Difference Category	Difference Number 3.4-	Justification for Differences
CL	133	The PI CTS require the pressurizer to be operable with a steam bubble and no specific level is specified. The bracketed level has been replaced with the Pressurizer High Water Level Allowable Value. Use of this level assures that the reactor trips prior to exceeding the TS value.
CL	134	Since no specific power capacity is specified in the CTS, this requirement has been deleted. Approved TSTF-94 was not incorporated since the changes were not applicable to PI. PI CTS require two groups of heaters to be operable and this requirement is retained in the ITS.
	135	Not used.
X	136	This SR should be performed in conjunction with the plant refueling cycle. PI intends to extend the refueling cycle to 24 months and accordingly this frequency is changed to 24 months.
CL	137	As discussed in CL3.4-134, above, the CTS do not require a specified pressurizer heater capacity. Likewise it does not require testing of the heaters to a specified capacity. Thus this SR is not included in the PI ITS.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	138	This LCO is revised to reflect the PI design with two PSVs and incorporate the CTS PSV OPERABILITY pressure range.
TA	139	This change incorporates TSTF-352, Revision 1.
	140	Not used.
PA	141	The bracketed time in the Note which allows final setting of the PSV under hot conditions allows 36 hours since PI has two PSVs.
CL	142	Condition B is modified to account for the PI design which has only two PSVs.
PA	143	The nominal setpoint pressure range is provided for clarity since it is not stated in the LCO or anywhere else in the TS.
TA	144	Incorporates TSTF-247. The portions of this TSTF which relate to a plant with three block valves were not included since PI has two PORVs and two block valves.

Difference Category	Difference Number 3.4-	Justification for Differences
	145	Not used.
CL	146	Condition A and associated Required Action, Completion Time and Bases are modified to incorporate CTS provisions which require remedial actions if one or both PORVs are inoperable solely due to excessive seat leakage.
CL	147	Condition B and associated Required Action, Completion Time and Bases are modified to incorporate CTS provisions remedial actions if a PORV is inoperable for reasons other than excessive seat leakage.
TA	148	This change incorporated TSTF-309, Revision 2 with minor modifications to make it correct with approved TSTF-247.
	149	Not used.
	150	Not used.
	151	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	152	Condition E is modified to incorporate the PI design which comprises two PORVs and the CTS LCO related to inoperability due to causes other than excessive seat leakage.
	153	Not used.
	154	Not used.
	155	Not used.
	156	Not used.
TA	157	This change incorporates TSTF-284, Revision 3.
CL	158	NUREG-1431 SR 3.4.11.3 and the associated Bases are not included since all required subcomponent testing is included in SR 3.4.11.2. Verification of the automatic PORV components is not required in order to meet the definition of PORV OPERABILITY as specified in the LCO Bases. Therefore this SR is not included.

Difference Category	Difference Number 3.4-	Justification for Differences
PA	159	The Required Action has been modified by requiring action to "assure" a maximum of one SI pump is capable of injecting into the RCS in lieu of "verifying". Use of the term "verify" is passive and inconsistent with the urgency of the situation where the operators should immediately take decisive action to make one pump incapable of injecting.
	160	Not used.
CL	161	NUREG-1431 SR 3.4.11.4 and the associated Bases are not included. Since the manual PORV function and block valves are supplied with permanent 1E power supplies, in accordance with the provisions of the Bases this SR is not required.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	162	The applicability of this Specification has been revised to apply only to MODE 4 when any RCS cold leg is less than the OPPS enable temperature and greater than the SI pump disable temperature to be consistent with CTS requirements. Accordingly, the title has been revised. Also the name of this Section is revised by deleting "System" to be consistent with the title of new Specification 3.4.13. These sections are not narrowly focused on a LTOP System but rather provide options for low temperature protection measures one of which is the LTOP System which at PI is titled, "Over Pressure Protection System (OPPS)". Thus the title, "Low Temperature Overpressure Protection" is more appropriate. The provisions of this Specification which apply when the RCS temperature is below the SI pump disable temperature are not included since they have been relocated to the new Specification 3.4.13. SRs 3.4.12.4 and 3.4.12.5 have also been revised to account for the OPPS circuitry which requires testing to support this Specification.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	163	The PI CTS and supporting analyses require that only one SI pump be capable of injecting in MODE 4 when the RCS temperature is below the LTOP enable temperature and above the SI pump disable temperature. CTS and design basis analyses do not require any restrictions on charging pump operation during RCS low temperature operations. Thus the bracketed requirements in NUREG-1431 LCO, Action, Surveillances Requirements and Bases have been deleted and NUREG-1431 SR 3.4.12.2 is not included. Since the system which provides LTOP at PI is the OPPS, this has been included in the LCO statement. To clarify the presentation of the LCO statement, the three provisions have been designated by a), b) and c). The complete name, "emergency core cooling system", is included in the LCO to make clear which accumulators are the subject of this Specification. The PORVs utilize back-up air accumulators; thus to prevent confusion, this clarifying phrase was added to the first use of accumulators in this Specification and the term "ECCS" is used thereafter. The LCO, Required Actions and Bases are revised to reflect that only the PORVs function as the RCS relief valves in the LTOP function. Since the RHR relief valve is not used in the LTOP function, NUREG-1431 SRs 3.4.12.4 and 3.4.12.7 were not

Difference Category	Difference Number 3.4-	Justification for Differences
CL	163	(continued) incorporated into the PI ITS. Since depressurizing and venting of the RCS is not an option in MODE 4, paragraph b. was deleted.
CL	164	A Note is included incorporating CTS 3.3.A.3 which provides for SI system testing (head removal is not included since it is not a viable option in MODE 4).
TA	165	This change incorporates TSTF-243.
TA	166	The Applicability Note was relocated to the LCO and reworded consistent with the guidance of approved TSTF-285, Revision 1. Since PI does not have restrictions on charging pump operation at low temperatures, the other portions of TSTF-285 are not applicable and have not been incorporated.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	167	The Applicability, Actions and Bases were revised to delete MODES 5 and 6 from this Specification since a new Specification, 3.4.13, "Low Temperature Overpressure Protection (LTOP) ≤ Safety Injection (SI) Pump Disable Temperature," has been included to address CTS requirements for operation in these MODES.
PA	168	Since the LTOP requirements have been split into two Specifications, PI ITS Required Action E has been split into E.1 which requires the plant to go to MODE 5. In NUREG-1431, when depressurizing and venting the RCS, the plant was still in a MODE included in the Applicability. Since MODE 5 is not applicable to Specification 3.4.12, the explicit requirement to change Modes is included.
CL	169	Plant specific vent area is provided in lieu of the bracketed value. This is specified as a nominal 3 square inches since the Bases, consistent with CTS Bases, states that the PORV opening of 2.956 square inches fulfills this requirement.
	170	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
X	171	ITS SR 3.4.12.2 includes a Note consistent with the LCO Note that these ECCS accumulator isolation SRs are only applicable when the accumulator pressure is greater than or equal to the maximum RCS pressure for the existing RCS cold leg temperature allowed in the PTLR.
CL	172	A new Specification is included to incorporate CTS requirements that below the SI pump disable temperature (currently 218 F) both SI pumps shall be incapable of injecting into the RCS when it is intact and capable of maintaining pressure. All subsequent Specifications have been renumbered to incorporate this new Specification. This new Specification includes applicable portions of approved TSTF-205 Rev. 3, TSTF-233, TSTF-243, TSTF-271 Rev. 1; TSTF-280 Rev. 1, TSTF-284 Rev. 3 and TSTF-285 Rev. 1.
CL	173	The 1 gpm SG leakage limit has not been included since the CTS does not have this limit. The 1 gpm limit is enveloped by the 150 gpd limit and is unnecessary. This change is also consistent with current industry initiatives to remove this limit from NUREG-1431.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	174	Action statements A and B and the Bases have been revised to be consistent with CTS. Two new Action statements C and D have been included to develop the succession of possible events from unidentified LEAKAGE to pressure boundary LEAKAGE existing or SG LEAKAGE not within limits consistent with PI CTS. Supporting changes have also been made in the Bases.
CL	175	The CTS value of 150 gallons per day primary to secondary leakage is included.
TA	176	Incorporates TSTF-116, Rev. 2. "Equilibrium xenon" has been included in the Bases list of considerations for "steady state operating condition", since at PI this is a significant consideration affecting the RCS water inventory balance.
TA	177	Incorporates approved TSTF-61.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	178	The Applicability, Surveillance Requirements and Bases are revised to eliminate discussion concerning the exclusion for PIVs in the RHR flow path during the RHR mode of operation. The only PIV in the RHR system which is governed by this LCO is a check valve in the flow path which provides normal plant cooldown flow into the reactor vessel; thus this exception does not apply.
PA	179	In accordance with current industry guidance, "Tube Surveillance" is not included in the program title and the title has been changed to "Steam Generator Program". This change is also consistent with the program title and description in ITS 5.5.8.
	180	Not used.
X	181	The second option for Required Action A.2 was selected with the Bases revised accordingly. Since the second option does not require use of additional valves, SR 3.4.15.1 should not refer to Required Action A.2.

