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SBN- 1146
T.F. B7.1.2

United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Vincent S. Noonan, Project Director PWR
Project Directorate No. 5

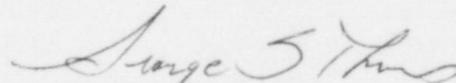
- References: (a) Construction Permit CPPR-135 and CPPR-136,
Docket Nos. 50-443 and 50-444
- (b) USNRC Letter, dated July 8, 1983, "Required Action
Based On Generic Implication Of Salem ATWS Events
(Generic Letter 83-28)" D. G. Eisenhut to all
licensees of operating reactors, applicants for
operating license holders of construction permits

Subject: Generic Letter 83-28; Additional Information

Dear Sir:

Enclosed please find the Summary Status concerning the responses to
Generic Letter 83-28. We trust that the enclosed provides sufficient
information for the Staff to close out the remaining open items.

Very truly yours,


George S. Thomas

Enclosure

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ENCLOSURE TO SBN- 1146

Generic Letter 83-28 - Summary Status

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
<u>1.1 Post Trip Review (Program Description and Procedure)</u>		
1.1 Licensees and applicants shall describe their program for ensuring that unscheduled reactor shutdowns are analyzed and that a determination is made that the plant can be restarted safely. A report describing the program for review and analysis of such unscheduled reactor shutdowns should include, as a minimum:	SBN-576 Nov. 4, 1983 SBN-1137 June 24, 1986	Post Trip Review procedure OS1000.08 was submitted in SBN-1137. This response should close out Item 1.1, including 1.1.1 through 1.1.7, of Generic Letter 83-28.
1.1.1 The criteria for determining the acceptability of restart.		
1.1.2 The responsibilities and authorities of personnel who will perform the review and analysis of these events.		
1.1.3 The necessary qualifications and training for the responsible personnel.		
1.1.4 The sources of plant information necessary to conduct the review and analysis. The sources of information should include the measures and equipment that provide the necessary detail and type of information to reconstruct the event accurately and in sufficient detail for proper understanding. (See Action 1.2)		

<u>Position</u>	NHY <u>Response Ref.</u>	<u>Comments</u>
1.1.5 The methods and criteria for comparing the event information with known or expected plant behavior (e.g., that safety-related equipment operates as required by the Technical Specifications or other performance specifications related to the safety functions).		
1.1.6 The criteria for determining the need for independent assessment of an event (e.g., a case in which the cause of the event cannot be positively identified, a competent group such as the Plant Operations Review Committee, will be consulted prior to authorizing restart) and guidelines on the preservation of physical evidence (both hardware and software) to support independent analysis of the event.		
1.1.7 Items 1 through 6 above are considered to be the basis for the establishment of a systematic method to assess unscheduled reactor shutdowns. The systematic safety assessment procedures compiled from the above items, which are to be used in conducting the evaluation, should be in the report.		

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
1.2 <u>Post Trip Review - Data and Information Capability</u>		
1.2 Licensees and applicants shall have, or have planned, a capability to record, recall, and display data and information to permit diagnosing the causes of unscheduled reactor shutdowns prior to restart and for ascertaining the proper functioning of safety-related equipment.	SBN-576 Nov. 4, 1983 SBN-961 Mar. 6, 1986	NRC's "Technical Evaluation Report for Generic Letter 83-28, Item 1.2" was addressed in SBN-961. This response should close out Item 1.2, including 1.2.1 through 1.2.4, of Generic Letter 83-28.
Adequate data and information shall be provided to correctly diagnose the cause of unscheduled reactor shutdowns and the proper functioning of safety-related equipment during these events using systematic safety assessment procedures (Action 1.1). The data and information shall be displayed in a form that permits ease of assimilation and analysis by persons trained in the use of systematic safety assessment procedures.		
A report shall be prepared which describes and justifies the adequacy of equipment for diagnosing an unscheduled reactor shutdown. The report shall describe as a minimum:		
1.2.1 Capability for assessing sequence of events (on-off indications).	SBN-576 Nov. 4, 1983 SBN-961 Mar. 6, 1986	
1. Brief description of equipment (e.g., plant computer, dedicated computer, strip chart).		
2. Parameters monitored.		
3. Time discrimination between events.		

