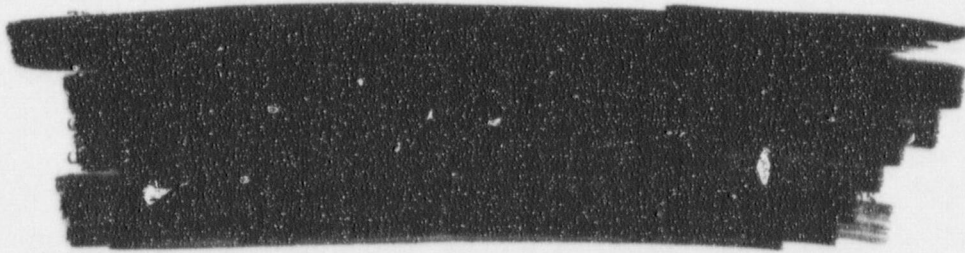


ATTACHMENT

ET-NRC-92-3675

Dated 3/9/92

PROPOSED COOPERATIVE W/NRC AP600 IST PROGRAM



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PROPOSED COOPERATIVE NRC/W AP600
INTEGRAL SYSTEMS TESTING PROGRAM

Background

Westinghouse has developed a comprehensive Test and Analysis Program to verify the performance of the AP600 passive safety systems. The basis for this program was the review of the AP600 design features, the phenomena which needed to be verified in our safety analysis codes, and the availability of existing data for that verification.

The results of this study lead to a program of large-to-full scale separate effects tests over the range of AP600 conditions for such components as the Core Makeup Tank (CMT), the Automatic Depressurization System (ADS), the Passive Residual Heat Removal System (PRHR), and the passive Check Valves (CV).

The Westinghouse program also includes a 1/4 scale, full integral systems test of the AP600 at the Oregon State University (OSU), which has a design pressure limit of 300 psia. The purpose of the OSU test is to verify the AP600 system performance where the passive safeguards systems need to be most thoroughly investigated.

The Staff has reviewed the Westinghouse test and analysis program and given us constructive comments which we are incorporating into our programs as mentioned at the Westinghouse/NRC January 13, 1992 meeting.

Westinghouse believes that successful completion of its test program, along with the AP600 plant analysis, sensitivity studies, and the NRC audit calculations would show that the passive safety systems performance has sufficient margin to address uncertainties in the plant calculations such that the requirements for Design Certification will be achieved. However, it is apparent from the meetings with the NRC technical staff, the ACRS sub-committees and full committees, that the verification beyond any reasonable doubt of the AP600 systems performance under accident conditions will benefit from additional experiment demonstration of the system interaction effects at high pressure. The NRC Staff has indicated that a large, full height, full pressure integral systems test is the best method to address these concerns of possible system interactions at high pressure.

Westinghouse believes that the passive safety system technology of the AP600, along with the plant simplification which results from this technology will result in a safer, easier to maintain nuclear power plant which represents the future of nuclear power in the United States and in many applications abroad. Therefore, in order to eliminate any residual concerns that may exist on the performance of the passive safety systems in the AP600, and the ability of analytical methods to predict system performance, Westinghouse proposes a cooperative program on AP600 Integral Systems Testing in which both the NRC and Westinghouse can share the results such that resolution of high pressure integral system effects are achieved.

[REDACTED]

Cooperative Program

Westinghouse proposes the following elements of a comprehensive, cooperative testing program for the AP600:

- 1) The addition of the SPES full height, full pressure integral systems test to the existing Westinghouse testing program to provide high pressure data for Final Design Approval.
- 2) A cooperative NRC/Westinghouse test program at the Oregon State University low Pressure AP600 Integral Systems Test facility.
- 3) A cooperative NRC/Westinghouse test program for confirmatory testing of the AP600 Passive Containment Cooling Systems (PCCS) using the Small and Large Scale Test facilities at the Westinghouse Science & Technology Center.
- 4) A cooperative confirmatory large scale, full height, full pressure integral systems test program using the ROSA-IV test facility in Japan.

Item 1) Baseline FHFP IST at SPES

Westinghouse would modify the existing SPES test loop at the SIET facilities in Italy, which is now configured as a full height, full pressure integral systems effects test for a standard Westinghouse three-loop PWR, to the AP600 geometry. The SPES facility would then represent a 1/395 scale representation of the AP600 which is twice the size of the B&W MIST test and four times the size of Semiscale.

