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U. S. NUCLEAR REGULATORY COMMISSION
Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Gentlemen:

DOCKETS 50-266 AND 50-301
IN-SERVICE TESTING PUMP AND VALVE PROGRAM
THIRD 10-YEAR PROGRAM SAFETY EVALUATION REPORT
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Your letter dated April 17, 1992, transmitted a Safety Evaluation Report (SER) completed by the Office of Nuclear Reactor Regulation and an attached Technical Evaluation Report (TER) concerning our In-Service Test (IST) Program, third 10-year interval. The purpose of this letter is to address the IST Program relief requests which were denied in the SER and to comment on those issues included in the SER and its cover letter that we believe warrant an immediate reply. As required in the SER, we will respond to all items in the "Anomalies and Actions Items" section of the TER by April 17, 1993. Additionally, in the interim we expect to provide periodic updates on issues addressed in the SER and TER as they are resolved.

Section 2.0 of the SER addressed modifications associated with four systems: CVCS-charging, CVCS-boric acid transfer, ESF HVAC, and component cooling water. These systems and components were added to our IST Program in response to Generic Letter (GL) 89-04, "Guidance on Developing Acceptable In-Service Testing Programs." In a letter dated April 22, 1991, we committed to examine these four systems and evaluate the actions necessary to enable code required testing. We have evaluated the subject systems and have initiated modifications to facilitate the required testing. The SER required that these modifications be completed during the next scheduled refueling outage for each unit (fall 1992 Unit 2 outage and spring 1993 Unit 1 outage). The status of the subject modifications are as follows:

1. The CVCS charging system is fully testable in accordance with our IST Program. There is no need to modify this system. We have issued test procedures which fulfill the requirements of the IST Program.

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2. Modifications to the CVCS-boric acid transfer system have been initiated. When complete, these modifications will enable us to obtain pump vibration data, required pump pressures, and pump flow rates. Pump Relief Request PRR-11, "Boric Acid Transfer Pumps," (interim relief granted for one year) and PRR-12, "Boric Acid Transfer Pumps," (relief denied), which are addressed in TER Sections 2.5.1, 2.5.2, and 5.9, had been written to account for lack of instrumentation associated with the boric acid transfer pumps. These relief requests will not be required once the planned modifications have been completed. Additionally, Valve Relief Request VRR-26, "Boric Acid Transfer Pumps Discharge Check Valves," (open item), addressed in TER Sections 3.3.5 and 5.27, will be withdrawn when modifications have been completed, since flow rate instruments will be available to allow full stroke testing of boric acid transfer pump discharge check valves (1 and 2 CV-333 A and B).

   We are planning to complete these boric acid system modifications during the fall 1992 Unit 2 outage (currently scheduled to end on November 11, 1992) and the spring 1993 Unit 1 outage (scheduled to end on May 19, 1993), as required in the SER.

   Because Valve Relief Request VRR-26 has been designated as an "open item" in the SER, we request that you grant interim relief for VRR-26, until the subject boric acid system modifications have been completed. Additionally, in Item B below, we have requested that you grant interim relief for Pump Relief Request PRR-12 until the subject boric acid system modifications have been completed.

   We are currently pursuing a study to determine whether or not the charging pumps, without the use of the boric acid transfer pumps, can add sufficient boron to the reactor coolant system to place the reactor in a shutdown condition. The charging pumps would take suction directly from the refueling water storage tank. If we determine that the boric acid transfer pumps are not required to shutdown the plant, we may pursue elimination of the boric acid system testing from the IST program. We will notify you if the study is successful and if we wish to pursue removal of the boric acid system testing from the IST program.

3. Modifications to the ESF HVAC system have been initiated to improve the testability of components in that system. After these modifications are completed, Pump Relief Request PRR-15, "Cable Spreading Room Chilled Water Pumps and Control Room Chilled Water Pumps," (interim relief granted for one year), addressed in TER Sections 2.7.1 and 5.11, will be withdrawn, since flow rate instrumentation will be installed for chill water pumps (P-111 A and B and P-112 A and B). Additionally, VRR-31, "Chilled Water Pump's Discharge Check Valves" (relief granted), addressed in TER Sections 3.2.1 and 5.11, will be withdrawn, since the instrumentation to be installed will permit full flow testing of chill water pump discharge check valves (HV-898A, HV-900A, HV-914A, and HV-916A).