Difference Category	Difference Number 3.4-	Justification for Differences
PA	182	Minor change to delete reference to Condition A which is not required since Condition A is the only Action statement to which Condition B can apply per the Writer's Guide.
	183	Not used.
CL	184	The Frequency and Bases are revised to incorporate the CTS requirements for testing Frequency such as every 24 months, prior to entering Mode 2 under the specified conditions and prior to returning a PIV to service after maintenance, repair or replacement. The CTS require testing following each refueling outage; thus the Frequency is specified as 24 months to accommodate 24 month refueling cycles. These changes are acceptable since they are part of the plant current licensing basis and assure acceptable performance of these valves. NUREG-1431 requirements to test the valves following each use have not been included, since this is not a CTS requirement.
	185	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	186	The bracketed Condition C for the RHR System auto closure interlock (ACI) is not included in the PI ITS. This plant design feature is not included in the PI CTS and thus is not included in the ITS. The associated SRs (ISTS SR 3.4.14.2 and 3.4.14.3) have not been included. Likewise, the Bases associated with Condition C and the associated SR Bases have not been included.
X	187	This SR should be performed in conjunction with the plant refueling cycle. PI intends to extend the refueling cycle to 24 months and accordingly this frequency is changed to 24 months. Since this SR is new for the PI plant, there is no historical basis for not performing the SR at 24 month intervals.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	188	The LCO, Actions and Bases are revised to incorporate CTS requirements which make containment radionuclide monitoring one form of required RCS leakage detection instrumentation. The SRs associated with maintaining the radionuclide monitoring instrumentation have been included in the PI ITS. To be consistent with PI CTS which requires two methods for detecting RCS leakage, containment sump A pump run time monitoring is also included with appropriate Actions, SRs and Bases. PI uses other methods for RCS leakage detection, as discussed in the ITS Bases and the USAR; however, these other methods are not amenable to incorporation into the ITS and are not part of CTS. Operating experience for over twenty-five years has demonstrated on numerous occasions that the PI leakage detection methods, TS and non-TS, are adequate to provide early detection of RCS leakage.
CL	189	PI does not have CTS requirements for containment air cooler condensate flow rate monitoring and does not have a system which is amenable for inclusion in the ITS. Thus the LCO, Action, SR and associated Bases are not included in the PI ITS.
	190	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	191	The SR Note which eliminates a repetitive testing loop is not included in the PI ITS. CTS do not require testing of the PIVs after each use and thus the testing requirements do not introduce the possibility of a repetitive testing loop.
CL	192	The clause "reactor coolant pressure boundary [or the" has not been included since the PI system design does not include any isolation valves in the RCPB which will perform this function.
	193	Not used.
TA	194	This change incorporates TSTF-60. Some minor changes have been made to use PI terminology.
	195	Not used.
	196	Not used.
	197	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
	198	Not used.
	199	Not used.
	200	Not used.
TA	201	This change incorporates TSTF-28.
	202	Not used.
	203	Not used.
CL	204	NUREG-1431 Specifications 3.4.17 and 3.4.18 are not included since PI does not have RCS loop isolation valves.
	205	Not used.
TA	206	Incorporates TSTF-108, Rev. 1.

Difference Category	Difference Number 3.4-	Justification for Differences
	207	Not used.
	208	Not used.
	209	Not used.
	210	Not used.
PA	211	Included throughout the Bases are reference corrections, renumbering and relettering of paragraphs and minor wording changes which have been made to accommodate changes to the Specifications and PI unique needs. These changes are not identified by change numbers.
CL	212	In Bases 3.4.1, deleted discussion of a specific DNBR limit. More than one limit is used in the PI safety analysis, depending on the event analyzed.
TA	213	This change incorporates TSTF-136

Difference Category	Difference Number 3.4-	Justification for Differences
CL	214	In Bases 3.4.1, revised discussion of the source of the DNB limits to agree with their development in the PI specific safety analysis. The safety analysis does not use the term analytical limits. It does use conservative assumptions for transient initial conditions.
CL	215	In Bases 3.4.1, revised discussion of treatment of the RCS flow uncertainty to agree with plant specific implementation, and clarified the purpose of the DNB parameter allowances.
PA	216	In Bases 3.4.1, revised discussion to clarify the significance of increasing vs. decreasing transients.
CL	217	PI CTS requirements are all based on isothermal temperature coefficient (ITC). Consistent with ITS Section 3.1.3, moderator temperature coefficient (MTC) is changed to ITC throughout B3.4.2.

Difference Category	Difference Number 3.4-	Justification for Differences
PA	218	PI transient analyses assume a conservatively high or conservatively low HZP temperature, depending on the transient analyzed. The range around nominal HZP is selected to account for the assumptions. The minimum temperature for criticality is the lower value of this range.
PA	219	In Bases 3.4.1, Applicability, deleted the last sentence. The sentence presents an expectation for operator action that is not prescribed in the Specification. Chapter 2 covers operator response to potential SL violations.
	220	Not used.
CL	221	PI was licensed prior to issuance of 10CFR50 Appendix A. PI did commit, to the extent described in the USAR Section 1, to the Atomic Energy Commission (AEC) draft General Design Criteria (GDC) which were issued for comment July 10, 1967. Generally the AEC GDC number is different than the 10CFR50 Appendix A GDC number.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	222	Discussion of the reactor vessel material surveillance program is revised to reflect the status of the planned program. The USAR description of the program and requirements is referenced to ensure consistency with current licensing basis.
PA	223	In Bases 3.4.4, Background, removed the secondary function that is not relevant during the MODES of APPLICABILITY covered by this Specification.
CL	224	In Bases 3.4.4, revised the Applicable Safety Analysis discussion to more clearly represent PI specific analyses accounting for RCS flow, DNBR and applicable events. These changes are made to avoid possible misinterpretation of the analysis.
	225	Not used.
CL	226	In Bases 3.4.5, Applicable Safety Analysis, deleted discussion of a power excursion due to rod ejection. PI does not specifically analyze this transient for sub-critical conditions since it would not result in a power excursion and the reactor would remain sub-critical irrespective of the number of RC loops in operation.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	227	Clarified discussion of safety analyses to more closely represent the PI specific analysis methodology, assumptions, transients analyzed, and results acceptability. The only transient analyzed from sub-critical is accidental rod withdrawal, which assumes both loops in operation.
PA	228	Edited discussion of the testing campaign that is used as the basis for the LCO Note to more closely present that campaign as historical, is not expected to be repeated, and likely would require new test procedures.
PA	229	In Bases 3.4.5, Action D, deleted second occurrence of the sentence regarding opening RTB's or de-energizing MG sets. This sentence is redundant due to the change earlier in the paragraph from TSTF-87.
	230	Not used.
	231	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
PA	232	In Sections 3.4.5, 3.4.6 and 3.4.7, Bases LCO, the statement defining an OPERABLE SG is edited. The terminology "...Steam Generator Tube Surveillance Program," is not utilized in the PI ITS. Operability is sufficiently defined in other sections of ITS; thus this clarification is not necessary. The clarification that is unique to operation in the shutdown modes of a minimum wide range level, specified in SR 3.4.7.2, is added to Bases 3.4.7, LCO. This is consistent with the other Bases, 3.4.5 and 3.4.6.
	233	Not used.
	234	Not used.
	235	Not used.
	236	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	237	Section 3.4.6, 3.4.7 and 3.4.8 Bases, Applicable Safety Analysis, is edited to recognize that while it is acknowledged that forced RCS circulation increases the time available, PI does not have a current licensing basis analysis that quantifies the relationship to the time available.
PA	238	NUREG 1431 Section 3.4.6 Bases, Applicability, statements regarding the purpose of requiring forced circulation are not included in PI ITS. The purpose of providing forced flow, and redundant forced flow, is sufficiently discussed in the Background and LCO discussion, phrased in a manner that is not inconsistent with current licensing basis. Also, providing this additional clarification in B3.4.6 Applicability is inconsistent with B3.4.5 Applicability.
PA	239	Added clarification in Section 3.4.6 Bases, Action A, to emphasize the importance of immediate restoration of an RCS or RHR loop to provide forced flow in the Condition where both RHR loops are inoperable. This emphasis notes that remaining in MODE 4 with an RCS loop providing forced flow is more conservative than entry to a reduced MODE that would necessitate use of other inoperable cooling mechanisms.
	240	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
	241	Not used.
	242	Not used.
	243	Not used.
	244	Not used.
	245	Not used.
TA	246	Incorporated approved TSTF-114.
CL	247	NUREG Section 3.4.7 Bases, Background, includes "protection" in the sentence defining what constitutes an operable RHR loop. The flow and temperature instrumentation associated with the RHR System at PI do not provide any form of protection, so this term is not included in the ITS.
	248-255	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
TA	256	Incorporated approved TSTF-162.
PA	257	Statements are added to Bases Section 3.4.9 Background to clarify the discussion of small amounts of non-condensible gases. The added statements point out that the existence of these gases is to be expected, and that this presence is not significant when there is a steam bubble. These editorial additions are to improve operator understanding.
PA	258	NUREG 1431 SR 3.4.9.1 Bases statements "...corresponds to verifying the parameter each shift." and "...verify that operation is within safety analysis assumptions." are not included in ITS. Over the plant life, the operator shift duration has varied between 8 hours and 12 hours. Including the statement would result in the need revise this Bases when the shift is other than 12 hours. Although there is tacit assumption in the safety analysis that the pressurizer is not water solid, there is no basis in the assumption from which to quantify a level as a basis for any particular surveillance criteria. Other areas of the Bases discuss the purpose of the level in general terms. These discussions provide sufficient insight. The NUREG statement can be misinterpreted as implying specific SR criteria. Since it could be misleading, and is otherwise addressed, it is not included in the SR Bases.

