Enclosure 14 Case Study 10: Perry Inability to Follow the RHR-SDC Required Meeting Summary of the January 27 & 28 Meeting with NRC/TSTF Dated March 9, 2009

Case Study 10: Perry Inability to Follow the RHR-SDC Required

The issue of discussion is whether an ACTION like this is permissible:

	CONDITION			REQUIRED AC		COMPLETION TIME	-
	A. One or two RHR shutdown cooli subsystems ino	ng perable.	A.1	Verify an method of removal is for each i RHR shutdo subsystem.	alternate decay heat available noperable wn cooling	1 hour <u>AND</u> Once per 24 hours ther <u>ea</u> fter	
\langle	Insert new	Cond	ition"	B her	e (see a	Hached)	$\sum_{i=1}^{n}$
8. R 1 1	equired Action and ssociated Completion ime of Condition A ot met.	B.]	Initiate au restore pri containment DPERABLE st	ttion to imary L to Latus.	[mmediately	* 	
		B.2 J B.2 J r c r c	initiate ac estore iso apability required pr containment enetration ot isolate	tion to lation in each imary flow path d.	Immediately		
• •		AND B.3 - P a	NOTE ntry and e ermissible dministrat ontrol.	xit is under ive		. · ·	:
	-		aitiate ac lose one d ach primar ontainment	tion to cor in y air lock.	Immediately	,	

In the Perry case, in Mode 4 with no operable RHR-SDC and no ability to establish an alternative as specified in Condition A, they could not cool down to Mode 5 and exit the Applicability. They proposed to add a Condition B to close up containment if they could not establish an alternative (a default condition). This is consistent with the PWR Actions in Section 3.9 when all RHR is inoperable.

As we understand the NRC's position from the RAI and teleconference minutes, the NRC notes that the ISTS Section 1.3 states that the plant will be in both Condition A and Condition B (we agree) but that a violation of TS occurs because after entering Condition B because the licensee cannot continue to pursue Condition A.

That's a point of disagreement and would affect application of other specifications. We believe that entering Condition B complies with TS. If the plant were to subsequently establish the alternative, Condition B would be exited and Condition A would continue from the initial entry in the Condition (e.g., the Completion Time is not restarted.) That is the purpose of the discussion in Section 1.3, "Completion Times."

It's similar to the River Bend issue, and could be generally described as whether a licensee <u>must</u> perform a Required Action when the Technical Specifications provide other Actions.



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10 CFR 50.90

June 1, 2006 PY-CEI/NRR-2963L Docket No. 50-440

ATTN: Document Control Desk United States Nuclear Regulatory Commission Washington, DC 20555

Subject: Perry Nuclear Power Plant License Amendment Request - Revise MODE 4 Residual Heat Removal Shutdown Cooling Requirements to Add a Default Condition Addressing Situations When Condition A Cannot Be Met Within Its Completion Time

Pursuant to 10 CFR 50.90, a license amendment is requested for the Perry Nuclear Power Plant (PNPP). The requested change modifies Technical Specification 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System – Cold Shutdown" by adding a default Condition to address situations when an RHR Shutdown Cooling subsystem becomes inoperable in MODE 4 and, within the Completion Time of 1 hour, an alternate method of decay heat removal cannot be verified to be available. An enclosure provides the evaluation of the proposed license amendment.

Approval of the proposed license amendment is requested by June of 2007. The proposed approval date was selected to allow for Nuclear Regulatory Commission (NRC) review; the plant does not need the amendment by that date in order to continue safe full power operations. Once approved, the amendment will be implemented within 120 days.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Gregory A. Dunn, Manager – FENOC Fleet Licensing, at (330) 315-7243.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June $\underline{/}$, 2006

Enclosure: Evaluation of the Proposed License Amendment

cc: NRC Project Manager NRC Resident Inspector NRC Region III State of Ohio

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EVALUATION OF THE PROPOSED LICENSE AMENDMENT

Subject: Perry Nuclear Power Plant License Amendment Request - Revise MODE 4 Residual Heat Removal Shutdown Cooling Requirements to Add a Default Condition Addressing Situations When Condition A Cannot Be Met Within Its Completion Time

1.0 **DESCRIPTION**

2.0 PROPOSED CHANGE

3.0 BACKGROUND

- 3.1 System Description
- 3.2 Current Requirements
- 3.3 Regulatory Background
- 4.0 TECHNICAL ANALYSIS

