BEAVER VALLEY POWER STATION (BVPS)
UNITS 1 & 2

IMPROVED TECHNICAL SPECIFICATION (ITS) CONVERSION LICENSE AMENDMENT REQUEST

JOINT NRC-BVPS CONVERSION WEBSITE DATABASE HARDCOPY PAGES

BVPS UNITS 1 & 2
IMPROVED STANDARD TECHNICAL SPECIFICATION (ITS) CONVERSION LICENSE AMENDMENT REQUEST (LAR) NOS. 296 (UNIT 1) & 169 (UNIT 2)

JOINT NRC-BVPS ITS

CONVERSION WEBSITE DATABASE PAGES

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http://excel06.cdasp.com/exceldbs/itstrack_beaver.nsf/vITSSection?OpenView

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NRC ITS TRACKING

NRC Reviewer

ID	**200505030901**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **1.0** **ITS Number:** **1.0**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**This is to confirm that I have access to the WEB page. Ray: Please feel free to remove this e-mail.**			
Issue Date	**05/03/2005**			

Close Date	**05/25/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/08/2005	Thanks. Access confirmed.

Date Created: 05/03/2005 09:01 AM by Pete Hearn
Last Modified: 05/25/2005 11:14 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200506101350		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 1.0 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I have completed my review of 1.0			
Issue Date	06/10/2005			

Close Date	06/10/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.
Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.

Date Created: 06/10/2005 01:50 PM by Pete Hearn
Last Modified: 06/10/2005 01:52 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505061357**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 2.0 **ITS Number:** 2.0	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**bob tjader**			
Comment	**I've logged on successfully, I think.**			
Issue Date	**05/06/2005**			

Close Date	**12/19/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/08/2005	Thanks. Access confirmed.

Date Created: 05/06/2005 01:57 PM by bob tjader
Last Modified: 12/19/2005 03:55 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200512011632**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **2.0** **ITS Number:** **None**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**bob tjader**			
Comment	**Completed review of section 2.0; accepted.**			
Issue Date	**12/01/2005**			

Close Date	**12/01/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/06/2005	Completion of review acknowledged.

Date Created: 12/01/2005 04:32 PM by bob tjader
Last Modified: 12/01/2005 04:32 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509261644**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** **3.0**	**DOC Number:** **None**	**JFD Number:** **None**	**Page Number(s):** **16**
	ITS Number: **3.0**		**Bases JFD Number:** **3**	
NRC Owner	**bob tjader**			
Comment	**LCO 3.0.5 includes the sentence, "The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the required testing to demonstrate OPERABILITY." Following this sentence is the proposed additional sentence, "If the OPERABILITY of the affected equipment can not be demonstrated, the administrative controls will also ensure the equipment/plant is restored to the required condition in a timely manner."** **The proposed additional new sentence does not add any value, and has the potential to raise additional questions, such as, what is the "required condition?"**			
Issue Date	**09/26/2005**			

Close Date	**12/19/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 10/03/2005	BVPS would prefer to retain the proposed Bases statement for the following reasons. The addition of this Bases text was the result of a question from plant operations staff. Additional guidance was requested to help clarify what is the appropriate action when using Specification 3.0.5 to remove equipment from the condition required by the Actions in order to confirm it's or another equipment's operability, and operability is not confirmed. In this case, the affected equipment must be restored to the condition required by the Actions. As the action to restore the affected equipment to the required condition (i.e., required by the Actions) may take some time, how much time is permitted by Specification

	3.0.5? This is a reasonable request from the plant staff to avoid potential compliance issues resulting from different interpretations of the requirements. Specification 3.0.5 does not provide any guidance for this situation. As Specification 3.0.5 does not address this situation, and this situation could result in a potential compliance issue, the proposed statement was added to the Bases of Specification 3.0.5 to provide reasonable guidance to the plant staff if this situation arises. The proposed bases addition would require the equipment not confirmed operable to be restored to the required condition (i.e., as required by the applicable Actions) in a timely manner. The proposed statement was chosen in consideration of the many possible equipment configurations that may be required as a result of the application of Specification 3.0.5 and in lieu of a fixed time or a time consistent with the original Completion Time allowed by the applicable Actions. The added clarification is more consistent with the intent of Specification 3.0.5 than a single fixed time or allowing up to the original Action Completion Time and provides appropriate guidance for a situation not specifically addressed by Specification 3.0.5.

Date Created: 09/26/2005 04:44 PM by bob tjader
Last Modified: 12/19/2005 03:55 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200509261654		Conference Call Requested? No	
Category	Editorial			
ITS Information	ITS Section: 3.0 ITS Number: 3.0	DOC Number: None	JFD Number: None Bases JFD Number: 4	Page Number(s): 16
NRC Owner	bob tjader			
Comment	After the statement in LCO 3.0.5, "This specification does not provide time to perform any other preventive or corrective maintenance," it is proposed to add "Minor corrections such as adjustments of limit switches to correct position indication anomalies are considered within the scope of this specification." This additional statement is not necessary and only raises additonal questions as to degree. It seems that the type of adjustments being considered would fall into the same category as those performed during surveillances, and need not be further defined. We don't use similar statements for surveillances which are intended to demonstrate or verify.			
Issue Date	09/26/2005			

