ENCLOSURE 1

PROPOSED CHANGES TO TECHNICAL SPECIFICATIONS

Replace existing pages i, ii, 110e, 110f and 110g of the Technical Specifications contained in Appendix A to the license with the attached revised pages bearing the same numbers and add pages 66i, 66j, 66k, 110f, 110g, 110h, and 110i. The changed areas on the revised pages are identified by a marginal line. The only changes to pages 110h and 110i are new page number designation.

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3.16 Shock Suppressors

Applicability

Applies to all shock suppressors listed in Table 3.16-1.

Objective

To assure adequate shock suppression protection for primary coolant system piping and any other safety related system or component under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion during startup and shutdown. This is done by assuring the operability of those shock suppressors installed for that purpose.

Specification

3.16.1 The reactor shall not be heated above 200F if a shock suppressor listed in Table 3.16-1 is known to be inoperable.

3.16.2 If a shock suppressor listed in Table 3.16-1 is determined to be inoperable during power operation, that shock suppressor shall be made operable or replaced within 72 hours or the reactor shall be placed in the cold shutdown condition within an additional 36 hours.

3.16.3 Shock suppressors may be added to safety related systems without prior License Amendment to Table 3.16-1 provided that a revision to Table 3.16-1 is included with the next License Amendment request.

Bases

Shock suppressors are designed to prevent unrestrained pipe motion under dynamic loads as might occur during an earthquake or severe transient, while allowing normal thermal motion during startup and shutdown. The consequence of an inoperable shock suppressor is an increase in the probability of structural damage to piping as a result of a seismic or other event initiating dynamic loads. It is therefore required that all shock suppressors required to protect the primary coolant system or any other safety system or component be operable during reactor operation.

Because the shock suppressor protection is required only during low probability events, a period of 72 hours is allowed for repairs or replacements. In case a shutdown is required, the allowance of 36 hours to reach a cold shutdown condition will permit an orderly shutdown consistent with standard operating procedures. Since plant startup should not commence with knowingly defective safety related equipment, Specification 3.16.1 prohibits startup with inoperable shock suppressors.

Table 3.16-1

SAFETY RELATED SHOCK SUPPRESSORS

Snubber No.	Location	Elevation	Snubber in High Radiation Area During Shutdown	Snubbers Especially *Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
HS-10	Pressurizer Relief Line A	409' 2-3/4"				X
HS-11	Pressurizer Relief Line A	410' 2-3/4"				X
HS-12	Pressurizer Relief Line A	410' 2-3/4"				X
HS-13	Pressurizer Relief Line A	400' 0"				X
HS-14	Pressurizer Relief Line A	400' 0"				X
HS-66	Pressurizer Relief Line C	410' 2-3/4"				X
HS-67	Pressurizer Relief Line C	410' 2-3/4"				X
HS-68	Pressurizer Relief Line C	410' 2-3/4"				X
HS-69	Pressurizer Relief Line B	410' 2-3/4"				X
HS-70	Pressurizer Relief Line B	391' 0"				X
HS-71	Pressurizer Relief Line A	367' 6"				X
HS-72	Pressurizer Relief Line A	357' 0"				X
H-A-1	Pressurizer Relief Line A	400' 0"				X
H-A-2	Pressurizer Relief Line A	399' 0"				X
H-B-1	Pressurizer Relief Line B	400' 0"				X
H-B-2	Pressurizer Relief Line B	391' 0"				X
H-C-1	Pressurizer Relief Line C	410' 2-3/4"				X
H-C-2	Pressurizer Relief Line C	394' 0"				X
HS-3	Main Steam Line A	425' 0"				X
HS-4	Main Steam Line A	408' 6"				X
HS-5	Main Steam Line A	428' 0"				X
HS-6	Main Steam Line B	346' 0"				X
HS-7	Main Steam Line B	420' 0"				X
HS-15	Main Steam Line A	408' 6"				X
HS-16	Main Steam Line B	423' 2"				X
HS-17	Main Steam Line B	423' 2"				X
HS-18	Main Steam Line B	408' 6"				X
HS-19	Main Steam Line B	396' 0"				X
HS-20	Main Steam Line B	408' 6"				X
HS-22	Main Feedwater Header B	376' 4-11/16"				X
HS-23	Main Feedwater Header B	376' 4-11/16"				X

* Modifications to this Table due to changes in high radiation areas should be submitted to the NRC as part of the next license amendment.

Table 3.16-1 (Cont.)