5.0 REGULATORY SAFETY ANALYSIS

5.1 Applicable Regulatory Requirements/Criteria

5.2 Significant Hazards Consideration

6.0 ENVIRONMENTAL CONSIDERATION

7.0 REFERENCES

ATTACHMENTS:

- 1. Proposed Changes to the PNPP Technical Specification Pages (Mark-up)
- 2. Existing PNPP Specification 3.9.9 "RHR-Low Water Level" From Which the New 3.4.10 Condition B Was Copied
- 3. Associated Bases Changes (provided for information)

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1.0 DESCRIPTION

The requested change modifies Technical Specification 3.4.10, "Residual Heat Removal (RHR) Shutdown Cooling System – Cold Shutdown," by revising the Required Actions that apply when one or more RHR Shutdown Cooling subsystem(s) are inoperable in MODE 4. This request provides resolution of Technical Specification issues identified at PNPP in 2004 and 2005, due to the occurrence of inoperabilities of the PNPP Emergency Service Water (ESW) system pumps which provide a support function for RHR Shutdown Cooling.

2.0 PROPOSED CHANGE

The proposed change to Cold Shutdown Specification 3.4.10 adds a new Condition B (see Attachment 1 to this Enclosure). The new 3.4.10 Condition B is identical to an existing Condition in the Refueling Section, Specification 3.9.9 "RHR – Low Water Level" (see Attachment 2 to this Enclosure). The addition of this new Condition B into Specification 3.4.10 provides a default Condition where one does not currently exist, i.e., the new Condition directs what actions are to be taken when "Required Action and associated Completion Time of Condition A not met". Such default Conditions exist in most of the Specifications.

3.0 BACKGROUND

<u>3.1 System Description</u> – Two redundant, manually controlled Shutdown Cooling subsystems (A and B) of the RHR System provide decay heat removal from the reactor vessel. Each loop consists of a motor driven pump, two heat exchangers in series, and associated piping and valves. Both loops have a common suction from the same recirculation loop. After the reactor coolant has been cooled by circulation through the respective heat exchangers, it is returned to the reactor vessel. The RHR A and B heat exchangers are cooled by the ESW A and B subsystems, respectively, which take suction from and return flow to Lake Erie.

10CFR50 Appendix A, General Design Criterion (GDC) 34, "Residual Heat Removal", requires two (2) safety-related decay heat removal paths. The two redundant RHR subsystems satisfy this design requirement. There are no design requirements to have additional backup methods for each of these two redundant paths.

Other plant systems that have decay heat removal capabilities in MODE 4, such as the Reactor Water Cleanup (RWCU) system, are not capable of maintaining MODE 4 (reactor vessel head installed and coolant temperature less than or equal to 200°F) until 40 to 50 days into an outage.

<u>3.2</u> Current Requirements – There are situations when it would not be possible to fully comply with the Technical Specification (TS) requirements that currently apply in MODE 4 if one or both of the redundant RHR Shutdown Cooling subsystems should become inoperable. Limiting Condition for Operation (LCO) 3.4.10 is applicable during plant outages, when the plant has cooled down to MODE 4, "Cold Shutdown". Required Action A.1 in LCO 3.4.10 requires;

	CONDITION		REQUIRED ACTION	COMPLETION TIME
Α.	One or two RHR shutdown cooling subsystems inoperable.	A.1	Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem.	1 hour <u>AND</u> Once per 24 hours thereafter

Required Action A.1 provides adequate direction if the reactor has been shut down long enough that a system such as the RWCU system can remove the decay heat (40 to 50 days into an outage). However, if one or both of the RHR Shutdown Cooling loops become inoperable due to a problem such as an inoperable pump or heat exchanger early in an outage when the decay heat generation rate is still high and no adequate alternate decay heat removal method is available, no Technical Specification action requirement is provided.

Normally, the specification would contain another Condition stating "Required Action and associated Completion Time of Condition [A] not met." When such default Conditions exist within the specification, they provide the actions that plant operators would initiate if compliance with the first Condition is not practicable or if it can not be complied with in that particular plant configuration. However, no such default Condition exists in LCO 3.4.10.

When no default Condition exists and the plant is in MODE 1, 2, or 3, LCO 3.0.3 would prescribe the required actions to be taken. However, LCO 3.0.3 is not applicable when the plant is shut down in MODE 4; therefore, LCO 3.0.3 is not useful for this MODE 4 specification.