Close Date	12/19/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 10/03/2005	BVPS would prefer to keep this addition to the standard Bases text. The subject Bases statement was added to the CTS Bases with Unit 1 Amendment Number 213 and Unit 2 Amendment Number 90 issued 4/15/98 (TAC Nos. MA1224 and MA 1225). These amendments adopted ISTS LCO 3.0.5 into the CTS (as Specification 3.0.6). The addition of this statement to the standard Bases was considered a necessary clarification due to the strong wording used in the standard (i.e., "This Specification does not provide time to perform any other preventive or corrective maintenance.)" Although Specification 3.0.5 clearly allows the performance of testing to confirm operability, due to the statement cited above, it was not so clear that the minor adjustments/maintenance necessary to pass a surveillance were

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	permitted. The strongly worded restrictions against preventive or corrective maintenance could potentially be mis-interpreted to take exception to maintenance that may be part of a required surveillance procedure. We agree that the added statement is consistent with the intent of Specification 3.0.5 and so did the NRC reviewers who approved it as part of amendment Nos. 213 and 90. Although someone very familiar with the requirements of Specification 3.0.5 may not consider the proposed addition to the standard bases text necessary, the proposed clarification is considered an enhancement that aids in the understanding of the requirements (i.e., it counter balances the strongly worded prohibition against maintenance without changing the intent of the specification).

Date Created: 09/26/2005 04:54 PM by bob tjader
Last Modified: 12/19/2005 03:56 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509271357**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.0 **ITS Number:** BSI 30	**DOC Number:** None	**JFD Number:** 5 **Bases JFD Number:** None	**Page Number(s):** 17
NRC Owner	**bob tjader**			
Comment	**BSI-30 editorial changes are acceptable.**			
Issue Date	**09/27/2005**			

Close Date	**09/27/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 09/30/2005	BVPS acknowledges the acceptance of changes in BSI-30.
Licensee Response by Frank Ferri on 09/30/2005	BVPS acknowledges the acceptance of changes in BSI-30.

Date Created: 09/27/2005 01:57 PM by bob tjader
Last Modified: 09/27/2005 01:57 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509271356**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.0	**DOC Number:** None	**JFD Number:** 5	**Page Number(s):** 17
	ITS Number: BSI 30		**Bases JFD Number:** None	
NRC Owner	**bob tjader**			
Comment	**BSI-30 editorial changes are acceptable.**			
Issue Date	**09/27/2005**			

Close Date	**09/27/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 09/30/2005	BVPS acknowledges the acceptance of changes in BSI-30.

Date Created: 09/27/2005 01:56 PM by bob tjader
Last Modified: 09/27/2005 01:56 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509271357**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** **3.0**	**DOC Number:** **None**	**JFD Number:** **5**	**Page Number(s):** **17**
	ITS Number: **BSI 30**		**Bases JFD Number:** **None**	
NRC Owner	**bob tjader**			
Comment	**BSI-30 editorial changes are acceptable.**			
Issue Date	**09/27/2005**			

Close Date	**09/27/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 09/30/2005	BVPS acknowledges the acceptance of changes in BSI-30.
Licensee Response by Frank Ferri on 09/30/2005	BVPS acknowledges the acceptance of changes in BSI-30.

Date Created: 09/27/2005 01:57 PM by bob tjader
Last Modified: 09/27/2005 01:57 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200512231124		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.1 ITS Number: 3.1.10	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	With the exception of Section 3.2.10, my review of Section 3.1 is complete. Since Section 3.1.10 is consisitent with TSTF-453T, I will be arranging with the PM (Tim C.) for the review of Section 3.1.10 and TSTF-453T.			
Issue Date	12/23/2005			

Close Date	01/12/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 01/05/2006	We acknowledge the completion of your review. The changes introduced by TSTF 453-T (i.e., new Technical Specification 3.1.10) are also addressed by BSI #28.

Date Created: 12/23/2005 11:24 AM by Pete Hearn
Last Modified: 01/12/2006 10:19 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200507061521**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.1 **ITS Number:** None	**DOC Number:** None	**JFD Number:** 2 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Summer Sun**			
Comment	**BSIs # 1 & 2 deal with Beaver Valley Unit 1 ITSs 3.1.4, ?Rod Group Alignment Limits,? and 3.1.7.1, ?Unit 1 Rod Position Indication,? respectively. In the proposed TS, ITSs 3.1.4 and 3.1.7.1 were modified by adding to the LCO, Required Action and Surveillance Requirement a Note that allows up to 1 hour after control rod motion to verify control rod position. The time period of 1 hour is based on the time necessary to allow control rod shaft to reach thermal equilibrium. Please provide response to the following questions: (1) Has the added Note ever been proposed by TSTF as a change to STS? If it was not tried before, justify why a TSTF as a change to the STS is not needed. (The response to this question is not required for the staff to finalize its review of the proposed ITS, rather, the question focused more on improving the ITS in the future.) (2) The current TS for Beaver Valley Unit 1 limits the 1-hour time period to power levels less than 50%. The proposed TS expanded the applicable power levels of less than 50% to power levels of greater than 50% (including full power level). Provide justification to show that the 1 hour time expanded to power levels above 50% is acceptable. (3) In the CTS, the Mode 2 LCO specifies that the 1 hour allowance is applicable during reactor startup and shutdown operarions. The ITS changed "reactor startup and shutdown operations" to "rod motion." Justify that the change is acceptable in terms of the chage in frequncy of the rod motion during Mode 2 operation.**			
Issue Date	**07/06/2005**			

Close Date	**10/12/2005**	Resolution requires change to: None Formal RAI Required Docket Response Required? **Yes**