SAFETY RELATED SHOCK SUPPRESSORS

Snubber No.	Location	Elevation	Snubber in High Radiation Area During Shutdown*	Snubbers Especially Difficult to Remove	Snubbers Inaccessible During Normal Operation	Snubbers Accessible During Normal Operation
HS-24	Main Feedwater Header B	376' 4-11/16"				X
HS-25	Main Feedwater Header B	376' 4-11/16"				X
HS-26	Main Feedwater Header B	376' 4-11/16"				X
HS-27	Main Feedwater Header B	376' 4-11/16"				X
HS-28	Main Feedwater Header B	376' 4-11/16"				X
HS-29	Main Feedwater Header B	376' 4-11/16"				X
HS-30	Main Feedwater Line A	361' 0"				X
HS-31	Main Feedwater Header A	376' 4-11/16"				X
HS-32	Main Feedwater Header A	376' 4-11/16"				X
HS-33	Main Feedwater Header A	376' 4-11/16"				X
HS-34	Main Feedwater Header A	376' 4-11/16"				X
HS-35	Main Feedwater Header A	376' 4-11/16"				X
HS-36	Main Feedwater Header A	376' 4-11/16"				X
HS-37	Main Feedwater Header A	376' 4-11/16"				X
HS-38	Main Feedwater Header A	376' 4-11/16"				X
HS-21	Emergency Feedwater Line B	394' 0"				X
1A	Reactor Coolant Pump A	390' 10"				X
2A	Reactor Coolant Pump A	390' 10"				X
1B	Reactor Coolant Pump B	390' 10"				X
2B	Reactor Coolant Pump B	390' 10"				X
1C	Reactor Coolant Pump C	390' 10"				X
2C	Reactor Coolant Pump C	390' 10"				X
1D	Reactor Coolant Pump D	390' 10"				X
2D	Reactor Coolant Pump D	390' 10"				X

* Modifications to this Table due to changes in high radiation areas should be submitted to the NRC as part of the next license amendment.

4.16 SHOCK SUPPRESSORS

Applicability

Applies to all shock suppressors protecting the primary system and any other safety related system or component.

Objective

Verify an acceptable level of operability of the shock suppressors protecting the primary system and any other safety related system or component.

Specification

4.16.1 The following surveillance requirements apply to all hydraulic shock suppressors listed in Table 3.16-1.

4.16.1.1 All hydraulic shock suppressors whose seal material has been demonstrated by operating experience, lab testing or analysis to be compatible with the operating environment shall be visually inspected. This inspection shall include, but not necessarily be limited to, inspection of the hydraulic fluid reservoir, fluid connections and linkage connection to the piping and anchor to verify shock suppressor operability in accordance with the following schedule:

Number of Hydraulic Shock Suppressors Found Inoperable During Inspection or During Inspection Interval	Next Required Inspection Interval
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
≥8	31 days ± 25%

The required inspection interval shall not be lengthened more than one step at a time.

Shock suppressors may be categorized in two groups, "accessible" or "inaccessible", based on their accessibility for inspection during reactor operation. These two groups may be inspected independently according to the above schedule.

4.16.1.2 All hydraulic shock suppressors whose seal materials are other than ethylene propylene or other material that has been demonstrated to be compatible with the operating environment shall be visually inspected for operability every 31 days.

4.16.1.3 The initial inspection shall be performed within 6 months from the date of issuance of these specifications. For the purpose of entering the schedule in Specification 4.16.1.1, it shall be assumed that the facility had been on a 6 month inspection interval.

4.16.1.4 Once each refueling cycle, a representative sample of 10 hydraulic shock suppressors or approximately 10% of the shock suppressors, whichever is less, shall be functionally tested for operability including verification of proper piston movement, lock up and bleed. For each unit and subsequent unit found inoperable, an additional 10% or ten hydraulic shock suppressors shall be tested until no more failures are found or all units have been tested. Shock suppressors of rated capacity greater than 50,000 lb need not be functionally tested.

Bases

All safety related hydraulic shock suppressors are visually inspected for overall integrity and operability. The inspection will include verification of proper orientation, adequate hydraulic fluid level and proper attachment of suppressor to piping and structures.

The inspection frequency is based upon maintaining a constant level of shock suppressor protection. Thus the required inspection interval varies inversely with the observed hydraulic shock suppressor failures. The number of inoperable shock suppressors found during a required inspection determines the time interval for the next required inspection. Inspections performed before that interval has elapsed may be used as a new reference point to determine the next inspection. However, the results of such early inspections performed before the original required time interval has elapsed (nominal time less 25%) may not be used to lengthen the required inspection interval. Any inspection whose results require a shorter inspection interval will override the previous schedule.