Difference Category	Difference Number 3.4-	Justification for Differences
	259	Not used.
	260	Not used.
CL	261	NUREG 1431 Section 3.4.10 Bases, Applicable Safety Analysis, includes the statement "Safety valve actuation is required in events c, d, and e (above) to limit the pressure increase." The set of transients that require safety valve operation per the PI safety analysis is cycle specific. The results of these analyses is documented in the cycle specific COLR. Thus the statement is not included in the ITS Bases.
	262-266	Not used.
TA	267	Incorporates TSTF-151 as modified by WOG-ED-20.

Difference Category	Difference Number 3.4-	Justification for Differences
PA	268	Bases Section 3.4.11 Applicability is edited to emphasize the SGTR event which per safety analysis and procedures is the event that utilizes the PORV's for mitigation and recovery. The secondary purpose of PORV and block valve operability, which is not assumed in safety analysis, is clarified to be consistent with operational use of these valves. This is consistent with TSTF-151. ISTS discussion related to potential causes of PORV spurious opening is deleted. This discussion is inconsistent with 2-loop plant control system design and is extraneous. As determined in post-TMI control system evaluation, the 2-loop plant control system does not utilize a rate circuit similar to the 3 and 4-loop plant control system, thus is not susceptible to the postulated spurious operation. The remaining discussion provides sufficient basis to support the MODE Applicability requirements. These changes eliminate possible operator confusion by clarifying the need for the valves. This is considered an editorial change.
	269	Not used.
	270	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	271	The original implementation of the LTOP requirements at PI involved installation of the Over Pressure Protection System (OPPS) and air accumulators for the PORV's. OPPS used existing RCS parameters as inputs. OPPS provides the algorithms, logic, and setpoints for alarms and PORV actuation. The input instrumentation and the PORV's retain the original systems assignment. Thus, an "LTOP system" does not exist within PI terminology. The "LTOP function" used in the ITS Specification is provided by components assigned to multiple plant systems. The Bases is revised throughout to clearly identify OPPS, the functionality OPPS provides, and the distinction between OPPS and the components that are part of other systems.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	272	The LTOP requirements have been split into two Specifications based on mass input limits established in the PI specific analyses. Bases Section 3.4.12 and new Bases Section 3.4.13, Background and Applicable Safety Analyses are edited to correlate to the PI specific analyses. To ensure consistency with the analyses and avoid statements that may be inaccurate for the plant conditions within the applicable operating regime of each Specification, the summary purpose for provision of low temperature overpressure protection is replaced with CTS Bases statements. The analyzed transients, resultant limitations and mitigation requirements are edited to be consistent with the PI specific analysis and LCO. NUREG-1431 statements regarding analysis results that are not clearly stated within the PI analyses are not included. Since the Applicability split between the two Sections is a point that does not align with the MODE definitions in NUREG-1431, use of the term "LTOP MODES" is not directly applicable to either Specification. In order to provide a simple, understandable replacement for "LTOP MODES", reference to the Applicability statement of the Specification is inserted.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	273	The NUREG 1431 SR 3.4.12.1 and 3.4.12.2 Bases are edited to PI specific current license requirements and practices. The NUREG alternative methods for LTOP control other than removing power from the SI pumps. The ITS delineates the methods provided for in CTS. These methods are consistent with the criteria for acceptable alternatives listed in the NUREG bases. The method of verifying accumulator discharge valve status is delineated.
	274-296	Not used.
CL	297	The PIVs are included in the PI ITS as the result of an Order for Modification of License issued by the NRC April 20, 1981. Since the Regulations listed in the Bases Background are not the basis for including these valves in this Specification, they are not included in the discussion or as references in this Bases.
PA	298	The Background paragraph which discussed what LCO 3.4.14 (ISTS 3.4.13) is not included since this is not accurate for PI and this paragraph is not necessary in the Bases.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	299	The Bases Applicable Safety Analyses have been revised to provide clarification and agree with the USAR and CTS Bases for RCS leakage TS.
PA	300	Clarification is provided that leakage past pressurizer safety valve seats does not meet the definition of reactor coolant pressure boundary leakage. This is explicitly stated since it has been an issue with the PI operators previously.
CL	301	PI is not committed to R.G. 1.45 and thus the leakage detection requirements are referenced to the leakage detection instrumentation specification.
TA	302	This change incorporates TSTF-54, Revision 1.
CL	303	The 150 gallon per day SG primary to secondary leakage rate is based on the Steam Generator Voltage Based Alternate Repair Criteria approved for PI in License Amendments 133/125 issued November 18, 1997.
CL	304	CTS Bases discussion of the role of seal welds at threaded joints are included in the ITS to provide clarification.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	305	CTS requirements have been relocated to the ITS Bases.
CL	306	The PI list of PIVs is in the CTS and has been relocated to the Bases LCO discussion. Reference to a separate list in the USAR is not required. This list is based on the NRC study provided in the letter from Robert A. Clark, NRC, to L. O. Mayer, NSP, subject: "Order for Modification of License Concerning Primary Coolant System Pressure Isolation Valves," dated April 20, 1981.
CL	307	The CTS required minimum test pressure differential across the PIVs has been relocated to the Bases.
	308	Not used.
CL	309	The definition of PIVs provided in these Bases is very broad and thus the Bases are clarified to assure that only the PIVs included in the CTS are included in this LCO. The CTS lists PIVs based on the NRC study which identified the risk significant configurations. Thus the Bases are modified to clarify that this Specification applies to the risk significant valves as identified in the LCO section of the Bases.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	310	CTS Bases and the USAR (Ref. 2) describe methods for leakage detection at PI which are not included in the ISTS. Discussion of these methods have been included in the PI ITS Bases to make the presentation complete. As noted in the proposed Bases, these methods are not required by this LCO. Reference to Regulatory Guide 1.45 is not included since PI is not committed to this document.
CL	311	The NUREG-1431 discussion of air cooler condensate flow rates is not applicable to PI and has been replaced with a discussion of Sump A pump run time monitoring which provides comparable indication. Although run time instrumentation is not required by the CTS, it is included in the ITS.
	312	Not used.
TA	313	This change incorporates TSTF-205, Revision 3.
TA	314	This change incorporates TSTF-137.
	315	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
TA	316	This change incorporates TSTF-154, Revision 2.
CL	317	Clarification is provided in the LCO discussion of the Bases as to the purpose of this specification.
	318	Not used.
CL	319	The discussion of humidity measurements has been modified to reflect monitoring capabilities at PI.
	320	Not used.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	321	CTS require two methods of instrumentation to detect RCS leakage; however, the second method, other than radionuclide monitoring, is not required to indicate in the control room. The ITS includes containment sump monitoring because it is closest to the methods given in NUREG-1431 and is one of the methods currently used at PI. This is in addition to other indications in the control room such as containment pressure, temperature, humidity and pressurizer level. Some of these parameters are required to be monitored by other Specifications for other reasons, but would certainly be evaluated for RCS leakage if they indicated abnormally. However, containment sump monitoring is not installed instrumentation in the control room. A physical plant modification would be required to allow it to indicate in the control room. Therefore, the Bases Applicable Safety Analyses discussion references 10 CFR 50.36 (c)(2)(ii) Criterion 4 for this instrumentation.
CL	322	Since PI is extending the refueling cycle to 24 months through this license amendment, operating experience with this interval does not exist.
CL	323	Specific instruments which satisfy the requirements of this LCO have been included for clarity.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	324	The NUREG-1431 discussion of the analyses which support Specification 3.4.17 have not been included and have been replaced by the discussion from PI CTS. In 1979 PI was requested by the NRC to incorporate RCS Specific Activity limits which are equivalent to those in Specification 3.4.17. These limits were issued by the NRC on December 4, 1981 (ITS Bases 3.4.17 Ref. 2). However, NSP was not provided with the analyses which support these limits; thus the Bases were revised stating that the limits are based on NRC parametric evaluations. In November 1999 NSP requested these evaluations, but the NRC was unable to find them. Since PI does not have USAR analyses which support these limits, we continue to depend on the NRC parametric evaluations as stated in the Bases for ITS LCO 3.4.17. to determine that the NUREG-1431 Bases 3.4.16.
CL	325	NUREG-1431 does not provide a basis for operating within the limits of Figure 3.4.17-1; therefore, discussion from the CTS Bases is included.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	326	The PI CTS and ITS specify instrumentation allowable values and do not specify setpoints. The values of these setpoints are determined by the PI Setpoint Methodology Program. Therefore the specific setpoints have been removed from the Bases for ITS 3.4.18. Placing setpoint requirements in the Bases is an obscure location for them.
PA	327	The NUREG-1431 discussion of tests which will be performed is not included since PI has already performed the tests required to operate. Any tests which may have to be performed in the future will be defined when they are required.
CL	328	An additional paragraph has been included in the Bases for 3.4.5 Required Action A.1. This information makes it clear to the operators that the plant may be in natural circulation mode of core cooling for up to 72 hours in MODE 3 if neither reactor coolant pump can be made operational. The format of NUREG-1431 provides this course of action, but without this additional paragraph, the Bases do not provide any corroborating guidance, thus this paragraph is necessary. This change also is consistent with CTS guidance for the operators if neither reactor coolant pump is OPERABLE.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	329	ISTS Bases 3.4.3, Required Action A.1 and A.2 has been revised to include relocated information from the CTS. Therefore, the ISTS Bases has been revised as follows: "Several methods may be used, including an engineering evaluation to determine effects of the out-of-limit condition on the structural integrity of the RCS, a comparison with pre-analyzed transients in the stress analyses, new analyses, or inspection of the components." The addition of the subject CTS statement provides clarification for an evaluation in order to determine if the RCS is acceptable for continued operation in the event the RCS pressure and temperature are not within limits.
TA	330	This change incorporates TSTF 263, Rev 3 as modified to PI. PI is only a two loop plant, therefore, some of the TSTF was editorially changed to reflect this.

