PSNH

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United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. Vincent S. Noonan, Project Director
PWR Project Directorate #5

Reference: (a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444

(b) Letter from J. DeVincentis (New Hampshire Yankee) to G. W. Knighton (NRC) dated May 29, 1985, "Seabrook Station Technical Specification Improvement Program"

(c) Letter from G. S. Thomas (New Hampshire Yankee) to G. W. Knighton (NRC) dated July 26, 1985, "Technical Specifications for Seabrook Station"

(d) Letter from G. S. Thomas (New Hampshire Yankee) to G. W. Knighton (NRC) dated August 23, 1985, "Supporting Analyses for Seabrook Station Technical Specifications"

Subject: Table of Risk-based Changes Included in the Proposed Seabrook Station Technical Specifications

Dear Sir:

In our submittals of July 26, 1985 and August 23, 1985, New Hampshire Yankee transmitted the proposed Seabrook Station draft Technical Specifications and supporting justifications for changes. At a meeting on November 14, 1985, your staff requested a table listing the technical specification changes that have been proposed using a risk-based evaluation to support the justification. That table, along with additional justifications and explanations, is enclosed with this letter.

Boo1 1/1 Add: AD - J. Knight (ltr only)
EB (BALLARD)
EICSB (ROSA)
PSB (GAMMILL)
RSB (BERLINGER)
FOB (BENAROYA)

We are available to promptly respond to further requests you may have in this regard. Please address questions regarding the risk analyses supporting technical specification changes to Kenneth L. Kiper at (603) 474-9574, extension 4049.

Very truly yours,

George S. Thomas

George S. Thomas

GST/cjb

Enclosures

cc: ASLB Service List

Enclosure

Proposed Technical Specification Changes
Using Risk Evaluation

The attached table lists the proposed changes to the Seabrook Technical Specifications which use a risk-based evaluation to support their justification. A comparison is made in the table among the following three versions of the technical specifications:

(1) the Westinghouse Standard Technical Specifications (STS), Revision 4, which was the basis for the Technical Specifications assumed in the systems analyses for the Seabrook Station Probabilistic Safety Assessment (SSPSA),

(2) the proposed Seabrook Station draft Technical Specifications, submitted by NHY to NRC July 26, 1985, and

(3) the NRC's First Draft Technical Specification for Seabrook Station Unit 1, transmitted by NRC letter dated November 1, 1985.

The underlying basis for the approach to the risk-based justification is provided in the report entitled "Risk-based Evaluation of Technical Specifications for Seabrook Station" (PLG-0431) prepared by Pickard, Lowe and Garrick, Inc., August 1985 and submitted to the NRC by letter dated August 23, 1985. The primary objective of the report was to identify those systems at Seabrook Station that are important to risk ("high risk importance") and those systems that are less important to risk ("low risk importance"). For the high risk important systems, detailed analyses were performed to quantify the risk sensitivities associated with variations in the technical specifications and where possible to optimize the specifications with respect to risk. For the systems determined to be low risk importance systems, small changes from the Standard were proposed which will have a small effect on system reliability and a negligible effect on risk. Thus, the determination of system importance was a method for optimizing the analysis effort by indicating where detailed evaluation would be most effective. Note that the identification of high risk important systems does not imply or suggest that the remaining plant systems are not important, but simply prioritizes the technical specifications with respect to risk impact. The technical specifications associated with the remaining systems were evaluated using qualitative engineering perspectives and insights from the SSPSA.