   These modifications are not specific to either PBNP Unit 1 or Unit 2 and do not need to be installed during an outage condition. The modification completion dates required in the SER, however, are unit-specific and coincide with the completion of the fall 1992 and spring 1993 refueling outages. We have determined that these modifications are best performed during the cooler months of fall and early winter when the impact of removing air conditioning from service is diminished. Consequently, we will complete the subject modifications by December 31, 1992. Because these modifications are not unit-specific, we believe that this schedule complies with the intent of the schedular requirements contained in the SER.

4. Modifications to the component cooling water system are in progress to allow all required valves to be leak tested. These modifications will be completed by the end of the fall 1992 Unit 2 refueling outage.

Relief requests included in our IST Program have been denied, or denied in part, by the SER. The SER cover letter stated that for relief requests that have been denied, testing should comply with the Code requirements or Generic Letter 89-04 guidelines within the first quarter after receipt of the SER. Each of the denied relief requests is discussed below:

A. Relief Request PRR-5, "Auxiliary Feedwater Pumps," was formally withdrawn in our letter to the NRC dated March 24, 1992.

B. Relief Request PRR-12, "Boric Acid Transfer Pumps," (TER Sections 2.5.2 and 5.9) is addressed above in Item 2. Physical modifications are required to conduct full Code-required testing of this system; consequently, full Code-required testing will not be conducted on this system within the next quarter, as required by the SER. The pumps, however, will continue to be test run on a quarterly basis until instrumentation is installed. We are requesting that you grant interim relief for relief request PRR-12 until the subject modifications are completed. As noted above in Item 2, these modifications will be completed during the fall 1992 Unit 2 outage and the spring 1993 Unit 1 outage. Pump Relief Request PRR-12 will be withdrawn during the second quarter of 1993, after completion of the subject modifications.

C. Relief Request VRR-4, "Safety Injection and Safety Injection Accumulator Check Valves," has been revised and is enclosed for NRC review (Enclosure 1). Section 4.0 of the SER requested additional justification of valve grouping for the eight valves identified in that relief request. Although the SI-00867 A and B valves are exposed to reactor coolant system (RCS) pressure (while the SI-00842 A and B valves typically are not exposed to RCS pressure), all of these valves are designed for the same service conditions. Additionally, these valves are all identical in size, installation orientation, and manufacturer's design. Other concerns raised in SER Section 4.0 regarding maintenance history and future inspection scheduling are addressed in the revised relief request.

In-service testing of these valves will be scheduled, as necessary, upon NRC approval of our revised relief request.

In SER Section 4.0 and in several other sections of the SER and TER, the NRC recommends examination of non-intrusive methods for monitoring check valve performance. We are presently examining several non-intrusive test methods for various check valve applications but have yet to identify any method that we believe is suitable to our needs.

D. Relief Request VRR-5, "Valves Tested During Cold Shutdowns," which is addressed in TER Sections 3.17.1 and 5.38, was approved by the SER for those valves which are able to be tested during any cold shutdown condition but denied for those valves "...that cannot be tested during any cold shutdown of sufficient duration to complete cold shutdown

testing." As discussed in VRR-5, for IST scheduling during short duration cold shutdowns we will utilize the criteria contained in ASME/ANSI OMa-1988, Part 10, "In-Service Testing of Valves in Light-Water Reactor Power Plants;" Section 4.2.1.2.(e), "Exercising Requirements," which states that "if exercising is not practicable during operation or cold shutdowns, it may be limited to full-stroke testing during refueling outages."

E. Relief Request VRR-23, "Containment Isolation Valves," was identified as inadequate as originally submitted for NRC review. The relief request did not specify all of the valves for which relief was sought, and the alternate method of testing was not sufficiently described. The relief request has been revised to correct these deficiencies and is enclosed for NRC review (Enclosure 2). The alternate testing method described in the revised relief request is conservative and does not allow excessive leakage through any one valve to go undetected.

In-service testing of these valves will be scheduled, as necessary, upon NRC approval of our revised relief request.