Difference Category	Difference Number 3.4-	Justification for Differences
CL	331	CTS Table requires that the Primary System Leakage be evaluated daily. ITS SR 3.4.14.1 requires verification that the RCS operational leakage is within limits every 72 hours. PI has changed the Frequency from 72 hours to 24 hours to be consistent with the CTS. The 24 hours is a reasonable interval to trend LEAKAGE and recognizes the importance of early leakage detection in the prevention of accidents.

PART G

PACKAGE 3.4

REACTOR COOLANT SYSTEM (RCS)

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)
(A3.4-00, A3.4-03, A3.4-08, A3.4-14, A3.4-18, A3.4-22, A3.4-28, A3.4-39, A3.4-46, A3.4-49, A3.4-61, A3.4-71, A3.4-73, A3.4-77, A3.4-78, A3.4-83, A3.4-99, A3.4-100, A3.4-102, A3.4-103, A3.4-104, A3.4-105, A3.4-106, A3.4-107, A3.4-110, A3.4-111, A3.4-112, A3.4-113, A3.4-114, A3.4-120, A3.4-121, A3.4-122, A3.4-124, A3.4-125, A3.3-127)

Most administrative changes have not been marked-up in the Current Technical Specifications, and may not be specifically referenced to a discussion of change. This No Significant Hazards Determination (NSHD) may be referenced in a discussion of change by the prefix "A" if the change is not obviously an administrative change and requires an explanation.

These proposed changes are editorial in nature. They involve reformatting, renaming, renumbering, or rewording of existing Technical Specifications to provide consistency

M - More restrictive (GENERIC NSHD)
(M3.4-04, M3.4-06, M3.4-07, M3.4-11, M3.4-12, M3.4-13, M3.4-17, M3.4-21, M3.4-26, M3.4-31, M3.4-32, M3.4-33, M3.4-34, M3.4-37, M3.4-38, M3.4-41, M3.4-42, M3.4-43, M3.4-44, M3.4-45, M3.4-51, M3.4-52, M3.4-54, M3.4-57, M3.4-62, M3.4-63, M3.4-64, M3.4-72, M3.4-81, M3.4-84, M3.4-85, M3.4-117, M3.4-123)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increase the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

<u>LR - Less restrictive, Relocated details</u> (GENERIC NSHD)
(LR3.4-01, LR3.4-24, LR3.4-53, LR3.4-74, LR3.4-94, LR3.4-96, LR3.4-97, LR3.4-98, LR3.4-101)

Some information in the Prairie Island Current Technical Specifications that is descriptive in nature regarding the equipment, system(s), actions or surveillances identified by the specification has been removed from the proposed specification and relocated to the proposed Bases, Updated Safety Analysis Report or licensee controlled procedures. The relocation of this descriptive information to the Bases of the Improved Technical Specifications, Updated Safety Analysis Report or licensee controlled procedures is acceptable because these documents will be controlled by the Improved Technical Specifications required programs, procedures or 10CFR50.59. Therefore, the descriptive information that has been moved continues to be maintained in an appropriately controlled manner.

1. The proposed amendment will not involve a significant increase in the probability <u>or consequences of an accident previously evaluated.</u>

   The proposed changes relocate detailed, descriptive requirements from the Technical Specifications to the Bases, Updated Safety Analysis Report or licensee controlled procedures. These documents containing the relocated requirements will be maintained under the provisions of 10CFR50.59, a program or procedure based on 10CFR50.59 evaluation of changes, or NRC approved methodologies. Since these documents to which the Technical Specifications requirements have been relocated are evaluated under 10CFR50.59 or its guidance, or in accordance with NRC approved methodologies, no increase in the probability or consequences of an accident previously evaluate will be allowed without prior NRC approval. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind <u>of accident from any accident previously analyzed.</u>

   These proposed changes do not necessitate physical alteration of the plant, that is, no new or different type of equipment will be installed, or change parameters governing normal plant operation. The proposed changes will not impose any different requirements and adequate control of the information will be maintained. Thus, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.4-23 (Deleted)

Specific NSHD for Change L3.4-23 (Deleted)

Specific NSHD for Change L3.4-89 (deleted)

Specific NSHD for Change L3.4-109

This change involves increasing the Completion Time for shutting down the plant from 12 hours to 24 hours in the event that the pressurizer safety valve cannot be restored to OPERABLE status within 15 minutes or if both pressurizer safety valves are inoperable.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The ITS specifically requires both pressurizer valves to be OPERABLE in MODES 1, 2, 3, or MODE 4 with all RCS cold leg temperatures > OPPS enable temperature specified in the PTLR. In the event one pressurizer safety valve is inoperable, restoration must be completed in 15 minutes. If the valve cannot be restored in the 15 minutes, or if both pressurizer safety valves are inoperable, the unit must be placed in MODE 3 within 6 hours and MODE 4 in 24 hours with any RCS cold leg temperature ≤ the OPPS enable temperature specified in the PTLR. In the same condition, the CTS requires that the reactor be in MODE 3 within 6 hours and reduce reactor coolant system average temperature below 350 degrees F within the next 6 hours (12 hours total). The ITS would allow 24 hours to reduce cold leg temperature to ≤ OPPS enable temperature per the PTLR. Although the ITS requires that the plant be cooled down further, the increased Completion Time to 24 hours is considered to be a less restrictive change. The consequences of a previously analyzed event are dependent on the initial conditions assumed for the analysis, the availability and successful functioning of the equipment assumed to operate in response to the analyzed event, or the setpoints at which these actions are initiated. This change does not affect the performance of any credited equipment or involve any instrumentation setpoints. As a result, no new instrument drift or supporting calculation assumptions are introduced. The increased Completion Time provides reasonable time based on operating experience to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. With any RCS cold leg temperature at or below the OPPS enable temperature specified in the PTLR, overpressure protection is provided by the LTOP function. The 24 hours is reasonable based on operating experience to reach the required plant conditions from full power in a orderly manner and without challenging plant systems. Decreasing power from Modes 1, 2, or 3 to Mode 4 reduces the RCS energy (core pressure and power), lowers the potential for large pressurizer insurges, and thereby removes the need for overpressure protection by both pressurizer safety valves. In addition, at lower temperature and pressure conditions, LTOP will still provide added protection. Thus this change does not involve a significant increase in the probability of an accident.

   Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

<u>Specific NSHD for Change L3.4-109</u> (continued)

2. <u>The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.</u>

   This proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. The proposed change does not introduce a new mode of plant operation or changes in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. <u>The proposed amendment will not involve a significant reduction in the margin of safety.</u>

   The margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. This proposed change allows an additional 12 hours (24 hours total) to place the reactor in MODE 4 with any RCS cold leg temperature $\leq$ the OPPS enable temperature specified in the PTLR. This is a reasonable Completion Time, based on operating experience to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems. With any RCS cold leg temperature at or below the OPPS enable temperature specified in the PTLR, overpressure protection is provided by the function.

   Thus, increasing the Completion Time does not involve a significant reduction in a margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.4-118

This change provides for various options of placing the rod control drive system in a condition incapable of rod withdrawal in the event that two RCS loops are inoperable or the required RCS loop is not in operation. This change is consistent with the guidance of NUREG-1431 as revised by TSTF-87, Rev. 2.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The CTS specifically requires only one method, de-energizing the control rod drive system, for assuring that the System is incapable of rod withdrawal in the event that both RCS loops are inoperable or if the required RCS loop in not in operation. ISTS LCO 3.4.5, Required Action D.1 provides additional flexibility by allowing the control rod drive system to be placed in a condition incapable of rod withdrawal. This flexibility allows other methods to be used to assure that the rod control drive system is incapable of rod withdrawal. These methods may include but not limited to de-energization of the control rod drive system, de-energization of all CRDM's by opening the RTBs, or de-energization of the MG sets. The consequences of a previously analyzed event are dependent on the initial conditions assumed for the analysis, the availability and successful functioning of the equipment assumed to operate in response to the analyzed event, or the setpoints at which these actions are initiated. This change does not affect the performance of any credited equipment or involve any instrumentation setpoints. As a result, no new instrument drift or supporting calculation assumptions are introduced. The subject Required Action only provides optional methods of assuring that the control rod drive system is incapable of rod withdrawal in the event that both RCS loops are inoperable or the required loop is not in operation. Since this change still prohibits the control rods to be withdrawn, there would not be any mechanism or potential of generating additional heat generated from the reactor core. Thus this change does not involve a significant increase in the probability of an accident.

   Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Specific NSHD for Change L3.4-118 (continued)

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   This proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. The proposed change does not introduce a new mode of plant operation or changes in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. This propose change provides additional methods for assuring that the control rod drive system is incapable of rod withdrawal in the event that both RCS loops are inoperable or that the required RCS loop is not in operation. The overall intent, assuring that the control rods can not be withdrawn and thereby increasing the potential heat input to the reactor coolant is maintained. Since the revised Actions still assure rod withdrawal is precluded, details of specifically stating de-energization of the control rod drive system is not necessary nor required to provide adequate protection of the public health and safety. This change allows alternate operation to preclude rod withdrawal.