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Responses

Licensee Response by Frank Ferri on 07/29/2005	(1)A review of the TSTFs generated for the Westinghouse NUREG-1431 indicates that a TSTF has never been written for this issue. This issue has been treated as a plant specific design issue that is relevant only to plants with analog rod position indication. Not many Westinghouse plants have analog systems for rod position indication. In addition, many of the plants with analog designs have already resolved this issue within their individual technical specifications. As such, a TSTF for analog system designs would not be necessary for many plants with that design, and would not be considered generic enough by other plants to receive sufficient industry support to be successful. (2) The addition of the note for power levels greater than 50% is necessary due to the time it takes for the position indication to stabilize after some rod movements. The LCO and surveillance requirement for the rods to be within the required alignment limits can not always be accurately verified using the analog indicators for rods in motion and for up to 1-hour after rod motion. The allowance for a short delay after rod motion for the rod position indication to stabilize is important to ensure the indication is accurate and to avoid unnecessary entry into Actions with relatively short completion times for rods that are not inoperable or mispositioned. The proposed change is acceptable for the following reasons: a) The requested change only provides a short delay for analog indications to stabilize after rod motion before the requirements of the LCO and surveillances are applied. The LCO and Surveillance requirements are not revised. During the requested time, rod position indication continues to be available from both the analog system and the demand counter. There is no loss or interruption of rod position indication. b) The NRC has approved this provision for other Westinghouse plants with analog rod position indication (e.g., Point Beach, Turkey Point Units 3 &4, Indian Point 3, an≡☺ Salem Units 1 & 2). The relatively recent Point Beach change is discussed in our original justification associated with this change. The bases for the NRC approval of this change for other plants is not a plant specific analysis or design feature but a judgement regarding the appropriate time for an indication to stabilize and the acceptability of using the demand position indication for this brief time as the sole rod position indication. The delay time for the instrumentation to stabilize and ability to use the demand position indication for this brief period are applicable to BVPS as well. c) The bases for the NRC approval of the original BVPS Note applicable below 50% power in BVPS Amendment 51, dated 6/14/82, is also applicable to the current requested change. The NRC determined that for the relatively short time being requested the risk was not unacceptable and the demand position indication could be relied on to provide the required rod position indication. The risk due to a misaligned rod being undetected for an hour (i.e., the probability of an accident during the requested time) continues to be low and the reliability of the demand position indication does

	not change at higher power levels. The NRC stated in part: "The bases for the approval are (a) that a potentially misaligned rod that is undetected for an hour or so is not an unacceptable risk, (b) the operating experience over the years with the control rod drive system and the demand counter has indicated a very high reliability, while the experience with the analog indicators has been plagued with less-than-desirable performance, and (c) the demand counters can be checked periodically to confirm that the rods did in fact go to the position requested by the demand counters." Since the 1982 NRC safety evaluation, significant additional operating experience has continued to show that the group demand counters are a reliable indication of rod position and that almost all indications of individual rod misalignment are due to individual rod position indication errors during movement or in the first hour following rod movement. d) In order to further assure the reliability and accuracy of the group demand counters, for use as the primary indication during the requested delay time an extra surveillance beyond what is required by the standard technical specifications is included in the proposed BVPS ITS. The extra surveillance requires verification of the accuracy of the benchboard demand counters by comparing them to the logic solid state indicators in the logic cabinet. This extra surveillance on the demand counters is retained in the BVPS ITS (SR 3.1.7.1.1 in the Unit 1 Rod Position Indication LCO). The retention of this surveillance will continue to provide additional assurance of demand counter accuracy and reliability for primary rod position indication during the first hour following rod movement. (3) The part of the existing Mode 2 # footnote that allows for a one hour thermal soak for physics testing provides the exception during startup and shutdown while rods are being withdrawn and inserted. The Mode 2 note was more focused on the nor° al Mode 2 activities of rod withdrawal and insertion associated with startup and shutdown. However, the allowance provided by the Mode 2 note is not consistent with the more general LCO Note 1 which provides a blanket exception for the one hour thermal soak following any rod motion below 50% (which includes Mode 2 startup and shutdown operations). The LCO states the specific operability requirements for the RPIs and includes an exception to the requirement for plus or minus 12-step accuracy. The LCO exception allows for a one-hour thermal soak before the accuracy requirement must be met. Therefore, the LCO Note 1 provides a broader exception that is applicable in both Modes 1 and 2. The proposed change, which is consistent with the approved exception to the LCO, resolves the inconsistency between the two notes.

Date Created: 07/06/2005 03:21 PM by Summer Sun
Last Modified: 10/21/2005 08:11 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200512121537**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **3.1** **ITS Number:** **None**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**I have begun my review of Section 3.1.**			
Issue Date	**12/12/2005**			

Close Date	**12/12/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/13/2005	Review start acknowledged.

Date Created: 12/12/2005 03:37 PM by Pete Hearn
Last Modified: 12/12/2005 03:37 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200509291038		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.2 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I am begining my review of Section 3.2.			
Issue Date	09/29/2005			

Close Date	10/04/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 09/30/2005	Start of review acknowledged.

Date Created: 09/29/2005 10:38 AM by Pete Hearn
Last Modified: 10/04/2005 02:17 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200510041418		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.2 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	My review of Section 3.2 is complete.			
Issue Date	10/04/2005			

Close Date	10/04/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 10/04/2005	Review completion acknowledged by BVPS.