Modifications to SPES would include the AP600 features such as two cold legs, one hot leg per loop, two core makeup tanks, two accumulators, a passive residual heat removal simulation, and an Automatic Depressurization System. We believe these modifications can be made in approximately 12 months such that the testing would occur in the second half of 1993.

The SPES tests would provide the baseline data on system interactions at high pressure which would be available for Final Design Approval. The SPES facility and the OSU facility will provide high and low pressure test data which can be compared to the larger, confirmatory tests performed at ROSA-IV. The NRC staff, in agreement with Westinghouse, would be able to specify tests in the SPES and OSU facilities, and Westinghouse would provide the reduced test data and a report to the NRC for their code validation efforts.

We believe that the addition of the SPES testing will address the NRC Staff concerns raised in SECY-92-030 and will do its part to ensure receipt of the AP600 FDA on schedule.

Item 2) OSU Low Pressure IST

The NRC and Westinghouse would enter into a cooperative program at the Oregon State University (OSU) 1/4 scale low pressure integral systems test facility. The NRC staff, in agreement with Westinghouse, would specify tests for this facility and Westinghouse would provide the reduced test data and a report to

[REDACTED]

the NRC for its code verification efforts. The intent of this program would be to obtain low pressure baseline data at a different scale for Final Design Approval. We would design the program to meet the NRC's needs for a smaller scale low pressure AP600 test facility such that the separately funded NRC facility would not be required, saving the Commission up to two million dollars which would be applied to the ROSA-IV modifications. A cooperative program at OSU would also satisfy the ACRS concern of whether two smaller low pressure facilities are necessary.

Item 3) PCCS Testing


The NRC and Westinghouse would enter into a cooperative program on confirmatory passive containment cooling testing using the existing facilities at the Westinghouse Science & Technology Center. The NRC staff, in agreement with Westinghouse, would have the opportunity to specify containment tests for the purposes of code validation. Westinghouse would perform these tests, and provide the NRC reduced test data and a full test report including the tests Westinghouse will use for confirmatory purposes. In the past, the NRC Staff has expressed interest in a cooperative program for passive containment cooling testing as well as the OSU Integral Systems Test.

Item 4) Confirmatory FHFP IST at ROSA-IV

The NRC and Westinghouse would enter into a cooperative, confirmatory test program using the ROSA-IV facility which would be modified to the AP600 geometry to the fullest extent possible. Westinghouse would work with the NRC to specify the ROSA-IV modifications such that the needs of the NRC for a large scale, full height, full pressure integral systems test would be satisfied. Westinghouse would also work with the NRC to develop a ROSA-IV test matrix which would overlap these tests with the high pressure SPES tests and the low pressure OSU tests. Westinghouse would be prepared to specify instrumentation and tests for ROSA-IV based on the results of the Core Makeup Tank separate effects tests and the Automatic Depressurization Systems tests. In this fashion, the ROSA facility will overlap baseline integral systems tests (SPES and OSU) as well as the ongoing separate effects tests (CMT and ADS). Both Westinghouse and the NRC would share the data from these tests, which would be considered as post Design Certification and confirmatory in nature.

Summary

The specific details will have to be developed between the NRC Staff and Westinghouse for such a cooperative program as outlined above. The intent would be for Westinghouse to give the NRC the data from SPES, OSU and the PCCS test programs and receive data from ROSA-IV with the modifications deemed necessary by both Westinghouse and the NRC. We also believe that NRC involvement in both SPES and OSU could eliminate the need for the NRC to construct another low pressure AP600 test, thus saving the commission those costs.



It is our intent to make this cooperative and comprehensive test program a reality and to provide the NRC with the necessary data and analysis that will result in a favorable Final Design Approval and Design Certification for the AP600, on schedule.



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DPC/NRC1407
NSD-NRC-98-5751
Docket No.: 52-003

August 12, 1998

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: T. R. QUAY

SUBJECT: RESPONSE TO NRC LETTERS CONCERNING REQUESTS FOR WITHHOLDING
INFORMATION

- Reference.
1. Letter, Sebrosky to McIntyre, "Request for withholding information from public disclosure for Westinghouse AP600 letters of March 9, 1992, April 28, 1993, and July 14, 1998."
 2. Letter, Sebrosky to McIntyre, "Request for withholding information from public disclosure for Westinghouse letters dated February 14, 1992, July 29, 1994, and July 14, 1998."