   Thus, revising this requirement does not involve a significant reduction in a margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

Specific NSHD for Change L3.4-126

CTS 3.1.A.c (1) requires two methods for removing decay heat with one of the methods in operation. The CTS further states that acceptable methods for removing decay heat are at least on reactor coolant pump (RCP) and its associated steam generator (SG) or a residual heat removal loop including its associated heat exchanger. This change eliminates the CTS requirement of having the associated RCP OPERABLE when the SG is being used for decay heat removal.

1. The proposed amendment will not involve a significant increase in the probability <u>or consequences of an accident previously evaluated.</u>

   The CTS specifically requires two methods for removing decay heat with one of the methods in operation. The CTS further states that acceptable methods for removing decay heat are at least one reactor coolant pump (RCP) and its associated steam generator (SG) or a residual heat removal loop including its associated heat exchanger. The consequences of a previously analyzed event are dependent on the initial conditions assumed for the analysis, the availability and successful functioning of the equipment assumed to operate in response to the analyzed event, or the setpoints at which these actions are initiated. This change does not affect the performance of any credited equipment or involve any instrumentation setpoints. As a result, no new instrument drift or supporting calculation assumptions are introduced. The subject change only eliminates the requirement for an RCP to be OPERABLE in the event its associated SG is being used as a second method of decay heat removal when the reactor is in Mode 5 with its loops filled. This change is acceptable since the only RHR loop that is OPERABLE and in operation provides forced circulation to perform the safety functions of the reactor coolant under Mode 5, loops filled condition. An additional RHR loop is required to be OPERABLE to provide redundancy. However, if the standby RHR loop is not OPERABLE, an acceptable alternate method is a SG. The SG could be used to remove decay heat via natural circulation. This change still provides acceptable and adequate methods of decay heat removal. As stated above, the associated RCP is not needed to perform any function to ensure RCS circulation since there will still be a RHR loop OPERABLE and in operation. In addition, the SG would provide sufficient heat sink and the RCS could be continued to be cooled by natural circulation in

Specific NSHD for Change L3.4-126 (continued)

the event the second RHR loop also became inoperable. Thus, this change does not involve a significant increase in the probability of an accident. Thus this change does not involve a significant increase in the probability of an accident.

Therefore, this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   This proposed change does not involve a physical alteration of the plant; that is, no new or different type of equipment will be installed. The proposed change does not introduce a new mode of plant operation or changes in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed amendment will not involve a significant reduction in the margin of safety.

   The margin of safety is established through equipment design, operating parameters, and the setpoints at which automatic actions are initiated. This propose change provides additional methods for assuring adequate RCS cooling through the OPERABLE RHR loop or SG, if relied upon as a second method of decay heat removal. The associated RCP is not needed to perform any function in order to ensure RCS circulation since there will be a RHR loop OPERABLE and inoperation. In addition, the SG would provide a sufficient heat sink and the RCS could continued to be cooled by natural circulation in the event the second RHR loop also became inoperable.

   Thus, revising this requirement does not involve a significant reduction in a margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration. This change is consistent with the guidance of NUREG-1431.

ENVIRONMENTAL ASSESSMENT

The Nuclear Management Company has evaluated the proposed changes and determined that:

1. The changes do not involve a significant hazards consideration, or

2. The changes do not involve a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or

3. The changes do not involve a significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the proposed changes meet the eligibility criteria for categorical exclusion set forth in 10 CFR Part 51 Section 51.22(c)(9). Therefore, pursuant to 10 CFR Part 51 Section 51.22(b), an environmental assessment of the proposed changes is not required.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ------------NOTE----------- Only applicable to penetration flow paths with two containment isolation valves. ------------------------------- One or more penetration flow paths with one containment isolation valve inoperable for reasons other than Condition D.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated or mechanically blocked power operated valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours
	<u>AND</u>	
	A.2 ------------NOTES------------ 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. -------------------------------- Verify the affected penetration flow path is isolated.	Once per 31 days for isolation devices outside containment <u>AND</u>

3.6 CONTAINMENT SYSTEMS

3.6.8 Vacuum Breaker System

LCO 3.6.8 Two vacuum breaker trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Vacuum relief function of one or both valves in one vacuum breaker train inoperable.	A.1 Restore vacuum breaker train to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.8.1	Verify each vacuum breaker train opens on an actual or simulated containment vacuum equal to or less than 0.5 psi and closes on an actual or simulated containment isolation signal.	92 days
SR 3.6.8.2	Perform CHANNEL CALIBRATION.	24 months

BASES

BACKGROUND (continued)

the operators depending on the accident progression and mitigation requirements.

Upon receipt of a containment pressure High-High signal, both main steam isolation valves close which also causes the instrument air line to containment to isolate if a containment isolation signal is also present. In addition to the isolation signals listed above, the containment purge and inservice purge supply and exhaust line valves and dampers receive isolation signals on a safety injection signal, a containment high radiation condition, a manual containment isolation actuation and manual containment spray initiation. As a result, the containment isolation valves (and blind flanges) help ensure that the containment atmosphere will be isolated from the outside environment in the event of a release of fission product radioactivity to the containment atmosphere resulting from a DBA.

The OPERABILITY requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analyses. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the safety analyses will be maintained.

BASES

APPLICABLE SAFETY ANALYSES (continued)

Containment isolation also isolates the RCS to prevent the release of radioactive material. However, RCS isolation, not isolation of containment, is required for events which result in failed fuel and do not breach the integrity of the RCS (e.g., reactor coolant pump locked rotor). The isolation of containment following these events also isolates the RCS from all non-essential systems to prevent the release of radioactive material outside the RCS. The containment isolation time requirements for these events are bounded by those for the LOCA.

The Containment Isolation System is designed to provide two in series boundaries for each penetration such that no single credible failure or malfunction (expected fault condition) occurring in any active system component can result in loss of isolation or intolerable leakage in compliance with the AEC GDC 53, "Containment Isolation Valves," (Ref. 4).

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

The containment isolation devices covered by this LCO consist of isolation valves (manual valves, check valves, air operated valves, and motor operated valves), pipe and end caps, closed systems, and blind flanges.

BASES

LCO (continued)

Vent and drain valves located between two isolation valves are also containment isolation devices. Test connections located between two isolation valves are similar to vent and drain lines except that no valve may exist in the test line. A cap or blind flange, as applicable, must be installed on these vent, drain and test lines. A cap or blind flange installed on these lines make them "otherwise secured" for SR considerations.

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The 36 inch purge valves must be blind flanged in MODES 1, 2, 3, and 4. The valves covered by this LCO are listed in Reference 2.

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic power operated valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 2.

Inservice purge valves with resilient seals (when in service) and secondary containment (shield building and auxiliary building special ventilation zone) bypass valves must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing.

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

BASES (continued)

APPLICABILITY

In MODES 1, 2, 3, and 4, a DBA could cause a release of radioactive material to containment. In MODES 5 and 6, the probability and consequences of these events are reduced due to the pressure and temperature limitations of these MODES. Therefore, the containment isolation valves are not required to be OPERABLE in MODE 5. The requirements for containment isolation valves during MODE 6 are addressed in LCO 3.9.4, "Containment Penetrations."

ACTIONS

The ACTIONS are modified by four Notes. The first Note allows penetration flow paths, except for 36 inch containment purge system penetration flow paths, to be unisolated intermittently under administrative controls. These administrative controls consist of stationing a dedicated operator at the valve controls, who is in continuous communication with the control room. In this way, the penetration can be rapidly isolated when a need for containment isolation is indicated. Due to the blind flanges on the containment purge system lines during plant operation, the penetration flow path containing these flanges may not be opened under administrative controls.

A second Note has been added to provide clarification that, for this LCO, separate Condition entry is allowed for each penetration flow path. This is acceptable, since the Required Actions for each Condition provide appropriate compensatory actions for each inoperable containment isolation valve. Complying with the Required Actions may allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

BASES

ACTIONS (continued)

In the event containment isolation valve leakage results in exceeding the overall containment leakage rate acceptance criteria, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, except for inservice purge penetrations (when in service) or secondary containment bypass leakage not within limit, the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated or mechanically blocked power operated containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

For affected penetration flow paths that cannot be restored to OPERABLE status within the 4 hour Completion Time and that have been isolated in accordance with Required Action A.1, the affected penetration flow paths must be verified to be isolated on a periodic basis. This is necessary to ensure that containment penetrations required to be isolated following an accident and no longer capable of being automatically isolated will be in the isolation position should an event occur. This Required Action does not

BASES

ACTIONS

A.1 and A.2 (continued)

require any testing or device manipulation. Rather, it involves verification, through a system walkdown, that those isolation devices outside containment and capable of being mispositioned are in the correct position. The Completion Time of "once per 31 days for isolation devices outside containment" is appropriate considering the fact that the devices are operated under administrative controls and the probability of their misalignment is low. For the isolation devices inside containment, the time period specified as "prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days" is based on engineering judgment and is considered reasonable in view of the inaccessibility of the isolation devices and other administrative controls that will ensure that isolation device misalignment is an unlikely possibility.

Condition A has been modified by a Note indicating that this Condition is only applicable to those penetration flow paths with two containment isolation valves. For penetration flow paths with only one containment isolation valve and a closed system, Condition C provides the appropriate actions.

Required Action A.2 is modified by two Notes. Note 1 applies to isolation devices located in high radiation areas and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since access to these areas is typically restricted. Note 2 applies to isolation devices that are locked, sealed, or otherwise secured in position and allows these devices to be verified closed by use of administrative means. Allowing verification by administrative means is considered acceptable, since the function of locking, sealing, or securing components is to ensure that these devices are not inadvertently repositioned. Therefore, the probability of misalignment of these devices once they have been verified to be in the proper position, is small.