Date Created: 10/04/2005 02:18 PM by Pete Hearn
Last Modified: 10/04/2005 02:19 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200510221315**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** 3.3.1	**DOC Number:** None	**JFD Number:** 7 **Bases JFD Number:** 5	**Page Number(s):** 11
NRC Owner	**Robert Clark**			
Comment	**ITS SR 3.3.1.9 proposed that the frequency for establishing the initial calibration of the excore channels be once per fuel cycle. The initial calibration data is obtained from the incore channels at the begining of the fuel cycle. Since the incore data varies with core burn-up, please provide the technical bases for not updating the incore calibration data every 92 EFPD as recommended by NUREG-1431, R3.** **Based on discussion with the licensee and NRC staff on 10/31/2005, it was decided that this issue will be resolve under BSI #4. This question is now closed.**			
Issue Date	**10/22/2005**			

Close Date	**10/31/2005**	Resolution requires change to: Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 11/07/2005	This response is to acknowledge the closure of this item.

Date Created: 10/22/2005 01:15 PM by Robert Clark
Last Modified: 10/31/2005 02:00 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505050732**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** 3.3.1	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Carl Schulten**			
Comment	**I will start my review mid-May**			
Issue Date	**05/05/2005**			

Close Date	**06/09/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/08/2005	Thanks. Database access is confirmed.

Date Created: 05/05/2005 07:32 AM by Carl Schulten
Last Modified: 06/09/2005 01:09 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200505251129		Conference Call Requested? **Yes**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** 3.3.1	**DOC Number:** LA.1	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):** 101
NRC Owner	**Carl Schulten**			
Comment	**DOC LA.1 states:** **The CTS surveillance (4.3.1.1.3)includes guidance for performing the testing that specifies "Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months". The corresponding ISTS surveillance requirement does not contain similar guidance for performing the response time testing.** **I disagree with the categorization "(Type 3 - Removing Procedural Details for Meeting Tech Spec Requirements)" because the CTS SR specifies components to be tested and specifies a frequency for the test. Revise the categorization with appropriate DOC justification or clarify LA.1 by explaining in more detail the procedural nature of this change. Provide specific examples of how CTS surveillance requirements are implemented by testing procedures.**			
Issue Date	**05/25/2005**			

Close Date	**12/05/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 05/25/2005	The additional CTS surveillance guidance in question is procedural in nature because it explains how to properly implement the RTS Response Time surveillance on a Staggered Test Basis. The ITS simply requires the surveillance to be performed on a Staggered Test Basis(every 18 months)and provides no additional guidance. Because the CTS does not specify the TS defined term of Staggered Test Bases for the performance of RTS response time testing, the CTS includes additional guidance that effectively describes testing on a

	staggered basis every 18 months. By definition, the ITS RTS Response Time surveillance performed on a Staggered Test Basis would require a train to be tested every 18 months such that both trains were tested every 36 months. Therefore, the ITS surveillance performed on a staggered basis results in the same component test schedule as the CTS. The additional CTS guidance for the performance of this surveillance (although not absolutely necessary) was retained in the bases as it provides a clarification to plant staff regarding the application of staggered testing to the response time testing of the channels and trains that comprise the RTS. Section 3.3A DOC LA.1 will be revised to clarify the procedural nature of this information by adding the following: "The ITS requires Response Time testing to be performed on a Staggered Test Basis every 18 months. Due to the use of the TS defined term "Staggered Test Basis," the ITS surveillance frequency results in the same component test schedule as the CTS surveillance. Because the CTS does not specify the TS defined term of Staggered Test Bases for the performance of response time testing, the CTS includes additional guidance that effectively describes how testing is performed on a staggered basis. This additional CTS guidance is retained in the ITS bases to provide a clarification of how Response Time testing is performed on a Staggered Test Basis."
NRC Response by Carl Schulten on 12/05/2005	Comment is closed, the response is adequate. Although I would argue that it is incorrect to state that the CTS contains the "additional guidance" (i.e., the instruction for how to perform correct TS testing) ?because the CTS does not specify the TS defined term of Staggered Test Bases for the performance of response time testing.? I do not understand how the CTS anticipated forthcoming format changes to the STS. Instead, it?s my viewpoint that the change to the current license basis for CTS is simply replacing the definition of a ?staggered testing schedule? (i.e., the ?additional guidance?) with a TS defined term which describes the identical ?staggered testing schedule.?

Date Created: 05/25/2005 11:29 AM by Carl Schulten
Last Modified: 12/05/2005 01:33 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601111527**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** 3.3.3	**DOC Number:** None	**JFD Number:** 5 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**RCS Subcooling Margin Monitor: Please confirm that adequate procedures exists or will be provided to assist the operator with calculating subcooling margin based on PAM indications for reactor coolant pressure and temperature.**			
Issue Date	**01/11/2006**			

Close Date	**02/01/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 01/16/2006	BVPS currently has adequate procedures in place to assist the operators with subcooling margin calculations based on the PAM indications for reactor coolant pressure and temperature.

Date Created: 01/11/2006 03:27 PM by Robert Clark
Last Modified: 02/01/2006 09:21 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200601111521		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.3 ITS Number: 3.3.3	DOC Number: None	JFD Number: 5 Bases JFD Number: None	Page Number(s):
NRC Owner	Robert Clark			
Comment	The condition for Function 19 listed in Table 3.3.3-1 should be changed from "N/A" to "B" to be consistent with the ITS format. A footnote to Table 3.3.3-1 should be added to clarify that Condition "B" is applicable only for function(s) with one required channel.			
Issue Date	01/11/2006			

Close Date	02/01/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 01/12/2006	The PAM Table and associated notation for Function 19 are revised as suggested. Action B is listed in the Table for this Function with the suggested footnote (e). Please see attached PDF file.

