LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENT
3.6.D. Safety Relief Valves (Cont'd) from the initial discovery of discharge pipe temperatures in excess of 212°F for more than 24 hours without prior NRC approval of the engineering evaluation delineated in 3.6.D.3. 5. The limiting conditions of operation for the instrumentation that monitors tail pipe temperature are given in Table 3.2.F.	
E. Jet Pumps 1. Whenever the reactor is in the startup or run modes, all jet pumps shall be operable. If it is determined that a jet pump is inoperable, an orderly shutdown shall be initiated and the reactor shall be in a Cold Shutdown Condition within 24 hours.	E. Jet Pumps Whenever there is recirculation flow with the reactor in the startup or run modes, jet pump operability shall be checked daily by verifying that the following conditions do not occur simultaneously. 1. The two recirculation loops have a flow imbalance of 15% or more when the pumps are operated at the same speed. 2. The indicated value of core flow rate varies from the value derived from loop flow measurements by more than 10%. 3. The diffuser to lower plenum differential pressure reading on an individual jet pump varies from established jet pump P characteristics by more than 10%.
F. Jet Pump Flow Mismatch 1. Whenever both recirculation pumps are in operation, pump speeds shall be maintained within 10% of each other when power level is greater than 80% and within 15% of each other when power level is less than or equal to 80%. 2. If Specification 3.6.F.1 is exceeded immediate corrective action shall be taken. If recirculation pump speed mismatch is not corrected within 30 minutes, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours unless the recirculation pump speed mismatch is brought within limits sooner.	F. Jet Pump Flow Mismatch Recirculation pump speeds shall be checked and logged at least once per day.
G. Structural Integrity 1. The structural integrity of the primary system boundary shall be maintained at the level required by the ASME Boiler and Pressure Vessel Code, Section XI "Rules for Inservice Inspection of Nuclear Power Plant Components", IWA, IWB, IWC, IWD, IWF and mandatory/non-mandatory appendices, 1980	G. Structural Integrity The nondestructive examinations listed in the Inservice Inspection Program shall be performed as specified. The results obtained from compliance with this program will be evaluated at the completion of the ten year interval and the conclusions of this evaluation will be reviewed with the NRC.

Amendment No.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.6.G. Structural Integrity (Cont'd) edition, Winter 1980 Addenda. Where the specific requirements of this edition of ASME Section XI cannot be compiled, Boston Edison Company has requested specific code relief as detailed in the Inservice Inspection Program for the Second Ten Year Interval", which was submitted to the Nuclear Regulatory Commission.	

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.6.H High Energy Piping (outside containment) 1. The high energy line sections identified in Table 4.6.2 shall be maintained free of visually observable through-wall leaks. 2. If a leak is detected by the surveillance program of 4.6.H, efforts to identify the source of the leak shall be started immediately. 3. If the source of leakage cannot be identified within eight hours of detection or if the leak is found to be from a break in the sections identified in Table 4.6.2, the leak shall be isolated or the reactor shall be in a cold shutdown condition within 48 hours. 4. When the modifications, described in FSAR Amendment No. 34, to provide protection against high energy line breaks outside of the primary containment have been completed, Technical Specifications 3.6.H and 4.6.H will no longer be required.	4.6.H High Energy Piping (outside containment) The inspections listed in Table 4.6.2 shall be performed as specified to verify the structural integrity of the specified high energy line sections. The standards of Section XI of the ASME Boiler and Pressure Vessel Code, 1980 edition, Winter 1980 Addenda Article IWB-3000 shall be used in these inspections.

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LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT

3.6.I Shock Suppressors (Snubbers)

1. During all modes of operation except Cold Shutdown and Refuel, all safety-related snubbers listed in ISI Program and Table 3.6.I(b) shall be operable except as noted in 3.6.I.2 through 3.6.I.3 below.

   An Inoperable Snubber is a properly fabricated, installed and sized snubber which cannot pass its functional test.

   Upon determination that a snubber is either improperly fabricated, installed or sized, the corrective action will be as specified for an inoperable snubber in Section 3.6.I.2.

2. From and after the time that a snubber is determined to be inoperable, replace or repair the snubber during the next 72 hours, and initiate an engineering evaluation to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubbers and to ensure that the supported component remains capable of meeting its intended function in the specific safety system involved.

   Further corrective action for this snubber, and all generically susceptible snubbers, shall be determined by an engineering evaluation

3. From and after the time a snubber is determined to be inoperable, improperly fabricated, improperly installed or improperly sized, if the requirements of Section(s) 3.6.I.1 and 3.6.I.2 cannot be met, then the affected safety system, or affected portions of that system, shall be declared inoperable, and the limiting condition for that system entered, as appropriate.