B 3.6 CONTAINMENT SYSTEMS

B 3.6.8 Vacuum Breaker System

BASES

BACKGROUND

The purpose of the vacuum breaker system is to protect the containment vessel against negative pressure (i.e., a lower pressure inside than outside). Excessive negative pressure inside containment can occur if there is an inadvertent actuation of containment cooling features, such as the Containment Spray System or Containment Cooling System. Multiple equipment failures or human errors are necessary to cause inadvertent actuation of these systems.

The containment pressure vessel contains two 100% vacuum breaker trains that protect the containment from excessive external loading.

The characteristics of the vacuum breakers and their locations in the containment pressure vessel are as follows:

Two vacuum breakers are used in each of two large vent lines which permit air to flow from the Shield Building annulus into the Reactor Containment Vessel. The vacuum breakers consist of an air to close, spring loaded to open butterfly valve and a self-actuated horizontally installed, swinging disc check valve. An air accumulator is provided for each of the air-operated vacuum breakers to allow vacuum breaker operation in the event of a loss of instrument air. The vent lines enter the containment vessel through independent and widely separated containment penetration nozzles. The vacuum breakers serve dual functions in that they are also required to isolate containment following an accident if containment becomes pressurized greater than negative 0.2 psid relative to the shield building annulus.

BASES (continued)

APPLICABLE SAFETY ANALYSES

Design of the vacuum breaker system involves calculating the effect of inadvertent actuation of containment cooling features, which can reduce the atmospheric temperature (and hence pressure) inside containment (Ref. 1). Conservative assumptions are used for all the relevant parameters in the calculation: for example, for the Containment Spray System, the minimum spray water temperature, maximum initial containment temperature, maximum spray flow, all spray trains operating, all four containment fan units operating with maximum cooling water flow rate with minimum inlet water temperature, etc. The resulting containment pressure versus time is calculated, including the effect of the opening of the vacuum relief lines when their negative pressure setpoint is reached. It is also assumed that one valve fails to open.

The containment shell was designed for an external pressure load equivalent to 0.8 psi greater than the internal pressure. The inadvertent actuation of the containment cooling features was analyzed to determine the resulting reduction in containment pressure. The analysis shows that one vacuum breaker train will terminate this transient before 0.8 psi pressure differential is reached.

The vacuum breaker system must also perform the containment isolation function in a containment high pressure event. For this reason, the system is designed to take the full containment positive design pressure and the environmental conditions (temperature, pressure, humidity, radiation, chemical attack, etc.) associated with the containment DBA.

The vacuum relief valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii).

BASES (continued)

LCO

The LCO establishes the minimum equipment required to accomplish the vacuum relief function following the inadvertent actuation of containment cooling features. Two 100% vacuum breaker trains are required to be OPERABLE to ensure that at least one is available, assuming one or both valves in the other line fail to open.

A vacuum breaker train is OPERABLE when both valves, including air supplies, instrumentation, controls and actuating and power circuits, are OPERABLE.

APPLICABILITY

In MODES 1, 2, 3, and 4, the containment cooling features, such as the Containment Spray System, are required to be OPERABLE to mitigate the effects of a DBA. Excessive negative pressure inside containment could occur whenever these systems are required to be OPERABLE due to inadvertent actuation of these systems. Therefore, the vacuum breaker trains are required to be OPERABLE in MODES 1, 2, 3, and 4 to mitigate the effects of inadvertent actuation of the Containment Spray System, or Containment Cooling System.

In MODES 5 and 6, the probability and consequences of a DBA are reduced due to the pressure and temperature limitations of these MODES. The Containment Spray System, and Containment Cooling System are not required to be OPERABLE in MODES 5 and 6. Therefore, maintaining OPERABLE vacuum relief valves is not required in MODE 5 or 6.

BASES (continued)

ACTIONS

A.1 and A.2

When the vacuum relief function of one vacuum breaker train is inoperable, the inoperable train must be restored to OPERABLE status within 7 days. The allowed Completion Time is reasonable considering the redundancy of the other vacuum breaker train, its reliable vacuum relief capability due to the passive design and the low probability of an event requiring use of the vacuum breaker system during this time.

B.1 and B.2

If the vacuum breaker train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply.

To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

SR 3.6.8.1

This SR requires verification that each automatic function of each vacuum breaker train actuates as required to perform its safety function. Testing shall include demonstration that an actual or simulated containment vacuum equal to or less than 0.5 psi will open the air-operated valve and an actual or simulated containment isolation signal with containment pressure greater than negative 0.2 psid relative to the shield building annulus will close the valve. The 92 day Frequency is based on engineering judgment and has been shown to be acceptable through operating experience.

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.8.2

This SR requires the performance of a CHANNEL CALIBRATION. A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. Operating experience has shown that these components usually pass the Surveillance when performed.

REFERENCES

1. USAR, Section 5.2.

A3.6-00

3.6 CONTAINMENT SYSTEM

R-2

~~Applicability~~

~~Applies to the integrity of the containment system.~~ A3.6-09

~~Objective~~

~~To define the operating status of the containment system for plant operation.~~

Specification

A. Containment Integrity

A3.6-03

LCO3.6.1 1. A reactor in MODES 1, 2, 3 and 4 shall have ~~not be made or maintained critical nor shall reactor coolant system average temperature exceed 200°F unless~~ CONTAINMENT INTEGRITY ~~is~~ maintained.

2. If these conditions cannot be satisfied, within one hour initiate the action necessary to place the unit in MODE 3~~HOT SHUTDOWN~~, and be in at least MODE 3~~HOT SHUTDOWN~~ within the next 6 hours and in MODE 5~~COLD SHUTDOWN~~ within ~~the following~~ 36~~30~~ hours.

A3.6-03
A3.6-11

B. Vacuum Breaker System

LCO3.6.8 1. Both valves in each of two vacuum breaker systems, ~~including actuating and power circuits,~~ shall be OPERABLE in MODES 1, 2, 3 and 4~~hen CONTAINMENT INTEGRITY is required~~ (except as specified in 3.6.B.2 and 3.6.B.3 below).

LR3.6-16
A3.6-03

LCO3.6.3 2 With one vacuum breaker inoperable with respect to its containment isolation function, apply the requirements of Specification 3.6.C.3, to the isolation valves associated with the inoperable vacuum breaker.

L3.6-83

LCO3.6.8A 3. One or both valves in one vacuum breaker train may be inoperable with respect to its vacuum relief function for 7 days.

LCO3.6.8B Vacuum breaker train not restored within 7 days, be in MODE 3 in 6 hours and MODE 5 in 36 hours.

M3.6-82
M3.6-17

R-9

C. Containment Isolation Valves

LCO3.6.3 1. ~~Non-automatic~~ containment isolation valves shall be OPERABLE. ~~locked closed or shall be~~

L3.6-21

Penetration flow paths may be unisolated intermittently under direct administrative control ~~and capable of being closed within one minute following an accident~~ when CONTAINMENT INTEGRITY is required (except as specified in 3.6.C.3 below).

LCO3.6.3 Note 2 Separate Condition entry is allowed for each penetration flow path. A3.6-19

NSHD Category	Change Number 3.6-	Discussion of Change
L	81	CTS 3.3.B.2. The CTS clause which states, "...any one of the following conditions of inoperability may exist..." is not included in the PI ITS. This change will allow simultaneous inoperability of one containment fan cooler train, one containment spray train and the spray additive tank. Since this change allows more equipment to be inoperable at any given time, this is a less restrictive change. This change is acceptable because each containment fan cooler train is a 100% capacity train and each containment spray train is a 100% capacity train. This means that the safety function of containment cooling and containment spray are met providing one train of each of these systems is operable. Since the spray additive tank supplies both trains of containment spray, the impact of its inoperability does not change depending on whether one train or two trains of containment spray are operable. Spray additive tank inoperability does not impact the containment fan cooler system. Thus these plant safety functions will continue to be provided at the same level of effectiveness when these inoperabilities are allowed to exist simultaneously. This change is consistent with the guidance of NUREG-1431 which allows coincident inoperability of these systems.

NSHD Category	Change Number 3.6-	Discussion of Change
M	82	CTS 3.8.B.3. CTS allows the vacuum relief function to be inoperable for 7 days. If the vacuum relief function is not restored to OPERABLE status within 7 days the plant must enter LCO 3.0.C (ITS 3.0.3) which allows one hour for planning and remedial action prior to plant shutdown. ITS does not allow one hour, but requires shutdown when the 7 day period ends. Since the plant has one less hour to deal with the inoperability, this is a more restrictive change. This change is acceptable since the 6 hours to be in MODE 3 and 36 hours to be in MODE 5 is sufficient time to safely shut down the plant.
L	83	CTS 3.6.B.2 and 3.6.B.3. The CTS requirements for inoperable containment vacuum breaker valves has been changed to "trains". CTS would require the plant to enter CTS 3.0.C if two valves in the vacuum breaker system were inoperable with respect to their vacuum relief function. This change will allow the plant to continue operation if two valves in the same train are inoperable with respect to their two valves in the same train are inoperable with respect to their vacuum relief function. Since the plant may continue to operate with more than one valve inoperable, this is a less restrictive change. This change will allow two valves in one vacuum breaker train to be inoperable with respect to their vacuum relief function. A second valve in the train inoperable with respect to vacuum relief will not further degrade the vacuum relief capability of the penetration nor will it require additional remedial actions. Once one valve in the train has lost its vacuum relief capability, that train has totally lost its vacuum relief capability independent of the operability or inoperability of the other vacuum breaker. Therefore, the same degree of plant safety is maintained by the TS Required Actions when one or both valves in one train are inoperable with respect to their vacuum relief function.