The above situation occurred at PNPP in 2004 [Reference 2] when ESW pump A became inoperable, which in turn caused RHR shutdown cooling subsystem A to become inoperable, and the plant cooled down into MODE 4 using the redundant RHR B subsystem. The inability at that time to comply with Specification 3.4.10 resulted in the NRC issuing a Violation [Reference 3]. The finding was considered to be a violation of 10 CFR 50.36(c)(2)(i). This regulation states, "When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specifications until the condition can be met." As discussed above, no "remedial actions permitted by the technical specifications" were available.

The issues associated with the plant shutdown were investigated through the Corrective Action Program. This License Amendment Request is one of the corrective actions that resulted from the investigation - to provide Specifications that can be implemented in MODE 4. In addition, the Extent of Condition evaluation for the Condition Report identified the need to revise the Hot Shutdown LCO 3.4.9, which is being addressed by a separate License Amendment Request.

In parallel with this License Amendment Request for Specification 3.4.10, the Perry Performance Improvement Initiative is tracking a plant design change to incorporate a new alternate decay heat removal method for MODE 4 [Reference 4]. The new method will be capable of maintaining Cold Shutdown MODE 4 conditions early in a forced outage (24 hours or more after attaining Hot Shutdown MODE 3). This newly designed capability is being added even though GDC 34 does not require such an additional method.

<u>3.3 Regulatory Background</u> – The issues discussed above relative to the MODE 4 decay heat removal requirements existed in the original PNPP Technical Specifications at the time of initial licensing in 1986 [Reference 5] and were discussed but not revised during the conversion to the improved Standard Technical Specifications (iSTS) at PNPP. The NRC Violation 2005002-12 identified a need for improvement in the ability to comply with this Technical Specification. The Violation implies that one of two things should have occurred in the early to mid-1990s:

- 1) When the iSTS Specifications for PNPP were developed, they should have incorporated a default Condition so the Technical Specifications could still be complied with if Required Action A.1 cannot be met, or that
- 2) New alternate methods of decay heat removal should have been designed and added into the plant to provide backup for each of the two RHR shutdown cooling subsystems, so Required Action A.1 to "verify an alternate method for each inoperable RHR subsystem" could always be met in MODE 4.

A brief history related to the above two implications follows.

Issues relative to decay heat removal requirements have been addressed in a number of different venues since the early 1980s [References 6, 7, 8, 9, 10, 11, 12, and 13]. The PNPP Safety Evaluation Report (SER) documents that PNPP was acceptable for licensing with its existing decay heat removal systems, based on the availability/reliability of the two RHR loops combined with the very large heat removal capabilities of the main condenser. The NRC considered backfitting additional decay heat removal design requirements beyond the requirements of GDC 34, and determined this was not justified.

As part of the Technical Specification Improvement process, revisions to this Technical Specification were considered. This included proposals by the Boiling Water Reactor (BWR) Owners' Group to add a default Condition into the RHR – Shutdown specification, similar to what is proposed in this current License Amendment Request [References 10 and 11]. However, in that same time frame, in the early 1990s, an ongoing effort was underway to develop a new regulation on Shutdown Safety requirements, which included consideration of possible Technical Specification changes. This Shutdown rulemaking effort was not complete during the iSTS development period, and no changes to the RHR – Shutdown specifications were made [Reference 12]. Therefore, the two separate RHR Hot and Cold Shutdown specifications that existed in the original 1980s Standard Technical Specifications were carried over essentially unchanged into the 1992 Revision 0 of the iSTS. Therefore, this is also how the PNPP iSTS were written and approved in Amendment 69 dated June 23, 1995.

The shutdown safety rulemaking effort did not conclude until December 1997 [Reference 13]. The NRC Commissioners concluded the industry was successfully handling shutdown safety without the need for more regulatory requirements. That 1997 NRC Commission decision ended discussion about changing Technical Specification requirements or adding alternate methods of decay heat removal for MODE 4 into the PNPP design, until the PNPP ESW problems occurred in the 2004/2005 time frame.

4.0 TECHNICAL ANALYSIS

To address the lack of a default Condition that can be entered when it is not possible to comply with Required Action A.1, a default Condition containing appropriate Required Actions is proposed. The model for the proposed Condition/Required Actions comes from the RHR shutdown cooling specifications in Section 3.9 "Refueling Operations."