F. Relief Request VRR-28, "Auxiliary Feedwater Pump Minimum Flow Valves," sought relief from measuring the full-stroke time of auxiliary feedwater (AF) pump minimum flow valves AF-4002 (Units 1&2), AF-4007 (common), and AF-4014 (common). Please note that in TER Sections 3.1.1 and 5.24, the recommended relief denial was based on the determination that the valves can be full-stroked exercised during cold shutdown testing. Air-operated stroke time tests are currently not possible, however, because the only means to manually test these valves is with a manual handwheel, which does not permit a valid time stroke test. Additionally, the fail-safe test for these valves is not performed in a traditional sense. The fail-safe test is performed during AF pump operation in which the valves are observed to return to the shut position after opening during pump start. Under ordinary conditions with the AF pumps in standby, the normal position for these valves is the same as their fail-safe position, which is shut. Consequently, a traditional fail-safe test is not required. The IST Program will be revised to reflect this fact by December 11, 1992.

A modification request has been initiated to change the configuration of the system to allow for a manual stroke of the valves using air. When this is completed, procedures

will be implemented which require stroke time testing of the valves at the frequency required by ASME, Section XI. At that time, VRR-28 will be withdrawn. This modification is currently scheduled for completion during the fall 1992 Unit 2 outage and the spring 1993 Unit 1 outage. This schedule complies with the schedule established in the SER for other modifications.

TER Section 5.25 states that the IST Program should be revised to address the AF minimum flow valves safety function in the open direction. Since the AF pumps are capable of delivering feedwater at any steam generator pressure, the minimum flow valves are not required to open to protect the AF pumps under any anticipated accident conditions. The valves will, nevertheless, be stroke time tested in the open direction, as well as in the shut direction, once the modification to permit stroke time testing is completed.

Modifications are required to conduct Code-required testing of these valves. Consequently, this testing will not be implemented until these modifications are complete. We are requesting that you grant interim relief for relief request VRR-28 until the subject modifications are completed. VRR-28 will be withdrawn during the second quarter of 1993 after completion of the subject modifications.

G. Relief Request VRR-34, "Post-Accident Containment Vent Isolation Valves," which sought an extension of the test frequency of post-accident containment vent manual valves, is formally withdrawn. Post-accident containment manual vent valves will be stroke tested during each cold shutdown. The justification for this frequency is contained in Cold Shutdown Justification (CSJ) 33 (Enclosure 3).

H. Because we have completed modifications to the residual heat removal (RHR), containment spray (CS), and safety injection (SI) systems, we are now able to formally withdraw several relief requests. We are withdrawing the following relief requests:

a. PRR-3, "Safety Injection Pumps"

b. PRR-4, "Residual Heat Removal Pumps"

c. PRR-6, "Containment Spray Pumps"

d. VRR-6, "RWST to RHR Pumps Suction Check Valves"

e. VRR-7, "Safety Injection Pump's Discharge Check Valves"

f. VRR-8, "Refueling Water Storage Tank to Containment Spray Pumps Suction Check Valves"

g. VRR-9, "Containment Spray Nozzles' Supply Check Valves"

The SER cover letter also requested that we submit a description of the process used in developing our IST Program. This description is enclosed (Enclosure 4).

If there are any questions regarding this matter, please do not hesitate to contact us.

Sincerely,

Bob Link
Vice President
Nuclear Power

Enclosures

Copies to NRC Regional Administrator, Region III
NRC Resident Inspector
Adele DiBiasio, Brookhaven National Laboratory

RELIEF REQUEST NO. VRR-4

SYSTEM: Safety Injection (110E017, Sh 1/110E035, Sh 1)

COMPONENTS: SI-00842 A&B (Units 1&2)
SI-00867 A&B (Units 1&2)

CATEGORY: A/C

FUNCTION:

These valves open with differential pressure to provide flow paths from the safety injection (SI) pumps and SI accumulators to the reactor coolant system (RCS) cold legs during an accident. They are normally closed. In the closed position, they serve as RCS pressure isolation valves.

SECTION XI REQUIREMENT:

Check valves shall be exercised at least once every three months, except as provided by IWV-3522. (IWV-3521)

BASIS FOR RELIEF:

During normal operation, neither SI pump discharge pressure of 1500 psi nor SI accumulator pressure of 760 psig is sufficient to overcome RCS pressure. Full or partial stroke testing is, therefore, not possible.

During cold shutdown, partial or full stroke testing via the use of SI pumps or SI accumulators is not permitted so as to prevent the possibility of a low-temperature over-pressurization event.

A full stroke test to the RCS could be possible during refueling when the reactor vessel head is removed, but the volume and flow rate required for the test could result in damage to the core internals. There is also the potential of forcing a nitrogen bubble into the RCS piping and refueling cavity resulting in possible safety implications, which makes this testing concept inadvisable.