NSHD Category	Change Number 3.6-	Discussion of Change
	84	Not used.
	85	Not used.
	86	Not used.
L	87	CTS 4.4.B.3.c. The surveillance interval for testing the Shield Building Ventilation System, initiated from a safety injection signal, is increased from 18 months to 24 months. In accordance with CTS 3.0.2, the interval is currently limited at a maximum of 24 months. Increasing this interval from 18 to 24 months is acceptable since it is within the bounds of the CTS, there is not any time dependent degradation of any equipment, no instrumentation drift, nor historical operability issues associated with this increased Frequency. This change is consistent with NUREG 1431, Rev. 1, and the guidance provided by GL 91-04.

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. -------NOTE------- Only applicable to penetration flow paths with two containment isolation valves. ------------------ One or more penetration flow paths with one containment isolation valve inoperable ~~[except for purge valve or shield building bypass leakage not within limit]~~ for reasons other than Condition D.	A.1	Isolate the affected penetration flow path by use of at least one closed and de-activated or mechanically blocked power operated ~~automatic~~ valve, closed manual valve, blind flange, or check valve with flow through the valve secured.	4 hours PA3.6-117 PA3.6-125 TA3.6-124 R-9 CL3.6-121 R-2
	AND		
			(continued)

CL3.6-167

3.6 CONTAINMENT SYSTEMS

CL3.6-167

3.6.8~~12~~ Vacuum Breaker System~~Relief Valves (Atmospheric and Ice Condenser)~~

LCO 3.6.8~~12~~ ~~[~~Two~~]~~ vacuum breaker trains~~relief lines~~ shall be OPERABLE.

PA3.6-171

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION		COMPLETION TIME
A. Vacuum relief function of o~~O~~ne or both valves in one vacuum breaker train~~relief line~~ inoperable.	A.1	Restore vacuum ~~relief~~breaker train ~~line~~ to OPERABLE status.	7~~2~~ days ~~hours~~ (CL3.6-170)
B. Required Action and associated Completion Time not met.	B.1	Be in MODE 3.	6 hours
	AND		
	B.2	Be in MODE 5.	36 hours

R-9

CL3.6-167

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.8~~12~~.1	Verify each vacuum breaker train~~relief line is OPERABLE in accordance with the Inservice Testing Program~~ opens on an actual or simulated containment vacuum equal to or less than 0.5 psi and closes on an actual or simulated containment isolation signal.	CL3.6-173 92 days ~~In accordance with the Inservice Testing Program~~ R-9
SR 3.6.8.2	Perform CHANNEL CALIBRATION.	24 months CL3.6-181

Accident (DBA).

The OPERABILITY requirements for containment isolation valves help ensure that containment is isolated within the time limits assumed in the safety analyses. Therefore, the OPERABILITY requirements provide assurance that the containment function assumed in the safety analyses will be maintained.

R-9

In addition to the normal fluid systems which penetrate containment, two systems which can provide direct access from inside containment to the outside environment are described below. PA3.6-211

<u>ContainmentShutdown Purge System (36[42] inch purge valves)</u>
The ContainmentShutdown Purge System operates to supply outside air into the containment for ventilation and cooling or heating and may also be used to reduce the concentration of noble gases within containment prior to and during personnel access in MODES 5 and 6. The supply and exhaust lines each contain onetwo isolation valves, one isolation damper and a blind flange. Because of their large size, Tthe 36[42] inch purge valves and dampers in some units are not tested to verify their leakage rate is within the acceptance criteria of the Containment Leakage Rate Testing Programqualified for automatic closure from CL3.6-212

(continued)

~~required to remain sealed closed during MODES 1, 2, 3, and 4. In this case, the single failure criterion remains applicable to the containment purge valves due to failure in~~

BASES

APPLICABLE SAFETY ANALYSES (continued)

~~the control circuit associated with each valve. Again, the purge system valve design precludes a single failure from compromising the containment boundary as long as the system is operated in accordance with the subject LCO.]~~

The containment isolation valves satisfy Criterion 3 of 10 CFR 50.36(c)(2)(ii)~~the NRC Policy Statement~~.

LCO

Containment isolation valves form a part of the containment boundary. The containment isolation valves' safety function is related to minimizing the loss of reactor coolant inventory and establishing the containment boundary during a DBA.

PA3.6-213

The containment isolation devices covered by this LCO consist of isolation valves (manual valves, check valves, air operated valves, and motor operated valves), pipe and end caps, closed systems, and blind flanges.

PA3.6-214

Vent and drain valves located between two isolation valves are also containment isolation devices. Test connections located between two isolation valves are similar to vent and drain lines except that no valve may exist in the test line. A cap or blind flange, as applicable, must be installed on these vent, drain and test lines. A cap or blind flange installed on these lines make them "otherwise secured" for SR considerations.

R-9

(continued)

The automatic power operated isolation valves are required to have isolation times within limits and to actuate on an automatic isolation signal. The 36~~[42]~~ inch purge valves must be blind flanged in MODES 1, 2, 3, and 4~~maintained sealed closed [or have blocks installed to prevent full opening]~~. ~~[Blocked purge valves also actuate on an automatic signal.]~~ The valves covered by this LCO are listed in Reference 2~~along with their associated stroke times in the FSAR (Ref. 2)~~. CL3.6-112 R-2 R-9

The normally closed isolation valves are considered OPERABLE when manual valves are closed, automatic power operated valves are de-activated and secured in their closed position, blind flanges are in place, and closed systems are intact. These passive isolation valves/devices are those listed in Reference 2~~1~~. PA3.6-125 R-9

LCO (continued)

Inservice p~~P~~urge valves with resilient seals (when in operation) ~~[~~and secondary containment (shield building and auxiliary building special ventilation zone) bypass valves~~]~~ must meet additional leakage rate requirements. The other containment isolation valve leakage rates are addressed by LCO 3.6.1, "Containment," as Type C testing. PA3.6-219 R-6

This LCO provides assurance that the containment isolation valves and purge valves will perform their designed safety functions to minimize the loss of reactor coolant inventory and establish the containment boundary during accidents.

(continued)

allow for continued operation, and subsequent inoperable containment isolation valves are governed by subsequent Condition entry and application of associated Required Actions.

The ACTIONS are further modified by a third Note, which ensures appropriate remedial actions are taken, if necessary, if the affected systems are rendered inoperable by an inoperable containment isolation valve.

PA3.6-216

In the event containment isolation valvethe air lock leakage results in exceeding the overall containment leakage rate acceptance criteria, Note 4 directs entry into the applicable Conditions and Required Actions of LCO 3.6.1.

A.1 and A.2

In the event one containment isolation valve in one or more penetration flow paths is inoperable, (except for inservice purge penetrations (when in operation) valve or secondary containmentshield building bypass leakage not within limit), the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated or mechanically blocked power operatedautomatic containment isolation valve, a closed manual valve, a blind flange, and a check valve with flow through the valve secured. For a penetration flow path isolated in accordance with Required Action A.1, the device used to isolate the penetration should be the closest available one to containment. Required Action A.1 must be completed within 4 hours. The 4 hour Completion Time is reasonable, considering the time required to isolate the penetration and the relative importance of supporting containment OPERABILITY during MODES 1, 2, 3, and 4.

R-6

PA3.6-117

R-9

PA3.6-125

TA3.6-124

(continued)

B 3.6 CONTAINMENT SYSTEMS

PA3.6-186

B 3.6.812 Vacuum Breaker SystemRelief Valves (Atmospheric and Ice Condenser)

CL3.6-167 CL3.6-171

BASES

BACKGROUND

The purpose of the vacuum breaker systemrelief lines is to protect the containment vessel against negative pressure (i.e., a lower pressure inside than outside). Excessive negative pressure inside containment can occur if there is an inadvertent actuation of containment cooling features, such as the Containment Spray System or Containment Cooling System. Multiple equipment failures or human errors are necessary to cause inadvertent actuation of these systems.

PA3.6-270

The containment pressure vessel contains two 100% vacuum breaker trainsrelief lines that protect the containment from excessive external loading.
For this facility, Tthe characteristics of the vacuum breakersrelief valves and their locations in the containment pressure vessel are as follows: Two vacuum breakers are used in each of two large vent lines which permit air to flow from the Shield Building annulus into the Reactor Containment Vessel. The vacuum breakers consist of an air to close, spring loaded to open butterfly valve and a self-actuated horizontally installed, swinging disc check valve. An air accumulator is provided for each of the air-operated vacuum breakers to allow vacuum breaker operation in the event of a loss of instrument air. The vent lines enter the containment vessel through independent and widely separated containment penetration nozzles. The vacuum breakers serve dual functions in that they are also required to isolate containment following an accident if containment becomes pressurized greater than negative 0.2 psid relative to the shield building annulus.