Date Created: 01/11/2006 03:21 PM by Robert Clark
Last Modified: 02/01/2006 09:20 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601111544**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** 3.3.3	**DOC Number:** None	**JFD Number:** 5 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**Adequate justifications for declaring; Containment Sump Level (narrow range), RCS Subcooling Margin Monitor, and Secondary System Radiation to be non-Type A was provided. However, concluding statements (similar to Unit 1&2 Containment Pressure - Narrow Range) should be provided in the JFD or reference(s) provided (i.e., 10CFR50.59 evaluation) that the above variables are no longer considered by BVPS to be Type A and, therefore, will not be included in the BVPS ITS Table 3.3.3-1.**			
Issue Date	**01/11/2006**			

Close Date	**02/01/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 01/13/2006	The following conclusion paragraphs have been added to the end of the JFD No. 5 discussion for each of the following functions: --Unit 2 Containment Sump Level (narrow range):-- Considering that the wide range containment sump level indication provides the necessary indication and range to determine the ECCS sump level during accident conditions and that the narrow range indication does not provide a direct indication of conditions in the ECCS sump required during post accident conditions and is limited to 12 inches of range, the narrow range containment sump indication does not fulfill the necessary PAM Function. Therefore, the narrow range containment sump level indication is not required in the PAM TS to assure the necessary post accident monitoring information is available in the control room. --Unit 2 RCS Subcooling Margin Monitor:-- Considering the primary inputs to the RCS subcooling monitor are the core exit thermocouples for

	RCS temperature and the wide range RCS pressure indication for RCS pressure and that both of these indications are included in proposed BVPS PAM ITS, the RCS subcooling monitor is not required to fulfill the necessary PAM Function. Therefore, the RCS subcooling monitor is not required in the PAM TS to assure the necessary post accident monitoring information is available in the control room. --Unit 2 Secondary System Radiation:-- Considering the relatively high range of the Unit 2 secondary system radiation monitors, making them unreliable indicators of a SGTR, and the fact that these monitors are not the primary indication relied on to diagnose or mitigate a steam generator tube rupture accident and that the proposed PAM ITS requires pressurizer level, RCS pressure, and SG water level indications to be operable (the prime indications of a SGTR), the Unit 2 Secondary System radiation monitors are not required to fulfill the necessary PAM Function. Therefore, the Unit 2 secondary system radiation monitors are not required in the PAM TS to assure the necessary post accident monitoring information is available in the control room.

Date Created: 01/11/2006 03:44 PM by Robert Clark
Last Modified: 02/01/2006 09:21 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200511301513		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.3 ITS Number: 3.3.5	DOC Number: None	JFD Number: 1 Bases JFD Number: None	Page Number(s):
NRC Owner	Robert Clark			
Comment	**If the Transmission System Operator (TSO) informed BVPS that it can no longer maintain minimum post-trip voltage on the emergency buses, which bus voltage level i.e., Nominal or Allowable Value would be used to determine Offsite AC Power Operability (LCO 3.8.1)?**			
Issue Date	11/30/2005			

Close Date	12/06/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/06/2005	The voltage levels referred to in the question are associated with the Trip Setpoints and Allowable Values for the Emergency Bus Loss of Voltage and Degraded Voltage relays (ITS 3.3.5). If the bus voltage reaches the Trip Setpoint for either of these relays it will result in the emergency bus being stripped of loads and the associated DG supplying the bus (after the delay associated with the degraded voltage relays). However, BVPS has procedural controls that ensure action is taken when the emergency bus voltage is less than the nominal (expected) indication but is still above the setpoints for the undervoltage and degraded voltage relays. The actions required in the BVPS procedures include declaring the offsite power sources inoperable at a voltage level that is above the Trip Setpoints and Allowable Values of the emergency bus degraded grid and loss of voltage relays.

Date Created: 11/30/2005 03:13 PM by Robert Clark

Last Modified: 12/06/2005 02:22 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200511301402**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.3	**DOC Number:** R.1	**JFD Number:** None	**Page Number(s):**
	ITS Number: 3.3.6		**Bases JFD Number:** None	
NRC Owner	**Robert Clark**			
Comment	**If the Unit 1 TS requirements for manual and automatic isolation for the Containment Purge & Exhaust System are moved to the LRM, what LCO requirements are specified for the Supplemental Leakage Collection and Release System (SLCR) to support FHA assumptions? Although, the radiation monitors are considered non-seismically qualified this does not mean that they are not capable of performing their intended safety function during a postulated FHA. The probability of a FHA concurrent with a seimic event should be insignificant.**			
Issue Date	**11/30/2005**			

Close Date	**01/11/2006**	Resolution requires change to: Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/06/2005	BVPS ITS 3.7.12 contains the Supplemental Leakage Collection and Release System (SLCR) Operability requirements. The applicability of ITS 3.7.12 addresses the fuel handling accident for both units with fuel in the storage pool (i.e., outside containment) and for Unit 1 only the applicability of BVPS ITS 3.7.12 addresses the fuel handling accident inside containment. To address the Unit 1 fuel handling accident inside containment, ITS 3.7.12 requires SLCRS to be operable for Unit 1 when required by LCO 3.9.3.c.3. BVPS ITS 3.9.3 contains the requirements for Containment Penetrations during the movement of recently irradiated fuel inside containment. BVPS ITS 3.9.3 addresses the requirements for both Units (i.e., containment purge and exhaust isolation for Unit 2 and containment exhaust filtration for Unit 1). BVPS ITS 3.9.3.c.3 specifically addresses the requirement to filter the Unit 1 containment exhaust. ITS 3.9.3.c.3 states: "Unit 1 only. The