Experience at operating facilities has shown that the required surveillance program should assure an acceptable level of hydraulic shock suppressor performance provided that the seal materials are compatible with the operating environment.

Hydraulic shock suppressors containing seal material which has not been demonstrated by operating experience, lab tests or analysis to be compatible with the operating environment should be inspected more frequently (every month) until material compatibility is confirmed or an appropriate changeout is completed.

Bases (Contd)

Examination of defective hydraulic shock suppressors at reactor facilities and material tests performed at several laboratories (Reference 1) has shown that millable gum polyurethane deteriorates rapidly under the temperature and moisture conditions present in many shock suppressor locations. Although molded polyurethane exhibits greater resistance to these conditions, it also may be unsuitable for application in the higher temperature environments. Data are not currently available to precisely define an upper temperature limit for the molded polyurethane. Lab tests and in-plant experience indicate that seal materials are available, primarily ethylene propylene compounds, which should give satisfactory performance under the most severe conditions expected in reactor installations.

To further increase the assurance of hydraulic shock suppressor reliability, functional tests should be performed once each refueling cycle. These tests will include stroking of the shock suppressors to verify proper piston movement, lock-up and bleed. Ten percent or ten shock suppressors, whichever is less, represents an adequate sample for such tests. Observed failures on these samples should require testing of additional units. Those shock suppressors designated in Table 3.16-1 as being in high radiation areas or especially difficult to remove need not be selected for functional tests provided operability was previously verified. Shock suppressors of rated capacity greater than 50,000 lb are exempt from the functional testing requirements because of the impracticality of testing such large units.

(1) Report H. R. Erickson, Bergen Paterson to K. R. Goller, NRC, October 7, 1974, Subject: Hydraulic Shock Sway Arrestors

4.17 FUEL HANDLING AREA VENTILATION SYSTEM SURVEILLANCE

Applicability

Applies to the surveillance of the fuel handling area ventilation system.

Objective

To verify an acceptable level of efficiency and operability of the fuel handling area ventilation system.

Specification

4.17.1 At least once per refueling period (not to exceed 18 months) the following conditions shall be demonstrated:

a. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches of water at system design flow rate (± 10%).

b. Air distribution is uniform within ± 20% across HEPA filters and charcoal adsorbers.

4.17.2.a. The tests and sample analysis of Specification 3.15.1.a,b,& c. shall be performed within 720 system operating hours prior to irradiated fuel handling operations in the auxiliary building, and prior to irradiated fuel handling in the auxiliary building following significant painting, fire or chemical release in any ventilation zone communicating with the system.

b. Cold DOP testing shall also be performed prior to irradiated fuel handling in the auxiliary building after each complete or partial replacement of a HEPA filter bank or after any structural maintenance on the system housing.

c. Halogenated hydrocarbon testing shall also be performed prior to irradiated fuel handling in the auxiliary building after each complete or partial replacement of a charcoal adsorber bank or after any structural maintenance on the system housing.

4.17.3 The system shall be operated for at least 10 hours prior to initiation of irradiated fuel handling operations in the auxiliary building.

Bases

Since the fuel handling area ventilation system may be in operation when fuel is stored in the pool but not being handled its operability must be verified before handling of irradiated fuel. Operation of the system for 10 hours before irradiated fuel handling operations and performance of Specification 4.17.2 will demonstrate operability of the active system components and the filter and adsorber systems.

Pressure drop across the combined HEPA filters and charcoal adsorbers of less than 6 inches of water at the system design flow rate will indicate that the filters and adsorbers are not clogged by excessive amounts of foreign matter. Pressure drop and air distribution should be determined at least once per refueling period to show system performance capability.

The frequency of tests and sample analysis are necessary to show that the HEPA filters and charcoal adsorbers can perform as evaluated. The charcoal adsorber efficiency test procedures should allow for obtaining at least two samples. Each sample should be at least two inches in diameter and a length equal to the thickness of the bed. Tests of the charcoal adsorbers with halogenated hydrocarbon refrigerant and of the HEPA filter bank with DOP aerosol shall be performed in accordance with ANSI N510 (1975) "Standard for testing of [illegible] Air Cleaning Systems." Any HEPA filters found defective shall be replaced with filters qualified according to Regulatory Position C.3.d. of Regulatory Guide 1.52. Radioactive methyl iodide removal efficency tests shall be performed in accordance with RDT Standard M16-IT. If laboratory test results are unacceptable, all charcoal adsorbents in the system shall be replaced with charcoal adsorbents qualified according to Regulatory Guide 1.52.