CL3.6-271

R-9

(continued)

ACTIONS

A.1 R-9

When the vacuum relief function of one of the required vacuum breaker trainrelief lines is inoperable, the inoperable trainline must be restored to OPERABLE status within 7 days 72 hours. The allowed Completion Time is reasonable considering the redundancy of the other vacuum breaker train, its reliable vacuum relief capability due to the passive design and the low probability of an event requiring use of the vacuum breaker system during this time. The specified time period is consistent with other LCOs for the loss of one train of a system required to mitigate the consequences of a LOCA or other DBA. PA3.6-180

BASES

ACTIONS (continued)

B.1 and B.2

If the vacuum breaker trainrelief line cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which the LCO does not apply. CL3.6-170 R-9

To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

SURVEILLANCE REQUIREMENTS

SR 3.6.8~~12~~.1

This SR requires verification that each automatic function of each vacuum breaker train actuates as required to perform its safety function. ~~cites the Inservice Testing Program, which establishes the requirement that inservice testing of the ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME, Boiler and Pressure Vessel Code and applicable Addenda (Ref. 2). Therefore, SR Frequency is governed by the Inservice Testing Program.~~ Testing shall include demonstration that an actual or simulated containment vacuum equal to or less than 0.5 psi will open the air-operated valve and an actual or simulated containment isolation signal with containment pressure greater than negative 0.2 psid relative to the shield building annulus will close the valve. The 92 day Frequency is based on engineering judgement and has been shown to be acceptable through operating experience. CL3.6-181 R-9

SR 3.6.8.2

This SR requires the performance of a CHANNEL CALIBRATION. A CHANNEL CALIBRATION is performed every 24 months, or approximately at every refueling. Operating experience has shown that these components usually pass the Surveillance when performed.

CL3.6-173

REFERENCES

1. U~~F~~SAR, Section 5.2~~[6.2]~~.

~~2. ASME, Boiler and Pressure Vessel Code, Section XI.~~

(continued)

Difference Category	Difference Number 3.6-	Justification for Differences
	116	Not used.
CL	117	One containment penetration flow path, the vacuum breaker system, requires that the butterfly valve be mechanically blocked in addition to de-activating the valve. Thus, the phrase, "or mechanically blocked" has been added to the Required Actions.
	118	Not used.
TA	119	This change incorporates TSTF-269, Revision 2.
	120	Not used.

Difference Category	Difference Number 3.6-	Justification for Differences
	172	Not used.

Difference Category	Difference Number 3.6-	Justification for Differences
CL	173	SR 3.6.8.1 has been revised to incorporate the CTS requirements for vacuum breaker train functional testing in CTS Table 4.1-1C, Functional Unit 10, 4.4.C and the setpoint required by CTS Table 3.5-1, Functional Unit 7. The test Frequency requirement is 92 days to be consistent with CTS 4.4.C requirements.
PA	174	The plant title for the system that draws a vacuum on the shield building annulus and filters the air is the Shield Building Ventilation System. To facilitate operator familiarity with this terminology, this title and its abbreviation, SBVS, is used throughout this Specification and associated Bases.
	175	Not used.
CL	176	Since the PI SBVS design does not have filter bypass dampers, ISTS SR 3.6.13.4 is not included and instead, CTS SR 4.4.E requirements are included.

Difference Category	Difference Number 3.6-	Justification for Differences
	180	Not used.
CL	181	A new SR 3.6.8.2 has been included to incorporate CTS Table 4.1-1C Functional Unit 10 requirements to perform CHANNEL CALIBRATION on each vacuum breaker train. The test Frequency requirement is 24 months to be consistent with CTS which requires calibration on a refueling outage frequency.
CL	182	The PI Shield Building and SBVS design do not maintain a negative pressure in the annulus during normal operating conditions; thus ISTS SR 3.6.19.1 is not included in the PI ITS.
TA	183	This change incorporates TSTF-18, Revision 1.
CL	184	CTS do not require a structural inspection of the shield building and therefore this requirement is not included in the ITS.

Difference Category	Difference Number 3.6-	Justification for Differences
PA	214	Clarification from current interpretations of TS on the role of caps on vents and drains as part of containment isolation.
	215	Not used.
PA	216	Clarification is provided to make this Bases discussion consistent with the requirements of Note 4 in the Specification.
	217	Not used.
	218	Not used.
PA	219	Plant specific terminology is included to further define what constitutes "secondary containment" at Prairie Island.
	220	Not used.

Part G

PACKAGE 3.6

CONTAINMENT SYSTEMS

NO SIGNIFICANT HAZARDS DETERMINATION AND ENVIRONMENTAL ASSESSMENT

NO SIGNIFICANT HAZARDS DETERMINATION

The proposed changes to the Operating License have been evaluated to determine whether they constitute a significant hazards consideration as required by 10 CFR Part 50, Section 50.91 using the standards provided in Section 50.92.

For ease of review, the changes are evaluated in groupings according to the type of change involved. A single generic evaluation may suffice for some of the changes while others may require specific evaluation in which case the appropriate reference change numbers are provided.

A - Administrative (GENERIC NSHD)
(A3.6-00, A3.6-03, A3.6-05, A3.6-09, A3.6-11, A3.6-22, A3.6-23, A3.6-24, A3.6-26, A3.6-42, A3.6-48, A3.6-49, A3.6-54, A3.6-62, A3.6-80)

Most administrative changes have not been marked-up in the Current Technical Specifications, and may not be specifically referenced to a discussion of change. This No Significant Hazards Determination (NSHD) may be referenced in a discussion of change by the prefix "A" if the change is not obviously an administrative change and requires an explanation.

These proposed changes are editorial in nature. They involve reformatting, renaming, renumbering, or rewording of existing Technical Specifications to provide consistency with NUREG-1431 or conformance with the Writer's Guide, or change of current plant terminology to conform to NUREG-1431. Some administrative changes involve relocation of requirements within the Technical Specifications without affecting their technical content. Clarifications within the new Prairie Island Improved Technical Specifications which do not impose new requirements on plant operation are also considered administrative.

M More restrictive (GENERIC NSHD)
(M3.6-04, M3.6-13, M3.6-14, M3.6-17, M3.6-28, M3.6-29, M3.6-31, M3.6-32, M-3.6-34, M3.6-37, M3.6-38, M3.6-39, M3.6-41, M3.6-44, M3.6-51, M3.6-52, M3.6-61, M3.6-68, M3.6-82, M3.6-89)

This proposed Technical Specifications revision involves modifying the Current Technical Specifications to impose more stringent requirements upon plant operations to achieve consistency with the guidance of NUREG-1431, correct discrepancies or remove ambiguities from the specifications. These more restrictive Technical Specifications have been evaluated against the plant design, safety analyses, and other Technical Specifications requirements to ensure the plant will continue to operate safely with these more stringent specifications.

1. The proposed amendment will not involve a significant increase in the probability or consequenc3es of an accident previously evaluated.

   The proposed changes provide more stringent requirements for operation of the plant. These more stringent requirements do not result in operation that will increases the probability of initiating an analyzed event and do not alter assumptions relative to mitigation of an accident or transient event.

   These more restrictive requirements continue to ensure process variables, structures, systems, and components are maintained consistent with the safety analyses and licensing basis. Therefore, these changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed changes do not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed, nor do they change the methods governing normal plant operation.

   These more stringent requirements do impose different operating restrictions. However, these operating restrictions are consistent with the boundaries established by the assumptions made in the plant safety analyses and licensing bases. Therefore, these changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

Specific NSHD for Change L3.6-83

The proposed change defines vacuum breaker inoperabilities for "trains" rather than individual valves. This change allows both valves in one train to be inoperable with respect to the loss of vacuum relief capability, whereas, CTS only allows one valve to be inoperable. This change is acceptable since when one valve in a train is inoperable with respect to its vacuum relief function, that whole train is inoperable with respect to this function. That is, inoperability of the other valve with respect to vacuum relief does not further degrade the function of the train and there are no additional Required Actions which should be implemented.

1. The proposed amendment will not involve a significant increase in the probability or consequences of an accident previously evaluated.

   The proposed change allows both valves in one train to be inoperable with respect to loss of the vacuum relief function whereas CTS only allows one valve to be inoperable. Since containment vacuum breaker valves are not assumed accident initiators, this change does not involve a significant increase in the probability of an accident previously evaluated.

   The valves in a vacuum breaker train are installed in series. When one vacuum breaker is inoperable with respect to its vacuum relief function, the vacuum relief function of that penetration is assumed completely lost and the other vacuum breaker train is relied upon for vacuum relief. The capability of the other vacuum breaker in the affected train to open is not important since that flow path is inoperable when one valve will not open properly. Therefore, this change does not involve a significant increase in the consequences of an accident previously evaluated when both valves in one train are inoperable with respect to their vacuum relief function.

   In conclusion, this proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment will not create the possibility of a new or different kind of accident from any accident previously analyzed.

   The proposed change allows both valves in one train to be inoperable with respect to the same function and does not involve a physical alteration of the plant, that is, no new or different type of equipment will be installed. The proposed change does not change the operating parameters governing normal plant operation. Thus, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

<u>**Specific NSHD for Change L3.6-83**</u> (continued)

3. <u>The proposed amendment will not involve a significant reduction in the margin of safety.</u>

   The proposed change allows both valves in one train to be inoperable with respect to the vacuum relief function whereas CTS only allows one valve to be inoperable. When one valve in a vacuum breaker penetration is inoperable with respect to its vacuum relief function, the vacuum relief function of that whole train is inoperable. Inoperability of the other valve in the affected train does not further degrade the plant vacuum relief capability. Thus, two valves in a vacuum breaker train inoperable with respect to their vacuum relief function does not involve a significant reduction in the margin of safety.

Therefore it is concluded this proposed change does not involve a significant hazards consideration.