4.6.I Shock Suppressors (Snubbers)

The following surveillance requirements apply to all hydraulic and mechanical snubbers listed in ISI Program and Table 3.6.I(b).

The required visual inspection interval varies inversely with the observed cumulative number of inoperable snubbers found during an 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 time interval has elapsed may not be used to lengthen the required interval.

Number of snubbers found inoperable during inspection or during inspection interval:

Inoperable Snubbers	Subsequent Visual 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 or more	31 Days

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

Snubbers 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.

1. Visual Inspection Acceptance Criteria

   A. Visual inspections shall verify:

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
4. Snubbers may be added to, or removed from, per 10 CFR 50.59, safety related systems without prior NRC approval to the ISI program or Table 3.6.I(b). Revisions to Table 3.6.I(b) shall be included with the next license amendment request.	4.6.I Shock Suppressors (Snubbers) 1. That there are no visible indications of damage or impaired operability. 2. Attachments to the foundation or support structure are such that the functional capability of the snubber is not suspect. B. Snubbers which appear INOPERABLE as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval provided that: 1. The cause of the rejection is clearly established and remedied for that particular snubber, and 2. The affected snubber is functionally tested, when necessary, in the as found condition and determined OPERABLE per specifications 4.6.I.2.B., 4.6.I.2.C., as applicable. 3. For any snubber determined inoperable per specification 4.6.I.2, clearly establish the cause of rejection and remedy the problem for that snubber, and any generically susceptible snubber. 2. Functional Tests (Hydraulic and Mechanical Snubbers) A. Schedule At least once per operating cycle (18 months), a representative sample (10% of the total of each type: hydraulic, mechanical) of snubbers 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

LIMITING CONDITION FOR OPERATION	SURVEILLANCE REQUIREMENT
	4.6.I Shock Suppressors (Snubbers)
	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.
	B. At least once per cycle, the installation and maintenance records for each snubber listed in the ISI Program and Table 3.6.I(b) 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.
	C. This Snubber Service Life Monitoring Program shall become effective July 1, 1982.

BASES:

3.6.G and 4.6.G

Structural Integrity

A preservice inspection of accessible components, in what is now defined as class 1, was conducted before the initial fuel loading to assure the system is free of gross defects and as a reference for future Inservice Inspections. The ISI program has been developed based on IWA, IWB, IWC, and IWD - 2000 and tables IWB, IWC, IWD - 2500-1 of Section XI of the A.S.M.E Boiler and Pressure Vessel code 1980 edition, Winter 1980 Addenda, except where accessibility for inspection was not provided and when it was impractical to modify the original design. Due to the age of the Pilgrim Nuclear Power Station, Boston Edison Company has elected to select category J circumferential pipe welds for examination in the class 1 and class 2 systems in accordance with the 1974 edition, Summer 1975 Addenda of A.S.M.E. Section XI.

The biological shielding surrounding the vessel was modified during construction to allow for access to specific reactor pressure vessel and nozzle welds. The access requirements for inspection was predicated on codes approved in 1970 and 1971 which are not as restrictive as the 1980 edition.

The inspection program and the modifications described above were developed by the Boston Edison Company with assistance from its contractors. The services of Southwest Research Institute were retained to provide advice on practical modifications to existing designs for improved inspectability and to perform the preservice inspection. It is not possible, however, to make all changes that might be desired to insure literal compliance with all areas of the current inspection code. The areas of exclusion and reasons for this exclusion are discussed below.

Category B-A

Accessibility has been provided to perform the required examinations as stated in Inservice Inspection Program of selected lengths only of these welds. The shielding and insulation designs were modified to permit access to these areas and minimize this testing program and has and will continue to make every reasonable effort to comply. Although it is believed the flexibility provided by the design will permit the inspections to be performed with presently available equipment, if experience reveals these examinations to be impractical because of high radiation exposure to personnel, an evaluation will be submitted to the NRC for approval of any variance from the specified program. It is the intent of the Boston Edison Company to continue with its consultants to develop examination techniques to lessen the radiation exposure to personnel during the examinations.

BASES:

3.6.G and 4.6.G

Structural Integrity

Category B-B

In addition to the exclusion bases stated for Category A welds, at the present time there is no practical way to volumetrically inspect welds in the bottom head because of the combination of insulation and control rod and in-core monitor housings configuration on the outside of the vessel and jet pumps and core shroud on the inside of the vessel.

Category B-D

In addition to the exclusion bases stated for Category A welds, definitive volumetric examination by ultrasonic methods from external locations on nozzle internal radii is expected to be limited to ten percent of its perimeter (those portions of the nozzle inner radius lying perpendicular to the reactor vessel centerline). However, these are believed to be the most highly stressed areas on the nozzle inner radii. Modifications were made to the shielding and insulation designs around the nozzles with the intent to permit the inspections to be performed with minimal radiation exposure to personnel using presently available equipment.

