GPU Nuclear Corporation
Oyster Creek Nuclear Generating Station
(Docket No. 50-219)
Provisional Operating License DPR-16

Applicant hereby requests the commission to change Appendix A of the above captioned license as follows:

1. Sections to be changed:

   a. Section 3.5.A.8 and Bases
   b. Section 4.5.Q and Bases
   c. Section 6.10.2
   d. Table 3.5.1

2. Extent of changes:

   a. Section 3.5.A.8 Shock Suppressors (Snubbers)
   Revised some of the wording to conform to NRC Standard Technical Specifications.

   b. Section 4.5.Q Shock Suppressors (Snubbers)
   Revised to define the Visual Inspection Acceptance Criteria. Established guidelines to be used in choosing sample snubbers for functional testing. Defined Functional Test acceptance criteria for Hydraulic and Mechanical Snubbers. Added the requirement for Snubbers Service Life Monitoring.

   c. Section 6.10.2 Record Retention
   Added the requirement to keep records of the snubbers service life.

   d. Table 3.5.1
   Revised existing Table 3.5.1 by changing format to conform to NRC Standard Technical Specifications and by adding Mechanical Snubbers to the table list.

3. Change Requested:

   The requested change is on the attached revised Technical Specification pages 3.5-3, 4.5-6a, 4.5-6a-1, 4.5-6a-2, 4.5-6a-3 and 6-24. Revised Bases pages 3.5-6, 4.5-9b are also attached and the revised tables are shown on the attached pages 3.5-8 through 3.5-17.

4. Discussion

Technical Specification 3.5.A.8 cites the requirements for Shock Suppressors (Snubbers). Table 3.5.1 presently includes only the Hydraulic Snubbers. Technical Specification 4.5.Q cites the requirements for the surveillance of the snubbers.

The purpose of this Technical Specification Change Request is to revise the requirements for the snubbers to include the Mechanical Snubbers and to incorporate the Inservice Surveillance Requirements which were transmitted via the D. G. Eisenhut letter of March 23, 1981.

This requested change to the Technical Specifications differs from the Standard Technical Specifications in the following areas:

1. With respect to the performance of an engineering evaluation on the components which are supported by the snubber found to be inoperable; the licensee is not prepared to implement this type of change to the snubber surveillance program. The licensee contends that this requirement involves extensive computer modeling of piping supports and configurations which currently do not exist for this facility nor are they being planned for in the foreseeable future.

2. With respect to Visual Inspection Acceptance Criteria for snubbers which appear inoperable, the two (2) criteria for determining their operability for the purpose of establishing the next visual inspection interval were changed from an "AND" to an "OR" requirement. The licensee contends that this change affords more flexibility in determining that questionable snubbers are indeed operable. The licensee considers it unlikely that a snubber which appears inoperable as per the acceptance criteria would be able to be functionally tested in the as-found condition. Therefore, to include this criteria as an "AND" requirement is believed to be too restrictive and may adversely affect inspection intervals and plant operations.

3. With respect to the functional testing requirement that if a snubber fails to lockup or move, the cause will be evaluated and if caused by manufacturer or design deficiency, that all snubbers of the same design subject to the same defect shall be functionally tested; this requirement was deleted. Since there are only two (2) types of snubbers at the facility, this requirement could easily result in the functional testing of all of the snubbers instead of the representative sample requirement. For this reason, the above requirement was deleted from the specification.

b. Two of the fourteen suppression chamber - drywell vacuum breakers may be inoperable provided that they are secured in the closed position.

c. One position alarm circuit for each operable vacuum breaker may be inoperable for up to 15 days provided that each operable suppression chamber - drywell vacuum breaker with one defective alarm circuit is physically verified to be closed immediately and daily during this period.

6. After completion of the startup test program and demonstration of plant electrical output, the primary containment atmosphere shall be reduced to less than 5.0% O_2 with nitrogen gas within 24 hours after the reactor mode selector switch is placed in the run mode. Primary containment deinerting may commence 24 hours prior to a scheduled shutdown.