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	Containment Purge and Exhaust System penetrations may be open when the system airflow is exhausted to an OPERABLE filtered Supplemental Leak Collection and Release System train." The corresponding Unit 2 requirement in ITS 3.9.3 (3.9.3.c.2) states: "Unit 2 only. Capable of being closed by an OPERABLE Containment Purge and Exhaust Isolation System." It should be noted that the Unit 1 requirement for filtered containment exhaust does not require any automatic initiation of equipment, the containment exhaust is simply required to be lined up to the filtered flow path anytime the purge and exhaust system is open to the outside atmosphere. In this manner, the different fuel handling accident design basis for BVPS Unit 1 Purge and Exhaust System (i.e., filtration instead of isolation) can be addressed in a combination of SLCRS and Containment Penetration requirements in BVPS ITS 3.7.12 and 3.9.3. The Unit 1 capability to filter the containment purge and exhaust is the primary means that would be relied on to mitigate a fuel handling accident. Due to the Unit 1 specific design of the containment purge and exhaust radiation monitors (as described in the associated JFDs and DOCs), the automatic actuation provided by these monitors would not be relied on as the primary means to limit the potential release from a fuel handling accident. Therefore, the automatic isolation of the Unit 1 containment purge and exhaust valves is considered a backup function for the primary filtration requirement. As discussed in the R1 DOC that relocates the requirements for the Unit 1 containment purge and exhaust isolation system (including the radiation monitors), these requirements are not being deleted but relocated from the technical specifications to the BVPS Licensing Requirements Manual (LRM). Considering that the Unit 1 Purge and Exhaust Isolation System is a backup system and the primary filtration requirements are retained in the technical specifications, the LRM provides an appropriate level of control for the Unit 1 Purge and Exhaust Isolation System requirements. Changes to the requirements relocated from the technical specifications to the LRM are controlled by the 10 CFR 50.59 process consistent with the control of changes to the UFSAR.

Date Created: 11/30/2005 02:02 PM by Robert Clark
Last Modified: 01/11/2006 05:25 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601231123**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.3 **ITS Number:** BSI 5	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Kulin Desai**			
Comment	**Reviewed BSI 5 and the staff has no comment.**			
Issue Date	**01/23/2006**			

Close Date	**01/23/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/23/2006 11:23 AM by Kulin Desai
Last Modified: 01/23/2006 11:38 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200511171609		Conference Call Requested? No	
Category	Minor Technical			
ITS Information	ITS Section: 3.4 ITS Number: 3.4.1	DOC Number: None	JFD Number: 1 Bases JFD Number: None	Page Number(s): 55
NRC Owner	Pete Hearn			
Comment	NOTE in SR 3.4.1.4, increasing performance time interval from 24 hours to 30 days. The proposed change for the time interval for performing the precision heat balance (PHB)is substantial (1 day to 30 days). JFD 1 requires more details to justify 30 days. (For instance, in reading JFD 1 one might assume the PHB will be performed by plant personal who are ready at a moments notice.) In order to justify 30 days, the new details should address the resources (both personal and equipment) required to perform the PHB and the potential scheduling problems in providing these resources within a 30 day interval.			
Issue Date	11/17/2005			

Close Date	02/03/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/06/2005	The proposed change referred to in this question is also BSI # 6. BVPS chose the 30 day allowance for the Note based, in part, on the NRC's approval of the 30 day allowance for this Note in the North Anna Plant ITS Conversion Amendment. The North Anna ITS Conversion was the most recent ITS conversion approved at the time the BVPS ITS conversion was being prepared. Similar to North Anna, the BVPS CTS does not have any restriction for the performance of this surveillance based on reaching 90% power. Therefore, the voluntary adoption of the 30 day restriction to complete this test after 90% power was considered reasonable. However, other reasons exist for extending the bracketed 24 hour

	requirement in the ISTS. In order to be consistent with the instrument uncertainty analysis assumptions made in WCAPs 15264 (Unit 1) and 15265 (Unit 2) "Westinghouse Revised Thermal Design Procedure Instrument Uncertainty Methodology for FirstEnergy Nuclear Operating Company Beaver Valley Units 1 and 2", BVPS performs the required heat balance as close to 100% power as possible. Performance of the Precision Heat Balance at 100% power yields the most accurate results in accordance with the Westinghouse methodology used to develop the Reactor Trip setpoints. Depending on the required testing, and plant conditions it can typically take up to 3 days to reach 100% power from 90%. BVPS allows another 3 days for stable power operation (particularly the feedwater flow) after reaching 100% power. The performance of the testing including the analysis of data takes another day. As such, if BVPS is to continue to perform this testing at 100% power and the plant startup after refueling proceeds on a typical schedule, and the feedwater flow can be stabilized within the typical time after reaching 100% power, the earliest reasonable time to schedule completion the surveillance after 90% power would be 7 days. However, this would not allow for any unplanned events that may delay the power escalation to 100% power or that may affect stabilization of plant conditions after reaching 100% power. In order to provide some operating flexibility to allow for unplanned holds or testing such as may be necessary to support additional flux mapping, instrumentation calibration, or feedwater flow perturbations BVPS requests that the 24 hour allowance provided by the ISTS Note be revised to 15 days. The requested 15 days is less than originally requested 30 days but would still provide enough margin to allow the continued performance of this testing as close as possible to 100 % power. The adoption of this new 15 day restriction for the performance of this testing in lieu of the ISTS 24 hours is reasonable considering that the BVPS CTS does not contain any similar restriction and that BVPS has successfully maintained the affected instrumentation calibrated without this restriction. Based on over 20 years of operating experience keeping this instrumentation calibrated without the ISTS 90% power restriction, the addition of this restriction does not contribute a significant benefit to the safe operation of the plant. As such, the BVPS proposed 15 day allowance for performing this surveillance does not adversely affect the safe operation of the plant and is more consistent with the current licensing basis of BVPS than the ISTS requirement.
NRC Response by Pete Hearn on 02/03/2006	The prosed change for the time interval for performing the heat balance will be resolved under BS_-6. This RAI is now closed.