All of the risk-based changes to Technical Specifications can be found in the NHY proposed Technical Specifications, which were submitted to the NRC on July 26, 1985, with the exception of several change pages which accompanied our August 23, 1985, submittal. These exceptions are indicated in the Table.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
2.1.1	Safety Limits - Reactor Core	"...be in HOT STANDBY within 1 hour..."	Same as STS Rev. 4	2 hours	The 1 hour time limit to be in HOT STANDBY increases the likelihood of human error causing a plant trip or other less safe plant condition. The minimum time to reach HOT STANDBY when operating at full power is about 50 minutes. Extending the time to 2 hours still requires an "immediate" shutdown but allows for an orderly shutdown without having to race to meet the time limit. By avoiding a plant trip, standby safety systems such as emergency feedwater are not challenged and are not needlessly cycled
2.1.2	Safety Limits - RCS Pressure	"...be in HOT STANDBY with the RCS pressure within its limit within 1 hour..."	Same as STS Rev. 4	2 hours	Same Basis as for TS 2.1.1.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3/4.3.4	Turbine Overspeed Protection System	(See TS 3/4.3.4 attached)	Same as STS Rev. 4	Deleted	This technical specification is deleted based on the very low risk from turbine missiles (which this system is designed to prevent) and the fact that turbine wheel failure is more likely to occur at or near normal speed than at overspeed. There is also a concern that the high frequency of this testing may have an adverse impact by causing inadvertant turbine and plant trip. A detailed evaluation was developed in support of this conclusion ("Evaluation of Standard Technical Specification 3/4.3.4 - Turbine Overspeed Protection System") and submitted to NRC by letter dated August 23, 1985.
3.4.1.1	Reactor Coolant Loops and Coolant Circulation	"...be in at least HOT STANDBY within 1 hour..."	6 hours	6 hours	The 1 hour time limit to be in HOT STANDBY increases the likelihood of human error causing a plant trip or other less safe plant condition. The change from 1 hour to 6 hours was made in Standard Technical Specifications, Rev. 5, which is reflected in the NRC First Draft Tech Spec and the NHY Proposed Tech Spec.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.5.1.1a	Accumulators	"With one accumulator inoperable, except as a result of a closed isolation valve, restore the inoperable accumulator to OPERABLE status within 1 hour..."	Same as STS Rev. 4	8 hours	(1) The accumulators are needed in accident analysis only for large LOCA, which is a relatively unimportant risk contributor. The core melt frequency total from large LOCA type initiating events [ELOCA (excessive LOCA), LLOCA, E.7L (0.7g seismic large LOCA), E1.0L, TMLL (turbine missiles causing large LOCA), APC (aircraft crash into containment causing LLOCA)] is about 3.0 E-6 per year or about 1% of the core melt frequency. (2) The accumulators provide additional time but do not serve a critical function in preventing core melt from a large LOCA. They serve only to limit peak clad temperature and DNB potential for hypothetical "double-ended" pipe break. Increasing the allowed outage time from 1 hour to 8 hours better reflects the relative importance of the accumulators and the priority for restoration. (3) The benefit of going from 1 hour to 8 hours is that most repairs to the accumulator could be performed before requiring a shutdown. If a failure requires containment entry, the entry and diagnosis would likely require more than 1 hour. Also, the extended time would allow for more deliberate and better planned diagnosis and repair and would decrease the likelihood of mechanic error due to time stress.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	WHY PROPOSED TECH SPEC	BASIS FOR CHANGE
4.5.1.1a	Accumulators	"Each accumulator shall be demonstrated OPERABLE: a. at least once per 12 hours..."	Same as STS Rev. 4	24 hours	The change from 12 hours to 24 hours for accumulator surveillance better reflects the relative importance of accumulators. Accumulator water volume and nitrogen pressure are alarmed in the control room for immediate operator response. The likelihood of the accumulator isolation valve inadvertently closing in 24 hours is very small (transfer closed: 9.27 E-8/hr. x 24 hr. = 2.2 E-6.) The 12 hour surveillance interval occupies operator time and attention unnecessarily.
3.5.5	RWST	"With the RWST inoperable, restore the tank to OPERABLE status within 1 hour or..."	Same as STS Rev. 4	"With the RWST inoperable: a. with a contained borated water volume greater than 431,000 gallons but less than 479,000 gallons, or a boron concentration greater than 1800 ppm but less than 2000 ppm, restore the tank to OPERABLE status within 6 hours or..."	The RWST is an important component but does not show up in the risk dominant sequences because of its low failure frequency and the relative insensitivity of this frequency to the proposed tech spec change. The most likely way for the RWST to be declared inoperable is to be slightly "out of spec" for volume or boron concentration. The proposed change would allow up to 6 hours to restore volume or boron concentration if they were out of spec by 10% or less. This 10% deviation would have minimal effect on the ability of the RWST to function in realistic accident considerations. The period of 6 hours would allow time for reverification of level or concentration, if necessary, and restoration without requiring a plant shutdown.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.5.5 (continued)				"b. With a contained borated water volume less than 431,000 gallons, c⁻ boron concen- tr..cion less than 1800 ppm, or water temperature less than 35°F, restore the tank to OPER- ABLE status within 1 hour or..."	The logic of requiring a 1 hour shutdown for a greater than 10% deviation is that there is less assurance that the RWST can perform its function. Also, such a large deviation in the short period of time between surveillances indicates that there may be some important malfunctions.
3.5.2	ECCS Subsystems	"...restore the inoperable subsystem to OPERABLE status within <u>72 hours</u>..."	Same as STS Rev. 4	<u>7 days</u>	(1) ECCS subsystems are classified as "low risk importance" systems relative to "high risk importance" systems such as electric power and service water. Out of 222 risk dominant sequences listed in the report PLG-0431 (Table 5-5), only 20 sequences involve independent failure of ECCS sub- systems. These sequences are in plant damage states 2A, 4A, and 8A which end in accident sequence group III (see Table 2-5) with containment intact and resulting in no health effects. The reason that independent failures of ECCS susbsystems do not become dominant sequences to risk is that the sequences also require