ALTERNATE TESTING:

The following alternate testing will be performed:

1. At a minimum for these valves, partial open and shut stroke tests will be done at each refueling outage. In addition, partial open and shut stroke tests will be conducted at each cold shutdown which requires an Event V test. (See Technical Specification 15.3.16.)

2. Seat leakage tests of SI-00867 A and B will be performed in accordance with Point Beach Technical Specification 15.3.16, "Reactor Coolant System Pressure Isolation Valve Leakage Tests."

RELIEF REQUEST NO. VRR-4
(Continued)

3. Seat leakage tests of SI-00842 A&B will be performed quarterly coincident with SI pump tests. A seat leakage rate of five gpm or less will be considered acceptable.

4. Valves SI-00842A and SI-00867A will each be disassembled, inspected, and manually stroked once every six years, rotating the sequence of valves being inspected such that a different one is completed each time until all have been inspected and the sequence repeats. Should a failure be detected, the other valve for that unit shall be disassembled and proper operation verified prior to completion of that outage. The opposite unit's two valves will be disassembled and inspected during that unit's next scheduled refueling outage.

5. Valves SI-00842B and SI-00867B require a complete core offload in order to disassemble and inspect. One valve of the four will be disassembled, inspected, and manually stroked each outage in which a complete core offload is scheduled. Typically this will be done concurrently with reactor vessel inspections. The disassembly schedule will be arranged such that a different valve is disassembled, inspected, and manually stroked during each core offload and all valves are completed at least once every 120 months. Should a failure be detected, the other valve for that unit will be disassembled and proper operation verified prior to the completion of the outage.

6. In the inspections which result from the detection of a failure, should an additional failure be detected, all remaining six valves will be disassembled, inspected, and manually stroked. Valves associated with the unit in outage will be completed prior to the return of that unit to service, even if it requires an unscheduled core offload to be performed. Valves associated with the opposite unit will be completed during the next scheduled refueling outage, even if a complete core offload was not previously planned.

BASIS FOR EXTENDED INSPECTION INTERVAL:

The NRC, in Generic Letter (GL) 89-04, Position 2, requested information to support extension of valve disassembly and inspection intervals of greater than once every six years. Within the last three years, each valve of the eight identified in this request has been disassembled, inspected, and manually stroked per the criteria in GL 89-04, Position 2. This maintenance was performed in conjunction with retaining block stud replacement done in response to NRC Information Notice 88-05. To date, no degradation of valve operability or performance has been noted in any disassembly and inspection

RELIEF REQUEST NO. VRR-4
(Continued)

performed on these valves. The following table lists each specific valve, the individual maintenance work request (MWR) under which the inspection was performed, and the completion date:

UNIT 1

SI-00842A	MWR 872759	April 14, 1988
	MWR 890172	April 11, 1990
SI-00842B	MWR 890174	April 21, 1990
SI-00867A	MWR 872755	April 15, 1988
	MWR 890175	April 24, 1990
SI-00867B	MWR 890178	April 21, 1990

UNIT 2

SI-00842A	MWR 872760	October 18, 1987
	MWR 890173	October 05, 1989
SI-00842B	MWR 890175	November 04, 1989
SI-00867A	MWR 872753	October 20, 1987
	MWR 890177	October 05, 1989
SI-00867B	MWR 890179	November 03, 1989

The request to provide the basis for an extended inspection interval only applies to SI-00842B and SI-00867B, as these are the only valves which will go beyond the six-year period specified in GL 89-04, Position 2. The maintenance history of all eight valves is provided for completeness to show the trouble-free history of the valves in general.

Additional justification for the extended inspection interval may be found in the NRC Safety Evaluation Report (SER) of the In-Service Test Program at Point Beach dated April 17, 1992. The Technical Evaluation Report (TER), section 3.14.3.4, attached to the SER states, "...it would be an extreme hardship to require the licensee to comply with the six-year inspection interval for the two valves which require the reactor to be de-fueled and drained in order to be tested (SI-00842B)."

The drawings referenced by this request will show that the conditions which must exist to permit the disassembly of SI-00842B must also exist to permit the disassembly of SI-00867B. Thus, the extended period for inspection should apply to both (four valves total, two per unit).