7. If specifications 3.5.A.1.a, b, c(1) and 3.5.A.2 through 3.5.A.5 cannot be met, reactor shutdown shall be initiated and the reactor shall be in the cold shutdown condition within 24 hours.

8. Shock Suppressors (Snubbers)

a. During all modes of operation except cold shutdown and refuel, all safety related snubbers listed in Table 3.5.1 shall be operable except as noted in 3.5.A.8.b, c and d below.

b. With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to operable status.

c. If the requirements of 3.5.A.8.a and 3.5.A.8.b cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 36 hours.

d. If a snubber is found to be inoperable while the reactor is in the shutdown or refuel mode, the snubber shall be made operable or replaced prior to reactor startup.

e. Snubbers may be added to safety related systems without prior License Amendment to Table 3.5.1 provided that a revision to Table 3.5.1 is included with the next License Amendment request.

9. Drywell-Suppression Chamber Differential Pressure

a. Differential pressure between the drywell and suppression chamber shall be maintained within the acceptable operating range shown in Figure 3.5-1 within 24 hours after the reactor mode selector switch is placed in the run mode. The differential pressure may be reduced to less than the range shown on Figure 3.5-1 24 hours prior to a scheduled shutdown. The differential pressure may be decreased to less than the required value for a maximum of four hours during required operability testing of the drywell-pressure suppression chamber vacuum breakers.

not reduce the margin of safety below that considered adequate and is judged prudent in terms of the added plant safety offered by the opportunity for leak inspection. The 24-hour time to provide inerting is judged to be a reasonable time to perform the operation and establish the required O_2 limit.

Snubbers 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 snubber 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 snubbers required to protect the primary coolant system or any other safety system or component be operable during reactor operation.

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

Examination of defective snubbers at reactor facilities and material tests performed at several laboratories (Reference 11) has shown that millable gum polyurethane deteriorates rapidly under the temperature and moisture conditions present in many snubber 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 define precisely 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.

Because snubber 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 3.5.A.8.d prohibits startup with inoperable snubbers.

Secondary containment (5) is designed to minimize any ground level release of radioactive materials which might result from a serious accident. The reactor building provides secondary containment during reactor operation when the drywell is sealed and in service and provides primary containment when the reactor is shutdown and the drywell is open, as during refueling. Because the secondary containment is an integral part of the overall containment system, it is required at all times that primary containment is required. Moreover, secondary