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
4. Format for displaying data and information.		
5. Capability for retention of data and information.		
6. Power source(s) (e.g., Class 1E, non-Class 1E, noninterruptible).		
1.2.2 Capability for assessing the time history of analog variables needed to determine the cause of unscheduled reactor shutdowns, and the functioning of safety-related equipment.	SBN-576 Nov. 4, 1983 SBN-961 Mar. 6, 1986	
1. Brief description of equipment (e.g., plant computer, dedicated computer, strip charts).		
2. Parameters monitored, sampling rate, and basis for selecting parameters and sampling rate.		
3. Duration of time history (minutes before trip and minutes after trip).		
4. Format for displaying data including scale (readability) of time histories.		
5. Capability for retention of data, information, and physical evidence (both hardware and software).		
1.2.3 Other data and information provided to assess the cause of unscheduled reactor shutdowns.	SBN-576 Nov. 4, 1983 SBN-961 Mar. 6, 1986	
1.2.4 Schedule for any planned changes to existing data and information capability.	SBN-576 Nov. 4, 1983	

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
<u>2.1 Equipment Classification and Vendor Interface (Reactor Trip System Components)</u>		
2.1.1 Licensees and applicants shall confirm that all components whose functioning is required to trip the reactor are identified as safety-related on documents, procedures, and information handling systems used in the plant to control safety-related activities, including maintenance, work orders, and parts replacement.	SBN-576 Nov. 4, 1983 SBN-861 Aug. 22, 1985	In SBN-861, NHY stated that an engineering review of applicable documents had been performed and the reactor trip system components had been identified and classified as safety related. This response should close out Item 2.1.1 of Generic Letter 83-28.
2.1.2 In addition, for these components, licensees and applicants shall establish, implement, and maintain a continuing program to ensure that vendor information is complete, current, and controlled throughout the life of the plant, and appropriately referenced or incorporated in plant instructions and procedures.	SBN-576 Nov. 4, 1983	In SBN-576, NHY stated that this requirement is satisfied by existing provisions of Seabrook Station Administrative and Quality Assurance procedures. This response should close out Item 2.1.2 of Generic Letter 83-28.
2.1.3 Vendors of these components should be contacted and an interface established. Where vendors can not be identified, have gone out of business, or will not supply the information, the licensee or applicant shall assure that sufficient attention is paid to equipment maintenance, replacement, and repair to compensate for the lack of vendor backup to assure reactor trip system reliability.	SBN-576 Nov. 4, 1983	In SBN-576, NHY stated that this requirement is satisfied by existing provisions of Seabrook Station Administrative and Quality Assurance procedures. This response should close out Item 2.1.3 of Generic Letter 83-28.

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
<p>2.1.4 The vendor interface program shall include periodic communication with vendors to assure that all applicable information has been received. The program should use a system of positive feedback with vendors for mailings containing technical information. This could be accomplished by licensee acknowledgment for receipt of technical mailings.</p>	<p>SBN-576 Nov. 4, 1983</p>	<p>In SBN-576, NHY stated that this requirement is satisfied by existing provisions of Seabrook Station Administrative and Quality Assurance procedures. This response should close out Item 2.1.4 of Generic Letter 83-28.</p>
<p>2.1.5 The program shall also define the interface and division of responsibilities among the licensees and the nuclear and nonnuclear divisions of their vendors that provide service on Reactor Trip System components to assure that requisite control of and applicable instructions for maintenance work are provided.</p>	<p>SBN-576 Nov. 4, 1983</p>	<p>In SBN-576, NHY stated that this requirement is satisfied by existing provisions of Seabrook Station Administrative and Quality Assurance procedures. This response should close out Item 2.1.5 of Generic Letter 83-28.</p>