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.5.2 (continued)					independent failure of containment spray cooling or containment isolation, both reliable systems. Sequences which dominate health risk are those that fail both core cooling and containment cooling dependently, i.e., support systems (electric power, component cooling, service water). Thus, changes to ECCS subsystem unavailability due to changes in allowed outage times have a neglibible effect on public risk. (2) In addition, the maintenance terms for ECCS subsystems, in which the allowed outage times are modeled, do not dominate the unavailability for any top events (see SSPSA Appendix D.8, Tables D.8-8 to D.8-11). Thus a change in allowed outage time from 72 hours to 7 days does not significantly affect system availability and has negligible effect on public risk. (3) The change from 72 hours to 7 days allows ample time for careful diagnosis and most repairs of ECCS equipment without having to shutdown the plant.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
4.5.2a	ECCS Subsystems	"Each ECCS subsystem shall be demonstrated OPERABLE: a. at least once per 12 hours by verifying that the following valves are in the indicated positions..."	Same as STS Rev. 4	24 hours	(1) See Basis (1) for TS 3.5.2 above. (2) The change from 12 hours to 24 hours for ECCS subsystem surveillance reflects the relative importance of ECCS discussed above. The likelihood of valves transferring to the failed position in a 24 hour period is very low (9.27 E-8/hr. x 24 hr. = 2.2 E-6) compared to failure to operate on demand (4.3 E-3). The 12 hour surveillance interval occupies operator time and attention unnecessarily.
3.6.2.1	Containment Building Spray	"...restore the inoperable spray system to OPERABLE status within 72 hours..."	Same as STS Rev. 4	7 days	(1) The containment building spray (CBS) system is classified as a "low risk importance system. Out of the 222 risk dominant sequences listed in the report PLG-0431 (Table 5-5) no sequences involve independent failure of CBS. This is due to the relatively low unavailability of this system and the nature of the dominant sequences - dependent failures which fail both core cooling and containment cooling. Thus changes to CBS unavailability due to changes in allowed outage time have a negligible effect on public risk.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.6.2.1 (Continued)					(2) In addition, the maintenance terms for CBS, in which the allowed outage times are modeled, do not dominate the unavailability for any top events (see SSPSA Appendix D.12, Tables D.12-8). Thus a change in allowed outage time from 72 hours to 7 days does not drastically affect system availability and has neglibible effect on public risk. (3) The change from 72 hours to 7 days allows ample time for careful diagnosis and most repairs of CBS equipment without having to shut down the plant.
3.6.2.2	Spray Additive System	"...restore the system to OPERABLE status within 72 hours..."	Same as STS Rev. 4	31 days	(1) The spray additive system (SAS) feeds into the containment building spray system so the Basis (1) from TS 3.6.2.1 also applies to the SAS.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.6.2.2 (continued)					(2) In addition, the importance of the sodium hydroxide additive to CBS has been shown to be low in removing elemental iodine from the containment atmosphere. Water alone (CBS) has been shown to be very effective at removing iodine and the sodium hydroxide additive is of small additional value. (See SSPSA Appendix D.12, page D.12-5.) (3) Also, the SAS is dependent on the containment spray system such that, the only time that SAS might be of even limited value (i.e., when the containment has failed), containment spray system has failed causing the containment overpressure failure. (4) Thus, extending the allowed outage time from 72 hours to 31 days would have negligible effect on public safety and would also reflect the relative importance of this system and help determine priorities for repairs.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
4.6.2.2a	Spray Additive System	"The spray additive system shall be demonstrated OPERABLE: a. at least once per 31 days..."	Same at STS Rev. 4	6 months	The importance of the SAS is discussed in Basis (1) and (2) for TS 3.6.2.2. Thus, changing surveillance times for valves in the SAS is consistent with the above discussion of system risk importance. Also, the likelihood of valves transferring out of their correct positions in a 6 month period is relatively low - when compared to the failure to operate on demand: ($\frac{8760 \text{ hours}}{2}$ x 9.27 E-8/hour = 4.1 E-4 for standby vs. 4.3 E-3 for demand failure).
4.6.4.1	Hydrogen Monitors	"Each hydrogen monitor shall be demonstrated OPERABLE by the performance of a CHANNEL CHECK at least once per 12 hours..."	Same at STS Rev. 4	7 days	The allowed outage time for hydrogen monitors is 30 days in all three versions of the Tech Specs. This is due to the relative unimportance of hydrogen monitors as understood in the STS Rev. 4 as well as NRC First Draft Tech Specs. The surveillance time for a channel check of 12 hours seems to be inconsistent with the allowed outage time of 30 days. The change to 7 days better reflects the importance of hydrogen monitors. Also, surveillance at this frequency does not occupy the operators' time and attention unnecessarily.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
4.6.4.1 (Continued)					In addition, the containment analysis done for the SSPSA evaluated the effect of hydrogen burns on containment failure (see SSPSA § 11.7.1.3). The result of this analysis was that the probability of containment failure given a hydrogen burn was very low (< 1.0 E-4) due to the strength of the primary containment to withstand overpressurization. Hydrogen monitors are useful only as an indicator of when to operate the hydrogen recombiners. However, the hydrogen recombiners are not able to cope with the quantities of hydrogen present in a core melt accident. Thus, the presence or absence of hydrogen monitors and recombiners would have no affect on the risk to containment failure from hydrogen burns.
4.6.4.2a	Hydrogen Recombiners	"Each hydrogen recombiner system shall be demonstrated OPERABLE: a. at least once per <u>6 months</u>..."	Same as STS Rev. 4	<u>18 months</u>	The importance of hydrogen recombiners is similar to hydrogen monitors which are discussed in the Basis for TS 4.6.4.1. The change in functional test frequency from 6 months to 18 months reduces unnecessary cycling of the recombiner equipment.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.6.5.2	Containment Enclosure Building Integrity	"...restore CONTAINMENT ENCLOSURE BUILDING INTEGRITY within 24 hours..."	Same as STS Rev. 4	7 days	The containment enclosure building structural strength was analyzed along with the primary containment. The analysis (see SSPSA § 11.3.5) concluded that in the event of a core melt-containment overpressurization event, the secondary enclosure would fail before the primary containment fails due to wall cracking from the primary containment expansion. In addition, the enclosure building pressure capacity is low (between 1 and 10 psid for different failure modes) so that, if the enclosure was intact when the primary failed, it would fail almost immediately. The only time the secondary enclosure was credited for reducing the off-site release was for sequences ending in containment intact, which have negligible consequences and do not contribute to public risk. The only other function for which the enclosure building is credited is in the event of aircraft crash into containment when the enclosure building serves to protect the primary containment. Thus increasing the allowed outage time for building integrity from 24 hours to 7 days better reflects the relative risk importance of the enclosure building.
3.6.5.3	Containment Enclosure Building Structural Integrity	"...restore the structural integrity within the limits within 24 hours..."	Same as STS Rev. 4	7 days	The change from 24 hours to 7 days for containment enclosure building structural integrity has the same Basis as TS 3.6.5.2 above.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.7.1.2	Emergency Feedwater System	"...immediately initiate corrective action to restore at least one emergency feedwater pump to OPERABLE status as soon as possible..."	Same as STS Rev. 4	within 1 hour*	The action to restore a pump "as soon as possible" or proceed to shutdown is required in the event of loss of all emergency feedwater pumps. Plant shutdown is the most likely plant mode in which emergency feedwater will be demanded. Thus, immediately changing plant modes with no emergency feedwater pumps available is not the most appropriate action. By replacing "as soon as possible" with "within 1 hour", the operator is not faced with an uncertain time limit. Also, it is likely that the operators will be able to restore at least one pump within 1 hour. If none of the pumps can be repaired within 1 hour, their failures are more serious and careful shutdown for repair is appropriate.