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
1	South Containment Spray	-19'	A	No	No
2	South Containment Spray	-19'	A	No	No
3	North Containment Spray	-19'	A	No	No
4	North Containment Spray	-19'	A	No	No
5	North Containment Spray	-19'	A	No	No
6	Core Spray Suction Header	-19'	A	No	No
7	Core Spray Suction Header	-19'	A	No	No
8	Core Spray Suction Header	-19'	A	No	No
9	Core Spray Suction Header	-19'	A	No	No
10	Core Spray Suction Header	-19'	A	No	No
11	Core Spray Suction Header	-19'	A	No	No
12	Core Spray Suction Header	-19'	A	No	No
13	Core Spray Suction Header	-19'	A	No	No
14	Core Spray Suction Header	-19'	A	No	No
15	Core Spray Suction Header	-19'	A	No	No
16	Core Spray Suction Header	-19'	A	No	No
17	Core Spray Suction Header	-19'	A	No	No
18	North Core Spray	-19'	A	No	No
19	North Core Spray	-19'	A	No	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
1	North Core Spray	20'	A	No	No
2	North Core Spray	20'	A	No	No
3	South Containment Spray	20'	A	No	Yes
4	South Containment Spray	20'	A	No	Yes
5	South Core Spray	20'	A	No	Yes
6	South Core Spray	20'	A	No	Yes
1	South Core Spray	23'	A	No	No
2	South Core Spray	23'	A	No	No
3	South Containment Spray	23'	A	No	No
4	South Containment Spray	23'	A	No	No
5	South Containment Spray	23'	A	No	No
6	South Containment Spray	23'	A	No	No
7	South Containment Spray	23'	A	No	Yes
1	North Containment Spray	51'	A	No	No
2	North Containment Spray	51'	A	No	No
3	North Containment Spray	51'	A	No	No
4	North Containment Spray	51'	A	No	No
5	North Core Spray	51'	A	No	No
6	North Core Spray	51'	A	No	No
7	North Core Spray	51'	A	No	No
8	North Core Spray	51'	A	No	No
9	North Core Spray	51'	A	No	No
10	North Core Spray	51'	A	No	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
11	Shutdown Cooling	51'	A	No	No
12	Shutdown Cooling	51'	A	No	No
13	Shutdown Cooling	51'	A	No	No
14	Shutdown Cooling	51'	A	No	No
15	Shutdown Cooling	51'	A	No	No
16	Shutdown Cooling	51'	A	No	No
17	Shutdown Cooling	51'	A	No	No
18	Shutdown Cooling	51'	A	No	No
19	Shutdown Cooling	51'	A	No	No
20	Shutdown Cooling	51'	A	No	No
21	South Core Spray	51'	A	No	No
22	South Core Spray	51'	A	No	No
1	South Core Spray	75'	A	No	No
2	South Core Spray	75'	A	No	No
3	South Core Spray	75'	A	No	No
4	South Core Spray	75'	A	No	No
5	South Core Spray	75'	A	No	No
6	B Isolation Condenser	75'	A	No	No
7	A Isolation Condenser	75'	A	No	No
8	A Isolation Condenser	75'	A	No	No
9	B Isolation Condenser	75'	A	No	No
10	A Isolation Condenser	75'	A	No	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
11	A Isolation Condenser	75'	A	No	No
12	A Isolation Condenser	75'	A	No	No
13	B Isolation Condenser	75'	A	No	No
14	A Isolation Condenser	75'	A	No	No
15	B Isolation Condenser	75'	A	No	No
16	A Isolation Condenser	75'	A	No	No
17	A Isolation Condenser	75'	A	No	No
18	A Isolation Condenser	75'	A	No	No
19	A Isolation Condenser	75'	A	No	No
20	A Isolation Condenser	75'	A	No	No
21	B Isolation Condenser	75'	A	No	No
22	B Isolation Condenser	75'	A	No	No
23	B Isolation Condenser	75'	A	No	No
24	B Isolation Condenser	75'	A	No	No
25	B Isolation Condenser	75'	A	No	No
1	A Isolation Condenser	95'	A	No	No
2	A Isolation Condenser	95'	A	No	Yes
3	A Isolation Condenser	95'	A	No	Yes
4	A Isolation Condenser	95'	A	No	No
5	B Isolation Condenser	95'	A	No	No
6	B Isolation Condenser	95'	A	No	No
7	B Isolation Condenser	95'	A	No	No
8	B Isolation Condenser	95'	A	No	No
9	B Isolation Condenser	95'	A	No	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
N-1-1	North Main Steam	23'	I	Yes	No
N-1-2	North Main Steam	23'	I	Yes	No
N-1-3	North Main Steam	51'	I	Yes	No
N-1-4	North Main Steam	51'	I	Yes	No
N-1-5	North Main Steam	51'	I	Yes	No
N-1-6	North Main Steam	51'	I	Yes	No
N-1-7	North Main Steam	60'	I	Yes	No
N-2-1	North Feedwater	23'	I	Yes	No
N-2-2	North Feedwater	23'	I	Yes	No
N-2-3	North Feedwater	51'	I	Yes	No
N-2-4	North Feedwater	51'	I	Yes	No
N-2-5	North Feedwater	51'	I	Yes	No
N-2-6	North Feedwater	51'	I	Yes	No
N-2-7	North Feedwater	51'	I	Yes	No
N-2-8	North Feedwater	51'	I	Yes	No
S-1-1	South Main Steam	23'	I	Yes	No
S-1-2	South Main Steam	23'	I	Yes	No
S-1-3	South Main Steam	51'	I	Yes	No
S-1-4	South Main Steam	51'	I	Yes	No
S-1-5	South Main Steam	51'	I	Yes	No
S-1-6	South Main Steam	51'	I	Yes	No
S-1-7	South Main Steam	51'	I	Yes	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
S-2-1	South Feedwater	23'	I	Yes	No
S-2-2	South Feedwater	23'	I	Yes	No
S-2-3	South Feedwater	51'	I	Yes	No
S-2-4	South Feedwater	51'	I	Yes	No
S-2-5	South Feedwater	51'	I	Yes	No
S-2-6	South Feedwater	51'	I	Yes	No
S-2-7	South Feedwater	51'	I	Yes	No
S-2-8	South Feedwater	51'	I	Yes	No
N-14-1	North Isolation Condenser	75'	I	Yes	No
N-14-2	North Isolation Condenser	75'	I	Yes	No
N-14-3	North Isolation Condenser	95'	I	Yes	No
N-14-4	North Isolation Condenser	95'	I	Yes	No
N-14-5	North Isolation Condenser	95'	I	Yes	No
N-14-6	North Isolation Condenser	95'	I	Yes	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
S-14-1	South Isolation Condenser	60'	I	Yes	No
S-14-2	South Isolation Condenser	60'	I	Yes	No
S-14-3	South Isolation Condenser	95'	I	Yes	No
S-14-4	South Isolation Condenser	95'	I	Yes	No
S-14-5	South Isolation Condenser	95'	I	Yes	No
S-14-6	South Isolation Condenser	95'	I	Yes	No
16-1	Clean-up	60'	I	Yes	No
16-2	Clean-up	51'	I	Yes	No
16-3	Clean-up	55'	I	Yes	No
16-4	Clean-up	65'	I	Yes	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
17-1	Shutdown Cooling	48'	I	Yes	No
17-2	Shutdown Cooling	51'	I	Yes	No
17-3	Shutdown Cooling	51'	I	Yes	No
17-4	Shutdown Cooling	51'	I	Yes	No
17-5	Shutdown Cooling	51'	I	Yes	No
17-6	Shutdown Cooling	51'	I	Yes	No
N-20-1	North Core Spray	51'	I	Yes	No
N-20-2	North Core Spray	51'	I	Yes	No
N-20-3	North Core Spray	75'	I	Yes	No
N-20-4	North Core Spray	75'	I	Yes	No
S-20-1	South Core Spray	90'	I	No	Yes
S-20-2	South Core Spray	95'	I	Yes	No
S-20-3	South Core Spray	95'	I	No	Yes
23	South Core Spray	51'	A	No	No
24	South Core Spray	51'	A	No	No