An LCO in Technical Specification Section 3.9 (LCO 3.9.9, "RHR - Low Water Level") is very similar to LCO 3.4.10, except it applies in MODE 5 (Refueling) rather than in MODE 4. This Refueling Specification is applied on a regular basis by plants throughout the industry during plant outages. The main difference between TS 3.4.10 and TS 3.9.9 is that the 3.9 Refueling Specification properly contains a default Condition that can be entered and followed if Required Action A.1 is not/cannot be completed within its Completion Time (see Attachment 2 to this Enclosure for a copy of TS 3.9.9).

The proposed change to 3.4.10 is consistent with Condition B in Specification 3.9.9, which states:

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В.	Required Action and associated Completion Time of Condition A not met.	B.1	Initiate action to restore primary containment to OPERABLE status.	Immediately
		AND		
	·	B.2	Initiate action to restore isolation capability in each required primary containment penetration flow path not isolated.	Immediately
		AND		
		B.3	Entry and exit is permissible under administrative control.	
			Initiate action to close one door in each primary containment air lock.	Immediately

The proposed change aligns the actions in 3.4.10 with the existing actions in 3.9.9. LCO 3.9.9 is Applicable in MODE 5 when the water in the reactor cavity has been drained down to the level of the reactor vessel head flange, which is a very similar condition to MODE 4 with respect to the amount of water inventory in the reactor coolant system and the number of systems available for decay heat removal. Therefore the Required Actions from 3.9.9 are appropriate for placement into 3.4.10, and provide consistency between the two Technical Specifications. Also, the Required Actions in LCO 3.9.9 have previously been accepted at PNPP as appropriate actions to be applied for a situation when one or both RHR shutdown cooling subsystems become inoperable with alternate method(s) of decay heat removal not available.

Since Containment OPERABILITY is not normally required in MODE 4 (which is the Applicability of this specification, LCO 3.4.10), Required Actions such as those detailed above to restore Containment OPERABILITY are appropriate default Condition actions for LCO 3.4.10.

The initiation of actions to restore the primary containment serves as a precautionary measure, in anticipation of the possibility that shutdown cooling capability might be entirely lost. In such a case, the reactor coolant would heat up above 200°F, and the plant would enter MODE 3, at which point primary containment OPERABILITY would become a requirement per LCO 3.6.1.1, "Primary Containment – Operating." If the condenser can be made available, it can provide a method of decay heat removal and monitored effluent path(s), as it does during power operation. However, if the condenser is not available, the re-establishment of primary containment OPERABILITY in accordance with the proposed MODE 4 Required Actions will provide time for restoration of one or both of the RHR shutdown cooling subsystems, and provide monitored, filtered effluent paths. Therefore, the proposed Required Actions are appropriate for inclusion in LCO 3.4.10.

5.0 REGULATORY SAFETY ANALYSIS

5.1 Applicable Regulatory Requirements/Criteria

Precedent for this amendment is Specification 3.9.9, Condition B. There are no other precedents for this proposed amendment, since as described above, previous industry wide discussions on this issue have not resulted in changes to the BWR RHR MODE 4 Technical Specifications.

5.2 Significant Hazards Consideration

The proposed change is to the "Residual Heat Removal (RHR) Shutdown Cooling System - Cold Shutdown" Specification (LCO 3.4.10). The addition of a new Condition B into LCO 3.4.10 provides a default Condition where one does not currently exist, i.e., the new Condition directs what actions are to be taken when "Required Action and associated Completion Time of Condition A not met". The new default Condition addresses situations when an alternate method of decay heat removal is not available for an inoperable RHR shutdown cooling subsystem within the Completion Time of Condition A. An evaluation of whether or not a significant hazards consideration is involved with the proposed amendment was performed, by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No. The proposed amendment does not change the design of any structures, systems or components (SSCs), and does not affect the manner in which plant systems are operated. It is a change to the Technical Specifications only, to provide guidance to plant operators on appropriate actions to take, where no Technical Specification guidance currently exists. Since the design of plant SSCs is not changed and plant systems and components are not operated in a different manner, there is no change to previously identified accident initiators, and the proposed amendment would not impact the probability of any of the previously evaluated accidents in the Updated Safety Analysis Report (USAR).