STATUS:

Relief granted with provisions per NRC SER of 4/17/92. Request revised as this submittal for NRC review 7/92.

RELIEF REQUEST NO. 7RR-23

SYSTEM: Primary Containment

COMPONENTS: Containment Isolation Valves per Table VRR-23-1

CATEGORY: A or A/C

FUNCTION: These valves are closed to provide containment isolation.

SECTION XI REQUIREMENT:

Category A valves shall be leak tested, except that valves which function in the course of plant operation in a manner that demonstrates functionally adequate seat tightness need not be tested. In such cases, the valve record shall provide the basis for the conclusion that operational observations constitute satisfactory demonstration. Valve seat leakage shall be determined per IWV-3424 and analyzed per IWV-3426. (IWV-3421, IWV-3424, IWV-3426, and NRC GL 89-04, Position 10)

BASIS FOR RELIEF:

Due to the configuration of system piping and components, in many cases individual leakage rate tests are impractical or impossible. In these cases, it is customary to perform tests of valves in parallel. This concept of testing and evaluation is consistent with the intent of 10 CFR 50, Appendix J, and Section XI, IWV-3424(b), which permits leakage testing by measurement of feed rate required to maintain pressure between two valves. This method of testing is valid as long as the leakage measured is charged entirely to each valve being tested.

In practice, the leakage rate limit assigned to a set of valves tested in parallel is never greater than the leakage rate limit which would be assigned to the most limiting valve in the set if it were to be tested alone. Hence, the practice of leakage rate testing valves in parallel is at least as conservative as the leakage rate testing required per Section XI. Additionally, when leakage rates exceed the limit specified for a set of valves, testing will be done to determine individual valve leakage rates wherever possible to facilitate corrective maintenance efforts.

This method of testing valves in parallel saves time, manpower resources, and radiation exposure and is a safe and viable alternative to leakage rate testing each valve individually.

ALTERNATE TESTING:

In those cases where testing individual valves is impractical or impossible, valves will be leak rate tested simultaneously in multiple valve arrangements. A maximum permissible leakage rate

RELIEF REQUEST NO. VRR-23
(Continued)

will be applied to each combination of valves; and, in no case, will this limit exceed the limit which would be applied to the most limiting valve in the set if it were to be tested individually. If the limit for a set of valves tested in parallel should be exceeded, the test lineup will be modified wherever possible to determine individual valve leakage rates.

STATUS:

This relief request was originally submitted with the IST Program, Revision 1, dated May 28, 1991. NRC SER dated April 17, 1992, approved only part of this request. Request revised as this submittal for NRC review 7/92.

TABLE VRR-23-1

SYSTEM	VALVES	
Auxiliary Steam	HV-632 (Unit 1)	HV-633 (Unit 1)
	HV-808 (Unit 1)	HV-809 (Unit 1)
	HV-818 (Unit 1)	HV-263 (Unit 2)
	HV-286 (Unit 2)	HV-287 (Unit 2)
	HV-636 (Unit 2)	HV-637 (Unit 2)
Chemical & Volume Control	CV-323B (Units 1&2)	
	CV-384B (Units 1&2)	
Component Cooling Water	CC-755 A&B (Units 1&2)	
	CC-759 A&B (Units 1&2)	
Containment Spray	SI-862 A&B&G&H (Units 1&2)	
	SI-864 A&B (Units 1&2)	
	SI-868 A&B (Units 1&2)	
Heating & Ventilation	VNPSE-3212 (Units 1&2)	
	VNPSE-3213 (Units 1&2)	
	VNPSE-3244 (Units 1&2)	
	VNPSE-3245 (Units 1&2)	
Instrument Air	IA-1182 (Unit 1)	IA-1184 (Unit 1)
	IA-1314 (Unit 2)	IA-1316 (Unit 2)
Post-Accident Containment Vent/Monitoring	H2-V-04 (Units 1&2)	H2-V-05 (Units 1&2)
	H2-V-06 (Units 1&2)	H2-V-07 (Units 1&2)
	H2-V-12 (Units 1&2)	H2-V-13 (Units 1&2)
	H2-V-19 (Units 1&2)	H2-V-20 (Units 1&2)
	H2-V-22 (Units 1&2)	H2-V-23 (Units 1&2)
Waste Disposal	SF-816 (Units 1&2)	WL-1698 (Units 1&2)
	WL-1723 (Units 1&2)	WL-1728 (Units 1&2)
	WL-1003 A&B (Units 1&2)	

COLD SHUTDOWN JUSTIFICATION CSJ-33

Post-Accident Containment Vent Manual Valves

H2-V-04 (Units 1&2)	H2-V-05 (Units 1&2)
H2-V-12 (Units 1&2)	H2-V-13 (Units 1&2)
H2-V-19 (Units 1&2)	H2-V-20 (Units 1&2)
H2-V-22 (Units 1&2)	H2-V-23 (Units 1&2)

Exercising these valves to the OPEN position at any time other than cold shutdown constitutes a violation of reactor containment integrity as discussed in Technical Specification 15.3.6 A (a).