Dear Mr. Quay:

Reference 1 provided the NRC assessment of the Westinghouse claim that proprietary information was provided in a letter dated March 9, 1992, that proposed a cooperative testing program in the Oregon State University, ROSA-IV and Large Scale Test facilities that would have allowed Westinghouse and the NRC to utilize the same testing facilities to perform AP600 related integral systems testing. The NRC assessment was that the information contained was similar to other nonproprietary material or that it did not conform to 10CFR2.790(b)(4). In addition, the material was used by the staff in the development of the draft safety evaluation report for the AP600, and therefore, should remain on the docket. At the time this offer was being proposed, the information was proprietary since it contained information that had commercial value to Westinghouse. At this time, over six years later, this information does not have commercial value and is no longer considered to be proprietary by Westinghouse.

Reference 1 also provided the NRC assessment of the Westinghouse claim that proprietary information was provided in a letter dated April 28, 1993, that provided a copy of WCAP-13383, "AP600 Instrumentation and Control Hardware and Software Design, Verification and Validation Process Report." The NRC assessment was that the information contained was similar to other nonproprietary material or that it did not conform to 10CFR2.790(b)(4). Reference 1 also noted that a subsequent revision of this report was considered nonproprietary. In addition, the material was used by the staff in the development of the draft safety evaluation report for the AP600, and therefore, should remain on the docket. Revision 1 of WCAP-13383 was issued on June 17, 1996, (DCP/NRC0526) to close out DSER open items 7.1.4-1 and 7.1.7-1. At that time, three years after Revision 0 of WCAP-13383

Enclosure 2

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NSD-NRC-98-5751

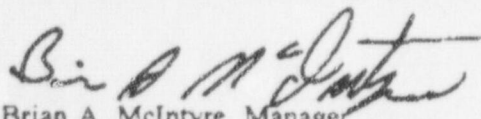
August 12, 1998

was issued, the information was no longer considered to be proprietary by Westinghouse and Revision 1 was therefore issued as a nonproprietary report. Since the information in Revision 0 is essentially the same information as in Revision 1, Revision 0 of WCAP-13883 is therefore no longer considered to be proprietary by Westinghouse.

Reference 2 provided the NRC assessment of the Westinghouse claim that proprietary information was provided in a letter dated February 14, 1992, that contained the Westinghouse response to the NRC AP600 issues that would require testing in a high pressure full height test facility. The NRC assessment was that no material in the letter was specifically identified as being proprietary and that a nonproprietary version was not provided. In addition, the material was used by the staff in the development of the safety evaluation for the AP600, and therefore, would need to be provided in another form if Westinghouse decides to withdraw the proprietary information as allowed by 10CFR2.790(c). At the time this subject was being discussed with the NRC technical staff, the information was considered to be proprietary by Westinghouse since it contained information that had commercial value to Westinghouse. At this time, over six years later, this information does not have commercial value and is no longer considered to be proprietary by Westinghouse.

Reference 2 also provided the NRC assessment of the Westinghouse claim that proprietary information was provided in a letter dated July 24, 1994, that provided a copy of WCAP-14132 (Proprietary) and WCAP-14133 (Nonproprietary), "AP600 CMT Program - Facility Description Report." The NRC assessment was that no material in the reports was specifically identified as being proprietary. In addition, the material was used by the staff in the development of the safety evaluation for the AP600, and therefore, would need to be provided in another form if Westinghouse decides to withdraw the proprietary information as allowed by 10CFR2.790(c). In WCAP-14132, it should be noted that the detailed as-built CMT test facility drawings in Appendix A are indicated to be proprietary by the standard proprietary statement used by Westinghouse on drawings. These detailed as-built drawings were deleted from WCAP-14133 to create the nonproprietary version of the CMT facility description report. To indicate what had been deleted, the list of as-built drawings was retained in the nonproprietary version of the report, WCAP-14133. Westinghouse still considers the as-built drawings marked as proprietary in WCAP-14132 to be proprietary since the information reveals the distinguishing aspects of a process (structure, method or component) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive advantage over other companies and its use by a competitor would reduce his expenditure of resources in the design, assurance of quality or licensing of a similar product. The text description of the CMT test facility in WCAP 14133 is sufficient to support the staff safety determination for this activity.

This response addresses the proprietary issues delineated in the references.



Brian A. McIntyre, Manager
Advanced Plant Safety and Licensing

jml

cc: J. W. Roe - NRC/NRR/DRPM
J. M. Sebrosky - NRC/NRR/DRPM
H. A. Sepp - Westinghouse