The USAR event that evaluates the consequences of a loss of RHR Shutdown Cooling is included in Section 15.2.9 entitled "Failure of RHR Shutdown Cooling". This event examines the consequences of a loss of not only an RHR shutdown cooling subsystem, but also the loss of the suction source from the recirculation system leading to both RHR Shutdown Cooling subsystems, and a loss of offsite power. Even with these multiple failures, this event is not one of the limiting transients. As noted in Section 15.2.9.5, "Radiological Consequences," there are no fuel failures, and the consequences of the event are much less than those for the "Main Steam Isolation Valve Closure" transient. which is evaluated with acceptable results in USAR Section 15.2.4.5. Since the proposed amendment only involves the addition of a Required Action where no guidance currently exists, and the design of plant SSCs is not changed and plant systems and components are not operated in a different manner, the proposed amendment does not affect the consequences of the Section 15.2.9 analysis, nor does it affect the ability of the installed RHR subsystems to perform their shutdown cooling function. The change adds a default Condition to provide guidance to the operators in those situations when a subsystem

becomes inoperable with the plant in MODE 4 and an alternate cannot be verified to be available within an hour, which does not impact the consequences of the previously evaluated accidents in the USAR.

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

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No. This change to the required Technical Specification actions does not involve a change in the design function or operation of plant SSCs. It does not introduce credible new failure mechanisms, malfunctions, or accident initiators not considered in the existing plant design and licensing basis.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No. This proposed amendment only involves a change to the required Technical Specification actions. It does not involve a change in the evaluation and analysis methods used to demonstrate compliance with regulatory and licensing requirements, and does not exceed or alter a design basis or safety limit. The safety margin before the change remains unchanged after the proposed amendment.

Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, it was concluded that the proposed amendment does not present a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

In conclusion, based on the considerations discussed in 5.1 and 5.2 above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

The proposed Technical Specification change was evaluated against the criteria of 10CFR51.22 for environmental considerations. The proposed change does not significantly increase individual or cumulative occupational radiation exposures, does not significantly change the types or significantly increase the amounts of effluents that may be released offsite and, as discussed above, does not involve a significant hazards consideration. Based on the foregoing, it has been concluded that the proposed change meets the criteria given in 10CFR51.22(c)(9) for categorical exclusion from the requirement for an Environmental Impact Statement.

7.0 REFERENCES

- 1. 10CFR50 Appendix A, General Design Criterion 34, "Residual Heat Removal"
- 2. PNPP Licensee Event Report (LER) 2004-001 dated 7/21/2004
- 3. NRC Inspection Report 05000440/2005002 dated 5/5/2005, "Perry Nuclear Power Plant NRC Integrated Inspection Report", Violation 2005002-12
- 4. Letter PY-CEI/OIE-0632L to NRC, dated 1/11/2005, "Transmittal of the Performance Improvement Initiative, Revision 2, Perry Nuclear Power Plant, Docket No. 50-440"
- Original issue of the PNPP Technical Specifications, as part of the low power license, dated 3/18/1986, Specification 3.4.9.2, "Reactor Coolant System Residual Heat Removal – Cold Shutdown"
- NUREG-0887 dated May 1982, "Safety Evaluation Report related to the operation of Perry Nuclear Power Plant, Units 1 and 2", Appendix C, "Unresolved Safety Issues", Task A-45, "Shutdown Decay Heat Removal Requirements", pages C-13 & C-14
- 7. NUREG-0933 dated June 2005, "A Prioritization of Generic Safety Issues", summarizing Three Mile Island (TMI) Action Plan Task II.E.3 "Decay Heat Removal"
 - a. TMI Item II.E.3.3, "Coordinated Study of Shutdown Heat Removal Requirements
 - b. TMI Item II.E.3.4, "Alternate Concepts Research"
 - c. TMI Item II.E.3.5, "Regulatory Guide"
- 8. SECY 88-260 dated 9/13/1988, "Shutdown Decay Heat Removal Requirements (USI A-45)"
- 9. NRC letter dated 8/18/1994, "Individual Plant Examination Perry Nuclear Power Plant, Unit No. 1 (TAC NO. M74450)", which includes discussions on the resolution of USI A-45
- 10. Letter BWROG-8941 to NRC, dated 5/5/1989, "BWR Owners' Group (BWROG) Improved BWR Technical Specifications"
- 11. Letter BWROG-91118 to NRC, dated 7/30/1991, "BWR Owners' Group Comments on the Draft Standard Technical Specifications"
- 12. NUREG-1434 Revision 0 dated 9/28/1992, "Standard Technical Specifications General Electric Plants, BWR/6"
- Staff Requirements Memorandum (SRM) dated 12/11/1997, "Staff Requirements SECY-97-168 – Issuance for Public Comment of Proposed Rulemaking Package for Shutdown and Fuel Storage Pool Operation"