	<u>Position</u>	NHY <u>Response Ref.</u>	<u>Comments</u>
2.2	<u>Equipment Classification and Vendor Interface</u> <u>(Program for All Safety Related Components)</u>		
2.2	Licensees and applicants shall submit, for staff review, a description of their programs for safety-related equipment classification and vendor interface as described below:	SBN-576 Nov. 4, 1983	NHY provided its original response to Item 2.2.1.1, through 2.2.1.6 in SBN-576.
2.2.1	For equipment classifications, licensees and applicants shall describe their program for ensuring that all components of safety-related systems necessary for accomplishing required safety functions are identified as safety-related on documents, procedures, and information handling systems used in the plant to control safety-related activities, including maintenance, work orders and replacement parts. This description shall include:	SBN-576 Nov. 4, 1983	The NRC's Request for Additional Information letter of June 18, 1985, indicated that in a preliminary review of all of the 2.2 items, no further information was requested and the original response in SBN-576 was adequate.
2.2.1.1	The criteria for identifying components as safety related within systems currently classified as safety related. This shall <u>not</u> be interpreted to require changes in safety classification at the systems level.	SBN-576 Nov. 4, 1983	NHY assumes that all Items 2.2.1 are acceptable and closed.
2.2.1.2	A description of the information handling system used to identify safety-related components (e.g., computerized equipment list) and the methods used for its development and validation.	SBN-576 Nov. 4, 1983	
2.2.1.3	A description of the process by which station personnel use this information handling system to determine that an activity is safety related and what procedures for maintenance, surveillance, parts replacement, and other activities defined in the introduction to 10CFR50, Appendix B, apply to safety-related components.	SBN-576 Nov. 4, 1983	

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
2.2.1.4 A description of the management controls utilized to verify that the procedures for preparation, validation, and routine utilization of the information handling system have been followed.	SBN-576 Nov. 4, 1983	
2.2.1.5 A demonstration that appropriate design verification and qualification testing is specified for procurement of safety-related components. The specifications shall include qualification testing for expected safety service conditions and provide support for the licensee's receipt of testing documentation to support the limits of life recommended by the supplier.	SBN-576 Nov. 4, 1983	
2.2.1.6 Licensees and applicants need only to submit for staff review the Equipment Classification Program for safety-related components. Although not required to be submitted for staff review, your Equipment Classification Program should also include the broader class of structures, systems, and components important to safety required by GDC-1 (defined in 10CFR50, Appendix A, "General Design Criteria, Introduction").	SBN-576 Nov. 4, 1983	

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
<p>2.2.2 For vendor interface, licensees and applicants shall establish, implement, and maintain a continuing program to ensure that vendor information for safety-related components is complete, current, and controlled throughout the life of their plants, and appropriately referenced or incorporated in plant instructions and procedures. Vendors of safety-related equipment should be contacted and an interface established. Where vendors cannot be identified, have gone out of business, or will not supply information, the licensee or applicant shall assure that sufficient attention is paid to equipment maintenance, replacement, and repair to compensate for the lack of vendor backup to assure reliability commensurate with its safety function (GDC-1). The program shall be closely coupled with Action 2.2.1 above (equipment qualification). The program shall include periodic communication with vendors to assure that all applicable information has been received. The program should use a system of positive feedback with vendors for mailings containing technical information. This could be accomplished by licensee acknowledgment for receipt of technical mailings. It shall also define the interface and division of responsibilities among the licensee and the nuclear and nonnuclear divisions of their vendors that provide service on safety-related equipment to assure that requisite control of and applicable instructions for maintenance work on safety-related equipment are provided.</p>	<p>SBN-556 Sept. 6, 1983 SBN-564 Sept. 6, 1983 SBN-576 Nov. 4, 1983 SBN-676 June 29, 1984</p>	<p>NHY stated in SBN-576 that they would be participating in the program established by NUTAC. In SBN-676, NHY reestablished this commitment to be a full participant in the newly established Nuclear Plant Reliability Data System (NPRDS) by commercial operation. This effort is ongoing and NHY fully intends to have this program in place by commercial operation. This response should close out Item 2.2.2 of Generic Letter 83-28.</p>