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
N-E-1	North Electromatic Relief	51'	I	Yes	No
N-E-2	North Electromatic Relief	51'	I	Yes	No
S-E-1	South Electromatic Relief	51'	I	Yes	No
S-E-2	South Electromatic Relief	51'	I	Yes	No
S-E-3	South Electromatic Relief	51'	I	Yes	No
21-1	Containment Spray	60'	I	No	Yes
A-1	"A" Recirc. Motor	23'	I	Yes	No
A-2	"A" Recirc. Motor	23'	I	Yes	No
A-3	"A" Recirc. Pump	16'	I	Yes	No
A-4	"A" Recirc. Pump	16'	I	Yes	No
A-5	"A" Recirc. Pump	10'	I	Yes	Yes

Table 3.5.1
Safety Related Snubbers

Snubber No.	System Snubber Installed On	Elevation	Accessible or Inaccessible	High Radiation Zone During Shutdown	Especially Difficult to Remove
B-1	"B" Recirc. Motor	23'	I	Yes	No
B-2	"B" Recirc. Motor	23'	I	Yes	No
B-3	"B" Recirc. Pump	16'	I	Yes	No
B-4	"B" Recirc. Pump	16'	I	Yes	No
B-5	"B" Recirc. Pump	10'	I	Yes	Yes
C-1	"C" Recirc. Motor	23'	I	Yes	No
C-2	"C" Recirc. Motor	23'	I	Yes	No
C-3	"C" Recirc. Pump	16'	I	Yes	No
C-4	"C" Recirc. Pump	16'	I	Yes	No
C-5	"C" Recirc. Pump	10'	I	Yes	Yes
D-1	"D" Recirc. Motor	23'	I	Yes	No
D-2	"D" Recirc. Motor	23'	I	Yes	No
D-3	"D" Recirc. Pump	16'	I	Yes	No
D-4	"D" Recirc. Pump	16'	I	Yes	No
D-5	"D" Recirc. Pump	10'	I	Yes	Yes
E-1	"E" Recirc. Motor	23'	I	Yes	No
E-2	"E" Recirc. Motor	23'	I	Yes	No
E-3	"E" Recirc. Pump	16'	I	Yes	No
E-4	"E" Recirc. Pump	16'	I	Yes	No
E-5	"E" Recirc. Pump	10'	I	Yes	Yes