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* Note - this change was added to the proposed Seabrook Station draft Technical Specifications in the August 23, 1985, letter to the NRC.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.7.5	Ultimate Heat Sink	With the ultimate heat sink not OPERABLE (minimum level and maximum temperature), "be in at least HOT STANDBY within 6 hours..."	The ultimate heat sink operability includes: a. a service water pumphouse (minimum level), b. a mechanical draft cooling tower (minimum volume and maximum temperature), and c. a portable tower makeup pump system. The action statement states: a. "...restore the service water pumphouse to OPERABLE status within 72 hours..." b. "...restore the cooling tower to OPERABLE status within 72 hours..." and c. "...with the portable tower makeup pump system inoperable, notify the NRC within 1 hour..."	The ultimate heat sink operability includes: a. a service water pumphouse (minimum level), and b. a cooling tower pumphouse (minimum volume and maximum temperature). The action statement states: a. "...restore the service water pumphouse to OPERABLE status within 72 hours..." b. "...restore the cooling tower to OPERABLE status within 7 days..."	The cooling tower is used as a backup to the pumphouse for heat treating the tunnels and other pumphouse maintenance. It also serves as the seismically qualified heat sink in the licensing analysis. However, the seismic analysis done in connection with the SSPSA (§ 9.2) concluded that the tunnels would actually survive a much larger seismic event than would the cooling tower (median acceleration capacity: 4.6g for the tunnel and transition structure and 2.4g for the cooling tower). Also, the pumphouse provides suction for 4 pumps while the cooling tower provides suction for 2 pumps. Thus, the pumphouse and tunnels are much more risk significant than the cooling tower. Because of this, the ultimate heat sink was modeled in the SSPSA as the pumphouse with the cooling tower modeled only in recovery. The relative importance of the pumphouse and cooling tower is reflected in the proposed Tech Spec of 72 hours and 7 days, respectively. This is discussed further in the report PLG-0431, § 4.3.5. The portable tower makeup pump system is not included in the operability statement due to the length of time available (7 days) to restore the system, if necessary. To include such a long-term support system would tend to clutter the Tech Specs and make them less useful to the operators.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.8.1.1	Electric Power Systems - AC Sources: Action a. and b.	"...restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours..."	Same as STS Rev. 4	"...restore at least two offsite circuits to OPERABLE status within 7 days and two diesel generators to OPERABLE status witin 72 hours..."*	This proposal changes the allowed outage time for one offsite circuit from 72 hours to 7 days. Each offsite line into Seabrook is very reliable. The historical forced outage rate for PSNH 345KV lines is 0.83 outages per 100 miles per year. (FSAR § 8.2.2.2) For the two lines in service for Unit 1 (approximately 20 miles and 30 miles in length), the projected annual outage rates are 0.17 and 0.25, respectively. This compares with the annual loss of all offsite power frequency of 0.135 assumed for Seabrook from generic data. Based on this data, a large common mode failure fraction must exist between the 2 offsite lines - such as the common switchyard, common human error, common environmental conditions (hurricanes) or total grid loss. Thus, outage of one line due to maintenance is not significant. The increase from 72 hours to 7 days allows time for detection and repairs on most failures before having to commence plant shutdown. For further details, see PLG-4031, § 4.1.5. The allowed outage time for one diesel generator was also examined in PLG-0431, Table 5-7. Due to this analysis, it was decided to keep the allowed outage time at 72 hours for one diesel.