<u>Position</u>	NHY <u>Response Ref.</u>	<u>Comments</u>
3.1 <u>Post-Maintenance Testing (Reactor Trip System Components)</u>		
3.1.1 Licensees and applicants shall submit the results of their review of test and maintenance procedure and Technical Specifications to assure that post-maintenance operability testing of safety-related components in the Reactor Trip System is required to be conducted and that the testing demonstrates that the equipment is capable of performing its safety functions before being returned to service.	SBN-576 Nov. 4, 1983	Procedures have been developed to provide the necessary guidance to perform post-maintenance operability testing of safety related components in the Reactor Trip System. This response should close out Item 3.1.1 of Generic Letter 83-28.
3.1.2 Licensees and applicants shall submit the results of their check of vendor and engineering recommendations to ensure that any appropriate test guidance is included in the test and maintenance procedures or the Technical Specifications, where required.	SBN-576 Nov. 4, 1983	A Westinghouse modification has been incorporated at Seabrook Station for the Reactor Trip System, and maintenance and post-maintenance procedures have been developed to incorporate these changes. This response should close out Item 3.1.2 of Generic Letter 83-28.
3.1.3 Licensees and applicants shall identify, if applicable, any post-maintenance test requirements in existing Technical Specifications which can be demonstrated to degrade rather than enhance safety. Appropriate changes to these test requirements, with supporting justification, shall be submitted for staff approval. (Note that Action 4.5 discusses on-line system functional testing.)	SBN-576 Nov. 4, 1983	Item 3.1.3 was accepted by the NRC in the SER letter of December 24, 1985.

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
3.2 <u>Post-Maintenance Testing (All Other Safety-Related Components)</u>		
3.2.1 Licensees and applicants shall submit a report documenting the extending of test and maintenance procedures and Technical Specifications review to assure that post-maintenance operability testing of all safety-related equipment is required to be conducted and that the testing demonstrates that the equipment is capable of performing its safety functions before being returned to service.	SBN-576 Nov. 4, 1983	In SBN-576, NHY stated that four general procedures already in place required a specific review for post-maintenance testing requirements and that such testing will be included in the individual procedures. All post-maintenance operability testing procedures for identified safety related equipment will be developed and in place as required. This response should close out Item 3.2.1 of Generic Letter 83-23.
3.2.2 Licensees and applicants shall submit the results of their check of vendor and engineering recommendations to ensure that any appropriate test guidance is included in the test and maintenance procedures or the Technical Specifications where required.	SBN-576 Nov. 4, 1983	Procedures that have been developed for post-maintenance operability testing have been reviewed to incorporate any vendor and engineering recommendations. This response should close out Item 3.2.2 of Generic Letter 83-23.
3.2.3 Licensees and applicants shall identify, if applicable, any post-maintenance test requirements in existing Technical Specifications which are perceived to degrade rather than enhance safety. Appropriate changes to these test requirements, with supporting justification, shall be submitted for staff approval.	SBN-576 Nov. 4, 1983 SBN-861 Aug. 22, 1985	Item 3.2.3 was accepted by the NRC in the SER letter of December 24, 1985.

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
4.1 <u>Reactor Trip System Reliability (Vendor-Related Modifications)</u>		
4.1 All vendor-recommended reactor trip breaker modifications shall be reviewed to verify that either: 1) each modification has, in fact, been implemented; or 2) written evaluation of the technical reason for not implementing a modification exists.	SBN-576 Nov. 4, 1983 SBN-868 Sept. 9, 1985	In SBN-868, NHY provided information to the NRC about the reactor trip breaker modifications. This response should close out Item 4.1 of Generic Letter 83-23.