TABLE 3.5.2

CONTAINMENT ISOLATION VALVES

VALVE FUNCTION/VALVE DESIGNATION	ISOLATION SIGNALS
Main Steam Isolation Valves (NS03A, NS03B, NS04A, NS04B)	1
Main Steam Condensate Drain Valves (V-1-106, V-1-107, V-1-110, V-1-111)	1
Reactor Building Closed Cooling Valves (V-5-147, V-5-166, V-5-167)	2
Instrument Air Valve (V-6-395)	1
Emergency Condenser Vent Valves (V-14-1, V-14-5, V-14-19, V-14-20)	1
Reactor Cleanup Valves (V-16-1, V-16-2, V-16-14, V-16-61)	3
Shutdown Cooling Valves (V-17-19, V-17-54)	3
Drywell Equipment Drain Tank Valves (V-22-1, V-22-2)	3
Drywell Sump Valves (V-22-28, V-22-29)	3
Drywell & Torus Atmosphere Control Valves (V-27-1, V-27-2, V-27-3, V-27-4, V-28-17, V-28-18, V-23-21, V-23-22, V-28-47, V-23-13, V-23-14, V-23-15, V-23-16, V-23-17, V-23-18, V-23-19, V-23-20)	3
Reactor Recirculation Loop Sample Valves (V-24-29, V-24-30)	1
Torus to Reactor Building Vacuum Relief Valves (V-26-16, V-26-18)	3*
Traversing In-Core Probe System (Tip machine ball valve No. 1, No. 2, No. 3, No. 4)	3

1) Reactor Isolation Signals as shown in Table 3.1.1
2) Low-Low Reactor Water Level and High Drywell Pressure; or Low-Low-Low Reactor Water Level.
3) Primary Containment Isolation Signals as shown in Table 3.1.1