It is the intent of the Boston Edison Company to continue with its consultants in the development and implementation, if practicable, of new techniques so as to include any excluded areas within the inspection program.

Category B-E

At the present time there is no practical way to volumetrically or visually inspect the bottom head penetrations or drain nozzle weld because of the combination of insulation and control rod and in-core monitor housings configuration. Also, the design of core differential pressure and shell instrumentation nozzles is such that present day volumetric inspection techniques are not practical to utilize. The combination of hydrostatic test and visual checks to be performed do provide reasonable assurance these examination areas are free of gross defects.

Category B-L-2

It is the intent that no internal examination be performed on the recirculation pumps unless they are disassembled for maintenance because of the high personnel radiation exposures which would be involved.

Category B-M-2

There are several valves in the primary pressure boundary which cannot be inspected unless the reactor fuel is removed and reactor water level lowered to the level of the entrance to the jet pump mixer assembly resulting in high personnel radiation exposures from the loss of shielding from the water. Therefore, those valves which would require the reactor water level to be lowered below the low-low water level protection system trip point are excluded from the requirement of visual inspection of internals.

BASES:

3.6.G and 4.6.G

Structural Integrity (Cont'd)

The more frequent inspections delineated for the Category J, Group I pipe welds is to provide additional conservatism in the overall approach of protection against pipe whip which has the potential to breach the containment. A pipe whip protection system is being installed consisting of steel members attached to a reinforcing plate and located such that the postulated pipe weld faulure will not breach the containment. Additional inspection of critical welds is also included in the inservice inspection program. The Group I welds listed are those pipe welds of interest.

3.6.H and 4.6.H

High Energy Piping Outside of Containment

Analyses performed and submitted to the AEC as Pilgrim Nuclear Power Station, Unit #1, FSAR Amendment #34 indicate that certain modifications to the station would increase the protection against the potential effects of postulated high energy piping failures outside the primary containment. In order to provide greater assurance that the integrity of the high energy piping outside the primary containment is maintained at an acceptable level in the interim until these modifications can be completed, an increase in the frequency of inspections of the areas of concern will be initiated. The monthly visual inspection of high energy piping outside the containment while the station is operating will provide greater assurance of the timely detection of postulated piping failures and allow appropriate corrective action to be performed. Reference to Article IWB 3000 of the 1974 ASME Boiler and Pressure Vessel Code ensures that appropriate in-service visual examination techniques and evaluations are used to implement the requirements of Technical Specification Table 4.6.2. These in-service visual examinations will normally be made with the indicated piping and insulation in its operating condition. Subsequent to the completion of the modifications, the original in-service inspection requirements defined in Section 4.6.G of these Technical Specifications will provide adequate inspections to allow timely detection of postulated failures.

BASES

3.6.I & 4.6.I

SHOCK SUPPRESSORS (SNUBBERS)

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 and all other safety related systems or components be operable during reactor operation.

The visual inspection frequency is based on the requirements of ASME, Section XI, 1980 Edition, Winter Addenda. The cumulative number of inoperable snubbers detected during any inspection interval is the basis for establishment of the subsequent inspection interval and the existing inspection interval should remain in effect until its completion.

When the cause of the rejection of a snubber is clearly established and remedied for that snubber and verified by inservice functional testing, that snubber may be exempted from being counted as inoperable.

Generically susceptible snubbers are those which are of a specific make or model and have the same design features directly related to rejection of the snubber by visual inspection, and are exposed to the same environmental conditions such as temperature, radiation, and vibration.

When a snubber is found inoperable, an engineering evaluation is initiated, in addition to the determination of the snubber mode of failure, in order to determine if any safety-related component or system has been adversely affected by the inoperability of the snubber. Initiating this evaluation within 72 hours ensures that prompt corrective action will be afforded.

Hydraulic snubbers and mechanical snubbers may each be treated as a different entity for the above surveillance programs.

The service life of a snubber is evaluated via manufacturer input and information through consideration of the snubber service conditions and associated installations and maintenance records (newly installed snubber, seal replaced, spring replaced, in high radiation area, in high temperature area, etc...). The requirement to monitor the snubber service life is included to ensure that the snubbers periodically undergo a performance evaluation in view of their age and operating conditions. These records will provide statistical bases for future consideration of snubber service life. The requirements for the maintenance of records and the snubber service life review are not intended to affect plant operation. Due to the number and complexity of the relevant interacting factors necessary to develop a comprehensive Service Life Program, this program shall become effective July 1, 1982.