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
4.2 <u>Reactor Trip System Reliability (Preventing Maintenance and Surveillance Program for Reactor Trip Breakers)</u>		
4.2.1 A planned program or periodic maintenance, including lubrication, housekeeping, and other items recommended by the equipment supplier.	SBN-576 Nov. 4, 1983 SBN-855 Aug. 5, 1985	In SBN-855, NHY provided additional information to the NRC about Seabrook Station's Periodic Maintenance Program for Reactor Trip Breakers. This response should close out item 4.2.1 of Generic Letter 83-28.
4.2.2 Trending of parameters affecting operation and measured during testing to forecast degradation of operability.	SBN-576 Nov. 4, 1983 SBN-855 Aug. 5, 1985	In SBN-855, NHY provided additional information to the NRC about Seabrook Station's trend information that will be used to forecast degradation of operability. This response should close out Item 4.2.2 of Generic Letter 83-28.
4.2.3 Life testing of the breakers (including the trip attachments) on an acceptable sample size.	SBN-576 Nov. 4, 1983	In SBN-576, NHY stated that the Westinghouse Owners Group has a contract with Westinghouse for cyclic life and class 1B qualification of shunt trip cyclic testing of undervoltage trip of DS breakers.
4.2.4 Periodic replacement of breakers or components consistent with demonstrated life cycles.	SBN-576 Nov. 4, 1983	Dependent on the results of the Westinghouse report, periodic replacement of breakers or components will be scheduled. These responses should close out Items 4.2.3 and 4.2.4 of Generic Letter 83-28.

<u>Position</u>	NHY <u>Response Ref.</u>	<u>Comments</u>
4.3 <u>Reactor Trip System Reliability (Automatic Actuation of Shunt Trip Attachment for Westinghouse and B&W Plants)</u>		
4.3 Westinghouse and B&W reactors shall be modified by providing automatic Reactor Trip System actuation of the breaker shunt trip attachments. The shunt trip attachment shall be considered safety related (Class 1E).	SBN-576 Nov. 4, 1983 SBN-677 June 29, 1984 SBN-747 Jan. 7, 1985 SBN-868 Sept. 9, 1985 SBN-967 Mar. 17, 1986	In SBN-868, NHY submitted information to Item 4.3 and additional information was issued in SBN-967. This response should close out Item 4.3 of Generic Letter 83-28.

<u>Position</u>	<u>NHY Response Ref.</u>	<u>Comments</u>
4.5 <u>Reactor Trip System Reliability (System Functional Testing)</u>		
4.5.1 The diverse trip features to be tested include the breaker undervoltage and shunt trip features on Westinghouse, B&W (see Action 4.3 above), and CE plants; the circuitry used for power interruption with the silicon-controlled rectifiers on B&W plants (see Action 4.4 above); and the scram pilot valve and backup scram valves (including all initiating circuitry) on CE plants.	SBN-576 Nov. 4, 1983	Testing procedures have been developed to independently check the shunt and the undervoltage trips. These procedures will be available to the NRC open request.
4.5.2 Plants not currently designed to permit periodic on-line testing shall justify not making modifications to permit such testing. Alternatives to on-line testing proposed by licensees will be considered where special circumstances exist and where the objective of high reliability can be met in another way.	SBN-576 Nov. 4, 1983 SBN-956 Mar. 4, 1986	In SBN-956, NHY provided additional information to address Item 4.5.2. This response should close out Item 4.5.2 of Generic Letter 83-28.
4.5.3 Existing intervals for on-line functional testing required by Technical Specifications shall be reviewed to determine that the intervals are consistent with achieving high Reactor Trip Systems availability when accounting for consideration such as:	SBN-576 Nov. 4, 1983 SBN-956 Mar. 4, 1986	In SBN-956, NHY stated that since Seabrook Station is an NTOL, no on-line testing history is available. A review of Generic Letter 85-09 for on-line functional testing requirements has been conducted during the review stage of the Seabrook Station Technical Specifications. Changes resulting from this review have been discussed with the staff. Any changes resulting from the WOG testing will be discussed with the staff as it becomes available.
<ol style="list-style-type: none"> 1. Uncertainties in component failure rates. 2. Uncertainty in common mode failure rates. 3. Reduced redundancy during testing. 4. Operator errors during testing. 5. Component "wear-out" caused by the testing. 		