Date Created: 11/17/2005 04:09 PM by Pete Hearn
Last Modified: 02/03/2006 11:24 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200512011040		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.4 ITS Number: 3.4.12	DOC Number: None	JFD Number: 6 Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	In JFD 6 you state that SR 3.4.12.5 is only applicable for Unit 1. Provide the justification for not requiring SR 3.4.12.5 for Unit 2.			
Issue Date	12/01/2005			

Close Date	01/12/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/06/2005	BVPS ITS 3.4.12, Overpressure Protection Systems (OPPS), contains the requirements to protect the RCS from overpressurization during low temperature conditions. The Unit 1 SR 3.4.12.5 requires that the ECCS automatic HHSI flow path be verified isolated every 7 days. This Unit 1 ITS surveillance comes from the Unit 1 specific CTS surveillance 4.5.4. The surveillance is required to verify plant conditions are maintained consistent with the RCS low temperature overpressure calculations that support the capability of the Unit 1 power operated relief valves (PORVs) to mitigate an overpressure event in low RCS temperature conditions. The license basis low temperature overpressure calculations for the Unit 1 PORV relief setpoint do not account for an inadvertent SI initiation. Therefore, the automatic HHSI flow path must remain isolated to prevent the potential mass injection (and resulting pressure transient) from an inadvertent SI initiation. The corresponding Unit 2 license basis RCS low temperature overpressure protection calculations do account for an inadvertent SI initiation and show that the Unit 2 PORVs can provide sufficient relief capacity to mitigate this event. Therefore, Unit 2 does not have the requirement to isolate the

	ECCS HHSI flow path during RCS low temperature conditions in the CTS or in the proposed ITS.

Date Created: 12/01/2005 10:40 AM by Pete Hearn
Last Modified: 01/12/2006 10:44 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200508100813		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.4 ITS Number: 3.4.18	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Kent Wood			
Comment	I have been unable to locate any discussion on BVPS U1 TS 3.4.1.4.2, Loop Isolation Valves - Shutdown or BVPS U2 TS 3.4.1.4.2, Loop Isolation Valves - Shutdown. These were issued with Amendments 195 and 78 respectively on February 12, 1996. What is the disposition of these TS? What is the reference for that disposition?			
Issue Date	08/10/2005			

Close Date	11/08/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 08/10/2005	The RCS Loop Isolation Valve - Shutdown Technical Specifications for both Unit 1 and Unit 2 were relocated from the BVPS Technical Specifications to the Licensing Requirements Manual (LRM). The LRM is a licensee controlled document. The NRC approved the removal of these requirements from the Technical Specifications in Amendment numbers 246 (Unit 1) and 124 (Unit 2) issued 5/7/02 (TAC #s MB1577 and MB1579).

Date Created: 08/10/2005 08:13 AM by Kent Wood
Last Modified: 11/08/2005 10:58 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601181405**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.4 **ITS Number:** 3.4.5	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Kulin Desai**			
Comment	**Because the licensee has withdrawn BSI 7 thru 10 and BSI 11 will be in accodance with ISTS, all these BSI items are considered closed.**			
Issue Date	**01/18/2006**			

Close Date	**01/18/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/18/2006 02:05 PM by Kulin Desai
Last Modified: 01/18/2006 02:05 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200511181428		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.4 ITS Number: 3.4.9	DOC Number: None	JFD Number: 2 Bases JFD Number: None	Page Number(s): 22
NRC Owner	Pete Hearn			
Comment	SR 3.4.9.1 For SR 3.4.9.1 you used 18 months for the frequency. In accordance with the Reviewer's Note, confirm that BV pressurizer heaters are non-dedicated safety related heaters, which normally operate.			
Issue Date	11/18/2005			

Close Date	01/12/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/06/2005	The BVPS backup pressurizer heaters used to meet the LCO requirements are powered from a 1E power supply but are not strictly dedicated safety-related heaters. Although not all the backup heaters are normally in service at the same time, typically two out of the four (Unit 1) and one out of the four (Unit 2) backup heater groups are in use during normal plant operation. The backup heaters are also utilized during plant startup in Mode 5 to establish a pressurizer steam bubble. In addition, the 18-month frequency specified for this ISTS pressurizer heater surveillance is consistent with the corresponding CTS surveillance 4.4.4.1. BVPS operating experience has shown the 18-month frequency for these surveillances to be adequate to verify the capability and capacity of the required pressurizer heaters.