DEVELOPMENT OF THE IN-SERVICE TEST PROGRAM AT POINT BEACH NUCLEAR PLANT

The third interval pump and valve IST Program for Point Beach Nuclear Plant was developed using the services of a contractor familiar with this type of work in conjunction with plant personnel.

The contractor was Technical Services for Energy. Technical Services for Energy has extensive experience in the IST field and has prepared in-service inspection and testing programs for several nuclear plants.

The general code requirements were applied to Point Beach Plant using a systematic approach by first reviewing the function of each of the plant systems as it relates to a limited number of bounding accident scenarios. One major deviation with the general code requirements was made because the Point Beach Plants are licensed for safe shutdown and not expressly cold shutdown; the requirement to support achievement of cold shutdown without a LOCA was not addressed. The review eliminated systems (and associated components) that did not fit the basic code definitions including that of IST boundary classification.

Next, a series of rules or guidelines was developed that established the criteria to be used during the review of the remaining systems and components. These rules established policies and assumptions to assure consistency during reviews. The guidelines are outlined in Attachment 1. From this point, in a series of steps, each of the individual components in each of the remaining significant safety systems (and supporting systems) was evaluated with respect to the function of each component and the need for its operability as it relates to the scope of Section XI. These steps included:

1. A review of flow diagrams of each system and identification of any components (pumps or valves) that "could" potentially be included in the program scope. Based on the reviewer's experience, valves used for maintenance isolation, vents, drains, etc., were excluded. Typically, all pumps, power-operated valves, check valves, and safety valves remained in the population designated for further evaluation.

2. Each system was broken down by component. Based on general system operational requirements, a narrative description of each system's components' safety function(s) during proposed scenarios was drafted.

3. Sequentially, plant documents that refer to or discuss safe -related component or system functions were reviewed in detail. Information from these documents was compared to the drafts developed in the paragraph above. Where

DEVELOPMENT OF THE IN-SERVICE TEST PROGRAM AT POINT BEACH NUCLEAR PLANT (Continued)

appropriate, corrections and references were applied to the individual narratives. Documents reviewed included the following:

a. Updated Final Safety Analysis Report

b. Technical Specifications

c. Plant System Description (Training) Documents

d. Special Analyses (i.e., HELB, etc.)

e. Commitment Correspondence, including GL 89-04 and response support documents

f. Plant Operating Procedures

g. Emergency Operating Procedures

h. Appendix J Leakrate Test Program

4. Based on the finalized component safety function evaluation derived from the document review and the corrected narratives, the program testing requirements were then established by applying the rules [Attachment 1 guidelines] to each case.

5. The functional descriptions of the system components were subjected to a comprehensive review by knowledgeable plant personnel to confirm the accuracy of the document.

   The product of the process was the IST Program document itself. The IST Program document is a collection of appendices containing valve and pump listings with test requirements, relief requests, and cold shutdown justifications. A second document which was prepared is a background document. This document is a collection of system-based appendices. Each appendix contains the components that were considered during the evaluation. For each component, there is a narrative summary of function and test requirements.

GUIDELINES FOR IST PROGRAM DEVELOPMENT

ASME Section IX requires testing of those pumps and valves that perform a specific function in shutting down the reactor, including cooldown to cold shutdown, or in mitigating the consequences of an accident. In this regard, the following guidelines are set forth for evaluation of system components (pumps and valves) with respect to their inclusion in the Point Beach IST Program and to what extent testing will be performed.

1. Where multiple components are capable of performing the same equivalent and redundant specified function (e.g., multiple valves closing in series) and where the components are not supplied by alternate and redundant power supplies, only one need be included in the program. The component must be relied upon to perform and not simply have the capability of performance. This exemption only applies where licensing documents do not take credit for the designed redundancy. Components performing redundant functions shall be included in the testing program if, in the process of analysis or licensing justification, they are relied upon to be operable.