* Note - this change was added to the proposed Seabrook Station draft Technical Specifications in the August 23, 1985, letter to the NRC.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.8.1.1 (continued)	Action a.	"...demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a [offsite circuit breaker alignment] and 4.8.1.1.2a.4 [diesel generator start] within 1 hour and at least once per 8 hours thereafter..."	Same as STS Rev. 4	"...demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter, and 4.8.1.1.2a.4 within 24 hours."	A comparison of testing schemes for the operable diesel during an LCO with a single diesel operable (TS 4.8.1.1.2a.4) was made in the report PLG-0431, § 5.2. Of the three schemes compared, a test within the first hour and then 24 hours thereafter was the best testing scheme because it put the fewest number of challenges on the diesel. The proposed test scheme of "within 24 hours" is derived from NRC Generic Letter 84-15 on diesel generator reliability. It would be an even better testing scheme in the system model because it requires fewer challenges on the diesel (most likely no challenges because most repairs could be finished within 24 hours). This is discussed further in PLG-0431, § 4.1.5.
	Action b.	"...demonstrates the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a and 4.8.1.1.2a.4 within 1 hour and at least once per 8 hours thereafter..."	Same as STS Rev. 4	"...demonstrate the OPERABILITY of the remaining A.C. sources by performing Specification 4.8.1.1.1a within 1 hour and at least once per 8 hours thereafter, and 4.8.1.1.2a.4 within 8 hours."	This is a similar change in testing schemes for the operable diesel when one diesel and one offsite source are inoperable. The change from "performing...4.8.1.1.2a.4 within 1 hour and at least once per 8 hours thereafter" to "within 8 hours" allows time to restore a diesel or an offsite circuit before starting the operable diesel. Thus, in this scheme, the diesel would potentially get less challenges. This change also comes from Generic Letter 84-15 and is discussed further in PLG-0431, § 4.1.5.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
3.8.1.1 (continued)	Action c.	"If these conditions are not satisfied within 2 hours..."	Same as STS Rev. 4	"If these conditions are not satisfied within 8 hours when in Action a. or 2 hours when in Action b.,..."*	Action a. is a less risk significant plant state (failure of one offsite circuit or one diesel) than Action b. (failure of one offsite circuit and one diesel). Thus, extending this action to 8 hours for Action a. is consistent with the relative risk importance of the states. This outage time is appropriate for Action a. because offsite power is still available to power both buses. This 8-hour period would also allow time to access the inoperable conditions and determine the priority for restoration actions.
	Act[illegible]	"...restore at least two offsite circuits to OPERABLE status within 72 hours."	Same as STS Rev. 4	7 days	This is the same condition as with Action a. ("with only one offsite A.C. circuit circuit restored") and the Basis for the change from 72 hours to 7 days is the same.