Attachment 1 to the Enclosure PY-CEI/NRR-2963L Page 1 of 4

Proposed Changes to the PNPP Technical Specification Pages (Mark-up)

Attachment 1 PY-CEI/NRR-2963L Page 2 of 4

RHR Shutdown Cooling System-Cold Shutdown 3.4.10

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Residual Heat Removal (RHR) Shutdown Cooling System-Cold Shutdown

LCO 3.4.10 Two RHR shutdown cooling subsystems shall be OPERABLE, and, with no recirculation pump in operation, at least one RHR shutdown cooling subsystem shall be in operation.

-----NOTES-----

- 1. Both RHR shutdown cooling subsystems and recirculation pumps may be removed from operation for up to 2 hours per 8 hour period.
- 2. One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.
- 3. Both RHR shutdown cooling subsystems and recirculation pumps may be removed from operation during inservice leak and hydrostatic testing.

APPLICABILITY:

MODE 4, when heat losses to the ambient are not sufficient to maintain average reactor coolant temperature \leq 200°F.

ACTIONS

Separate Condition entry is allowed for each RHR shutdown cooling subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two RHR shutdown cooling subsystems inoperable.	A.1 Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem.	1 hour <u>AND</u> Once per 24 hours thereafter
Insert new Cond	ition B here (see a	Hached)

(continued)

PERRY - UNIT 1

Attachment 1 PY-CEI/NRR-2963L Page 3 of 4



Attachment 1 PY-CEI/NRR-2963L Page 4 of 4

RHR Shutdown Cooling System-Cold Shutdown 3.4.10

ACTIONS (continued)

CONDITI	ON	REQUIRED ACTION	COMPLETION TIME
No RHR shutc cooling subs operation.	lown ystem in	Verify reactor coolant circulation by an alternate method.	1 hour from discovery of no reactor coolant circulation
No recircula	tion pump		AND
in operation	AND		Once per 12 hours thereafter
	(B.2)	Monitor reactor coolant temperature and pressure.	Once per hour

 SURVEILLANCE REQUIREMENTS

 SURVEILLANCE
 FREQUENCY

 SR 3.4.10.1
 Verify one RHR shutdown cooling subsystem or recirculation pump is operating.
 12 hours

PERRY - UNIT 1

Attachment 2 to the Enclosure PY-CEI/NRR-2963L Page 1 of 3

Existing PNPP Specification 3.9.9 "RHR-Low Water Level" From Which the New 3.4.10 Condition B Was Copied

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Attachment 2 PY-CEI/NRR-2963L Page 2 of 3

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RHR-Low	Water	Level	Z
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3.9 REFUELING OPERATIONS

3.9.9 Residual Heat Removal (RHR)-Low Water Level

LCO 3.9.9 Two RHR shutdown cooling subsystems shall be OPERABLE, and one RHR shutdown cooling subsystem shall be in operation.

The required operating shutdown cooling subsystem may be removed from operation for up to 2 hours per 8 hour period.

APPLICABILITY: MODE 5 with irradiated fuel in the reactor pressure vessel (RPV) and with the water level < 22 ft 9 inches above the top of the RPV flange, and heat losses to the ambient are not sufficient to maintain average reactor coolant temperature \leq 140°F.

ACTIONS

Separate Condition entry is allowed for each RHR shutdown cooling subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two RHR shutdown cooling subsystems inoperable. -ovided to show the efault Condition B as copied into Spec.	 A.1 Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem. S. 4. 10 	1 hour <u>AND</u> Once per 24 hours thereafter
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to restore primary containment to OPERABLE status.	Immediately
	AND	

Attachment 2 PY-CEI/NRR-2963L Page 3 of 3

ACTIONS COMPLETION TIME REDUIRED ACTION CONDITION Immediately Initiate action to B.2 Β. (continued) restore isolation capability in each required primary containment penetration flow path not isolated. AND B.3 ----NOTE-----Entry and exit is permissible under administrative control. Immediately Initiate action to close one door in each primary containment air lock. C.1 C. No RHR shutdown Verify reactor 1 hour from cooling subsystem in coolant circulation discovery of no reactor coolant by an alternate operation. circulation method. AND Once per 12 hours thereafter AND C.2 Monitor reactor Once per hour coolant temperature.

PERRY - UNIT 1

3.9-14

Amendment No. 69