2. The Point Beach FSAR and related design basis documents shall be the primary references for determining which components are required to perform specified functions related to the spectrum of predicated accidents. Although several other plant source documents (Tech Specs, EOPs) identify various components that may be important to plant safety or that are to be operated in conjunction with recovery from an accident, unless specific credit is taken in the plant safety analysis (or is implied in the analysis) for a pump or valve, the component need not be included in the IST Program. An exception to this are those cases where the NRC imposes test requirements at their discretion.

3. Valves installed primarily for the purpose of providing convenient operational flexibility (e.g., system cross-connects) but which would not be required to operate assuming that the designated first-line systems and components operate satisfactorily need not be included in the program. This does not exclude active valves that could be called upon as a result of optional system lineups existing prior to the initiation of an accident.

4. Valves that are actuated as a result of a safety system automatic response shall be included in the program to the extent that the testing shall verify valve operation required as a result of the safety system input. This applies only if valve movement is required to support those functions required as specified by the code. This requirement extends only to testing defined by the code and is not intended to imply the need for verifying a valve's response to automatic logic system output.

GUIDELINES FOR IST PROGRAM DEVELOPMENT
(Continued)

5. Valves whose sole function is to provide system or component redundancy related to failure of passive components need not be included if a set of all of the active components (pumps and valves) needed to fulfill the specified system (train) function are tested - double or unrelated simultaneous failures need not be assumed. In some cases where protection of critical systems from passive failures is a commitment, then components providing the redundancy or isolation of failed components are included in the testing program.

6. System safety/relief valves shall be included except where the function of the valve is solely to provide overpressure protection of an isolated component due to thermal expansion of the internally contained fluid or a valve is installed only as response to construction code requirements. In the case of safety/relief valves installed on process lines that penetrate primary containment and could be isolated during an accident, if an overpressure condition could be created within the piping at the penetration such that the structural integrity of the containment could be jeopardized, then the valve should be setpoint tested.

7. All valves included in the Point Beach leakrate testing program complying with 10 CFR 50, Appendix J shall be included in the program as Category A valves.

8. Any active Category A valve shall be designated for testing (exercising) to the closed direction.

9. When a valve's normal position during operation is its position required to perform its designated safety function and valve movement may be required due to plant evolutions or possible repositioning during accident response or recovery operations, then periodic exercising per the code is required (i.e., the valve cannot be considered passive).

10. Where an air-operated valve is provided with a simple air-pilot valve, the pilot valve need not be specifically included in the program provided that the testing performed on the main valve verifies the proper operation of the pilot valve.

11. Control valves are specifically excluded from testing per IWV-1200(a); however, if a control valve must change position to support a safety-related function and it has a fail-safe position, then it must be included in the program and tested to the extent practical. Steam turbine governor valves are considered to be an integral part of the turbine and, as such, are not included in the IST Program.

GUIDELINES FOR IST PROGRAM DEVELOPMENT
(Continued)

12. Check valves are included where a valve serves as the only effective boundary between piping associated with a necessary safety function and non-safety grade (non-seismic) piping. Failure of passive system components is assumed only for non-safety grade systems.

13. Where a valve performs a safety function in both directions (open and closed) exercising in both directions is required as described in Reference 1. For these power-operated valves, stroke time measurements in both directions would be required.

14. Pumps and valves whose only safety function is predicated on plant shutdown and recovery from a fire per commitments made as a result of 10 CFR 50, Appendix R are not included in the IST Program.

15. Pumps and valves that are not categorized as ISI Class 1, 2, or 3 need not be included in the IST program.

16. Check valves that have a safety function to close should be evaluated with respect to categorization as Category A/C versus C with respect to the following issues:

    a. Whether the flow requirements for connected systems can be achieved with the maximum possible leakage through the check valve.

    b. The effect of any reduced system flows resulting from the leakage on the performance of other systems and components.

    c. The consequences of loss of fluid from the system.

    d. The effect that backflow through a valve may have on piping and components, such as the effect of high temperature and thermal stresses.

    e. The radiological exposure to plant personnel and the public caused by the leak.

17. The issues raised in Paragraph 16, above, are applied to <u>all</u> boundary valves included in the diesel fuel oil system and selected valves in other critical systems.