz (WPSC) to M. B. Fairtile (NRC) dated August 21, 1986
- 9) Letter from M. B. Fairtile (NRC) to D. C. Hintz (WPSC) dated April 8, 1987
- 10) NSAC-39, "Verification and Validation for Safety Parameter Display Systems," dated December 1981

Attachment 2

to

Letter from D. C. Hintz (WPSC) to Document Control Desk (NRC)

Dated December 30, 1987

KNPP SPDS Validation and Verification Program

Attachment 2

KNPP SPDS Validation and Verification Program

The KNPP SPDS Validation and Verification (V&V) Program contains five major sections:

- 1) Validation and Verification Plan
- 2) System Requirements Review
- 3) Design Review
- 4) System Validation
- 5) Installation Verification Audit

Prior to or concurrent with the V&V Program, all available documentation will be reviewed, updated and consolidated. This will ease the V&V effort by clearly defining the system prior to validating and verifying it. WPSC feels that this is necessary to provide a solid design basis document.

The V&V Plan will be an overview of the V&V program as it will be implemented at KNPP. It will further explain the V&V process and note any discrepancies with our description.

A Systems Requirements Review will be performed, and a requirements matrix will be developed listing each requirement of Supplement 1 to NUREG-0737, its references, a description of how the design meets the requirement, and what testing validated each requirement.

A Design Review will then be performed resulting in a KNPP SPDS design document which will be a compilation of all available documentation on the design of the SPDS; it is intended to be updated as the system is modified. A formal design report will be issued to NRC summarizing the design review, noting any iden-

tified discrepancies in the system, and describing the corrective actions taken or planned. Much of the input into this report will come from the WPSC Design Change Group and Detailed Control Room Design Review Committee. Upon completion of all the necessary changes, the validation and verification effort will begin.

System Validation will be accomplished utilizing the KNPP simulator and will demonstrate that the completed system meets all of the SPDS requirements. The requirements matrix will be completed showing what test method validated each requirement. In addition, a validation test report will be developed for inclusion in the design document.

An audit of the WPSC Installation Verification will be performed by the consultant as the final stage of the V&V program. A final V&V report will be written and submitted to NRC along with the design document and the requirements matrix.

Attachment 3

to

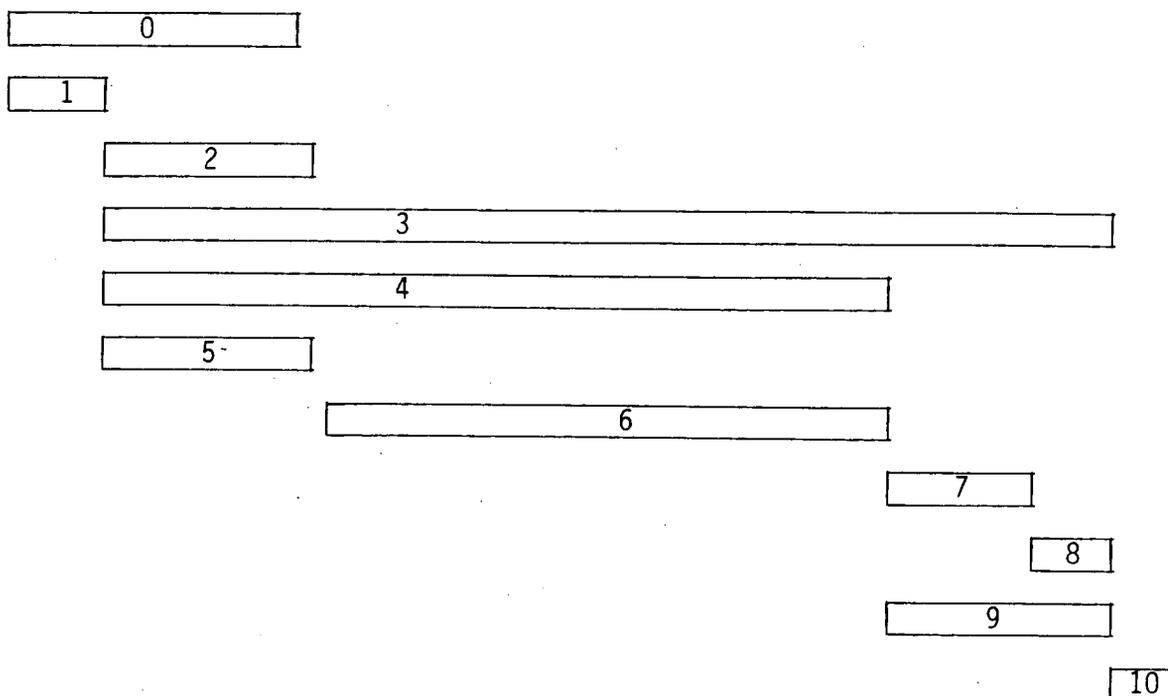
Letter from D. C. Hintz (WPSC) to Document Control Desk (NRC)

Dated December 30, 1987

SPDS Validation and Verification Schedule

Attachment 3SPDS Validation and Verification Schedule*

Feb



0. Review of SPDS documentation beginning in mid-February 1988
1. Validation and Verification Plan, submitted to NRC
2. System Requirements Review
3. Requirements Matrix
4. Design Document
5. Design Review Report, submitted to NRC
6. WPSC makes necessary changes to SPDS
7. System Validation
8. Validation test report
9. Installation Verification Audit
10. Final V&V Report, submitted to NRC along with the design document and requirements matrix

*The schedular illustration is a depiction of relative durations of individual phases of the project. The total project duration is estimated to be 12 months.