*Valves automcatically reset to provide vacuum relief

REQUIRED DRYWELL TO TORUS
DIFFERENTIAL PRESSURE

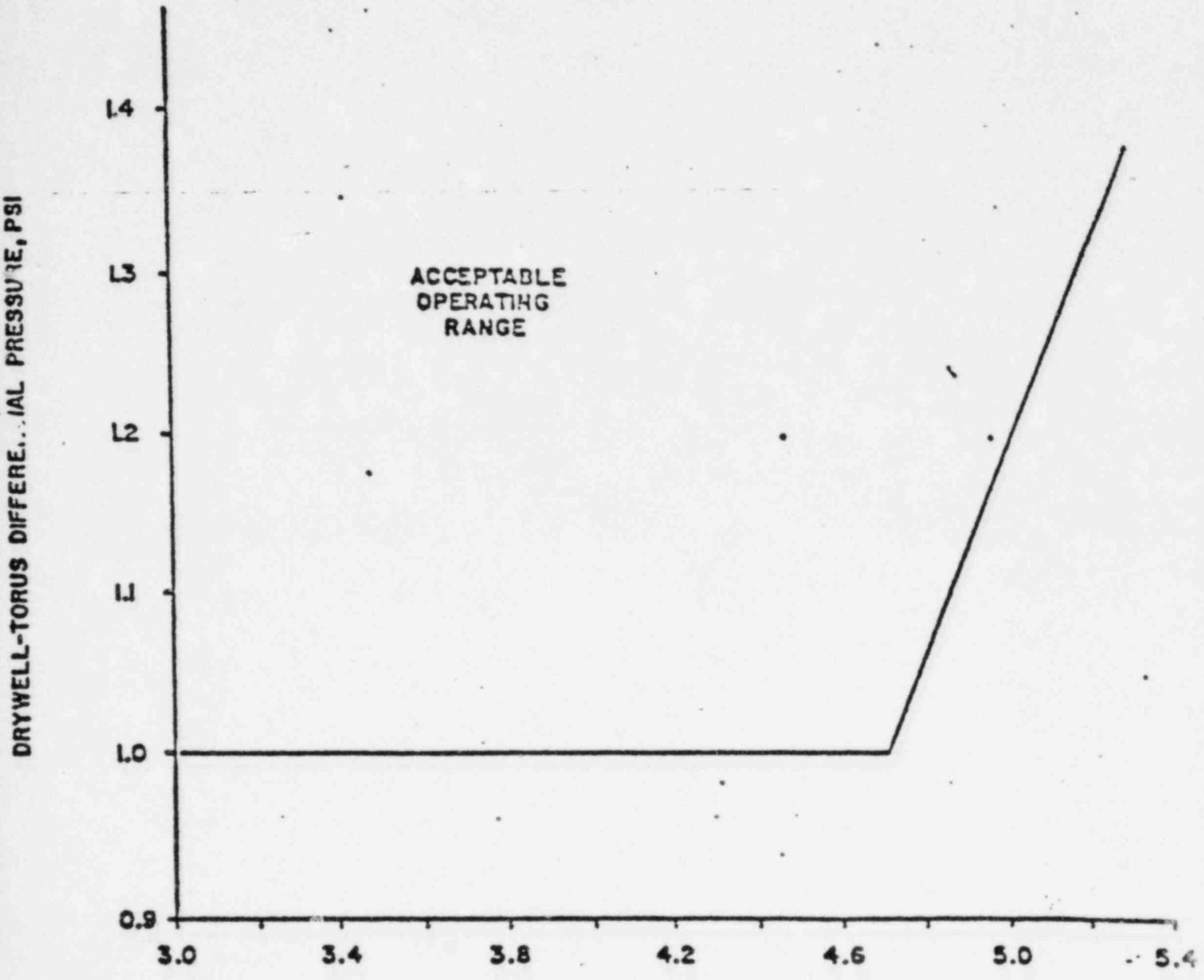

FIGURE 3.5-1

*The actual acceptable range of downcomer submergence is governed by the Technical Specifications limit on maximum and minimum water volume in the torus (see section 3.5.A.1). This actual acceptable range of downcomer submergence will not encompass the full range of downcomer submergence indicated in the figure above.

P. Suppression Chamber Surveillance

1. At least once per day the suppression chamber water level and temperature and pressure suppression system pressure shall be checked.

2. A visual inspection of the suppression chamber interior, including water line regions, shall be made at each major refueling outage.

3. Whenever heat from relief valve operation is being added to the suppression pool, the pool temperature shall be continually monitored and also observed until the heat addition is terminated.

4. Whenever operation of a relief valve is indicated and the suppression pool temperature reaches 160° F or above while the reactor primary coolant system pressure is greater than 180 psig, an external visual examination of the suppression chamber shall be made before resuming normal power operation.

5. Drywell-Suppression Chamber Differential Pressure

a. The pressure differential between the drywell and suppression chamber shall be recorded at least once per shift when the reactor containment is required to be inerted by Specification 3.5.A.9.a.

b. Instrumentation to measure the drywell to suppression chamber differential pressure and suppression chamber water level shall be calibrated once every 6 months.

Q. Shock Suppressors (Snubbers)

1. Each snubber shall be demonstrated operable by performance of the following inspection program.

a. Visual Inspections

The snubbers listed in Table 3.5.1 shall be visually inspected in accordance with the following schedule:

No. Inoperable Snubbers per Inspection Period	Subsequent Visual Inspection Period
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
8 or more	31 days ± 25%

The required inspection interval shall not be lengthened more than one step at a time. The snubbers may be categorized into two groups: those accessible and those inaccessible during reactor operation. Each group may be inspected independently in accordance with the above schedule.