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* Note - this change was added to the proposed Seabrook Station draft Technical Specifications in the August 23, 1985, letter to the NRC.

TECH SPEC	SYSTEM/COMPONENT	STANDARD TECH SPEC REV. 4	NRC FIRST DRAFT TECH SPEC	NHY PROPOSED TECH SPEC	BASIS FOR CHANGE
4.8.1.1.2	Electrical Power Systems - A.C. Sources	"Each diesel generator shall be demonstrated OPERABLE: a. in accordance with the frequency specified in Table 4.8-1..." Table 4.8-1 Number of Failures In last 100 Valid Tests / Test Frequency (at least once per) ≤1 / 31 days 2 / 14 days 3 / 7 days ≥4 / 3 days	Same as STS Rev. 4 Table 4.8-1 Same as STS Rev. 4	Same as STS Rev. 4 Table 4.8-1 Number of Failures In Last 20 Valid Tests / Test Frequency (at least once per) ≤1 / 31 days ≥2 / 7 days	A sensitivity analysis was performed for diesel test frequencies of 7 days, 31 days and 91 days (PLG-0431, Table 5-7). For all cases except 91 day frequency with an assumed large standby failure fraction (fs = 0.5 or 1.0), the sensitivity to change in test frequency was very low. The proposal was not to extend the test frequency beyond 31 days but to decrease the maximum frequency from once per 3 days to once per 7 days and to decrease the number of valid tests in the sample. This decreased test frequency should increase the service life of the diesel. This change also comes from Generic Letter 84-15.

3/4.3.4 TURBINE OVERSPEED PROTECTION

LIMITING CONDITION FOR OPERATION

3.3.4 At least one turbine overspeed protection system shall be OPERABLE.

APPICABILITY: MODES 1, 2, and 3.

ACTION:

a. With one stop valve or one governor valve per high pressure turbine steam lead inoperable and/or with one reheat stop valve or one reheat intercept valve per low pressure turbine steam lead inoperable, restore the inoperable valve(s) to OPERABLE status within 72 hours, or close at least one valve in the affected steam lead(s) or isolate the turbine from the steam supply within the next 6 hours.

b. With the above required turbine overspeed protection system otherwise inoperable, within 6 hours isolate the turbine from the steam supply.

SURVEILLANCE REQUIREMENTS

4.3.4.1 The provisions of Specification 4.0.4 are not applicable.

4.3.4.2 The above required turbine overspeed protection system shall be demonstrated OPERABLE:

a. At least once per 7 days by cycling each of the following valves through at least one complete cycle from the running position.

1. (Four) high pressure turbine stop valves.
2. (Four) high pressure turbine governor valves.
3. (Four) low pressure turbine reheat stop valves.
4. (Four) low pressure turbine reheat intercept valves.

b. At least once per 31 days by direct observation of the movement of each of the above valves through one complete cycle from the running position.

c. At least once per 18 months by performance of a CHANNEL CALIBRATION on the turbine overspeed protection systems.

d. At least once per 40 months by disassembling at least one of each of the above valves and performing a visual and surface inspection of valve seats, disks and stems and verifying no unacceptable flaws or corrosion.