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, providing that the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers that may be generically susceptible; or the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specfications 4.5.Q.d or 4.5.Q.e, as applicable.

c. Functional Tests

At least once each refueling outage, a representative sample (10% of the total of each type of snubber in use in the plant) shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.5.Q.d or 4.5.Q.e, an additional 10% of that type of snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle.

2. Snubbers within 5 feet of heavy equipment (valve, pump, motor, etc.).

3. Snubbers within 10 feet of the discharge from a safety relief valve.

Snubbers identified in Table 3.5.1 as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative sample.

In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed (if it is repaired and installed in another position) and the spare snubber shall be retested.

d. Hydraulic Snubbers Functional Test Acceptance Criteria

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. Mechanical Snubbers Functional Test Acceptance Criteria

The mechanical snubber functional test shall verify that:

1. The force that initiates free movement of the snubber rod in either tension or compression is less than the specified maximum drag force. Drag force shall not have increased more than 50% since the last functional test.

2. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

3. Snubber release rate, where required, is within the specified range in compression or tension. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

f. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.1.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for each snubber listed in Table 3.5.1 shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.

of the system. Although this is basically a leak test, since the filters have charcoal of known efficiency and holding capacity for elemental iodine and/or methyl iodine, the test also gives an indication of the relative efficiency of the installed system. The test procedure is an adaptation of test procedures developed at the Savannah River Laboratory which were described in the Ninth AEC Air Cleaning Conference.*

High efficiency particulate filters are installed before and after the charcoal filters to minimize potential release of particulates to the environment and to prevent clogging of the iodine filters. An efficiency of 99% is adequate to retain particulates that may be released to the reactor building following an accident. This will be demonstrated by testing with DOP at testing medium.

If laboratory tests for the adsorber material in one circuit of the Standby Gas Treatment System are unacceptable, all adsorber material in that circuit shall be replaced with adsorbent qualified according to Regulatory Guide 1.52. Any HEPA filters found defective shall be replaced with those qualified with Regulatory Position C.3.d of Regulatory Guide 1.52.

The snubber inspection frequency is based upon maintaining a constant level of snubber protection. Thus, the required inspection interval varies inversely with the observed snubber failures. The number of inoperable snubbers 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 snubber performance provided that the seal materials are compatible with the operating environment.

Snubbers 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.

To further increase the assurance of snubber reliability, functional tests should be performed once each refueling cycle. These tests will include stroking of the snubbers to verify proper piston movement, lock-up and bleed. Ten percent represents an adequate sample for such tests. Observed failures of these samples require testing of additional units. Snubbers in high radiation areas or those especially difficult to remove (see Table 3.5.1) shall be included in the representative samples.

*D. R. Muhbaier, "In place Nondestructive Leak Test for Iodine Absorbers Proceedings of the Ninth AEC Air Cleaning Conference, USAEC Report CONF-660904, 1966.

d. Records of radiation exposure for all individuals entering radiation control areas.

e. Records of gaseous and liquid radioactive material released to the environs.

f. Records of transient or operational cycles for those facility components designed for a limited number of transients or cycles.

g. Records of training and qualification for current members of the plant staff.

h. Records of inservice inspection performed pursuant to these technical specifications.

i. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.

j. Records of meetings of the Plant Operations Review Committee and the General Office Review Board.

k. Records for Environmental Qualification which are covered under the provisions of paragraph 6.14.

l. Records of the service lives of all safety related snubbers listed in Table 3.5.1 including the date at which the service life commences and associated installation and maintenance records.

6.10.3

Quality Assurance Records shall be retained as specified by the Quality Assurance Plan.

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.

6.12 (Deleted)

6.13 HIGH RADIATION AREA

6.13.1

In lieu of the "control device" or "alarm signal" required by paragraph 20.203(c)(2) of 10 CFR 20, each high radiation area in which the intensity of radiation is greater than 100 mrem/hr but less than 1000 mrem/hr shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP).

NOTE: Health Physics personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they are following plant radiation protection procedures for entry into high radiation areas.