Date Created: 11/18/2005 02:28 PM by Pete Hearn
Last Modified: 01/12/2006 10:56 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509151411**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.4	**DOC Number:** L.1	**JFD Number:** 1	**Page Number(s):** 50
	ITS Number: BSI 12		**Bases JFD Number:** 1	
NRC Owner	**Kent Wood**			

BSI-12
On February 25, 2005 First Energy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) (Ref. 1) to revise the Current Technical Specifications (CTS) for BVPS Unit Nos. 1 and 2 to Improved Technical Specifications (ITS) consistent with the Standard Technical Specifications (STS) as described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 2 (Ref. 2), with additional changes to make the resulting BVPS ITS more consistent with Revision 3 of NUREG-1431. In addition, Technical Specification Task Force (TSTF) changes to Revision 3 have been incorporated. This LAR also includes changes to consolidate the separate Unit Nos. 1 and 2 Technical Specifications into a single set of ITS applicable to both units. Additionally the LAR is requesting changes that would result in several individual TS which are appreciably different from the STS. Changes that result in a TS which is appreciably different from the STS are considered beyond scope items (BSI) and require additional review by the NRC staff. The changes FENOC is requesting for STS 3.4.18, RCS Isolated Loop Startup would result in a TS appreciably different from the STS.
For TS 3.4.18 FENOC is proposing four appreciable changes that classify this as a BSI. Those four changes are:
1. STS 3.4.18 LCO requires an isolated loop to remain isolated if it?s the cold leg temperature is more than 20 F colder than the highest cold leg temperature of an operating loop. FENOC is proposing the isolated loop to remain isolated if its cold leg temperature is less than the temperature used in the Modes 5 and 6 shutdown margin (SDM) calculation.
2. FENOC is proposing an addition to the LCO that would require th[redacted]sed on certain RCP and steam generator conditions.
3. FENOC is proposing adding a note to the LCO stating that a loop is not considered isolated if one isolation valve is stroked for testing or maintenance provided the other isolation valve remains open.
4. The STS surveillance requirement (SR) 3.4.18.2 requires the boron concentration of an isolated loop to be verified within two hours prior to

opening the hot or cold leg isolation valve in an isolated loop. FENOC is proposing to make this SR applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained.
The staff requests responses to the following questions in order to continue the review of the licensee?s amendment request (Ref. 1):
Questions
1. With respect to the proposal to require the isolated loop to remain isolated if the cold leg temperature is less than the temperature used in the Modes 5 and 6 SDM calculation, please provide the following information:
a. The STS requires the isolated loop cold leg temperature to be referenced to the highest cold leg temperature of the operating loops. This information is readily available in the control room. How would the Modes 5 and 6 SDM calculation temperature be captured, controlled, and provided to control room operators?
b. The Justification for Deviation (JFD) indicates the current Modes 5 and 6 SDM calculation temperature is 50 F, the minimum RCS operating temperature. With the high boron concentrations expected in Modes 5 and 6 colder water is not necessarily more limiting. Was a sensitivity study performed to determine the most limiting Modes 5 and 6 SDM calculation temperature? What were the results? If no sensitivity study was performed, justify the lack thereof.
c. The STS requires the isolated loop to remain isolated if its cold leg temperature is more than 20 F colder than the hottest cold leg temperature of an operating loop. In addition to reactivity concerns this limits the effect of any thermal stresses caused by the injection of cold water into the RCS. By allowing an isolated loop to be un-isolated if the cold leg temperature is equal to the Mode 5 and 6 SDM calculation temperature of 50 F the temperature differential could be much larger than the STS anticipates. Provide an evaluation of the stresses associated with injecting a loop of cold water at the minimum RCS operating temperature into the operating portion of the RCS at the maximum RCS operating temperature. Include the possibility and effect of creating a vacuum in the RCS, in all possible Mode 5 and Mode 6 operating conditions.
2. With respect to the proposal to require the isolated loop to remain isolated based on certain RCP and steam generator conditions please provide the following information:
a. BVPS?s proposed ITS 3.4.18 prohibits opening loop isolation valves when a RCP is running in a non-isolated loop and the secondary temperature of the isolated Steam Generator is more than 50 F above the cold leg of any non-isolated loop. Explain why this prohibition doesn?t apply if the isolated steam generator is more than 50 F above the cold leg of the isolated loop?
b. BVPS?s proposed ITS 3.4.18 prohibits opening loop isolation valves when a RCP is running in the isolated loop and no RCPs are running in any unisolated loop, and the secondary temperature of the isolated and any unisolated Steam Generator is more than 50 F above the cold leg of any non-isolated loop. What is the difference between the terms ?unisolated? and ?non-isolated??
c. The STS indicate the temperature differential limit between the secondary side of a steam generator and an RCS cold leg for starting a

Comment

RCP is a site specific value. Therefore, provide a description of the analysis which determined 50 F as the appropriate temperature differential limit for BVPS Unit Nos. 1 and 2. Include input parameters, assumptions, and plant configurations used in the analysis.
3. With respect to the proposal to add a note to the LCO stating that a loop is not considered isolated if one isolation valve is stroked for testing or maintenance provided the other isolation valves remains open, so that the NRC staff can better understand this stroke, please provide the following information:
a. How is the stroke controlled? What happens if the loop isolation valve fails closed? What happens if the loop isolation valve fails partially open/closed? What is the total duration of the stroke which if exceeded will result in the loop being considered isolated?
4. STS surveillance requirement (SR) 3.4.18.2 requires the boron concentration of an isolated loop to be verified within two hours prior to opening the hot or cold leg isolation valve in an isolated loop. The intent is to ensure there is no unanticipated positive reactivity insertion when loop isolation valves are opened. For BVPS Unit Nos. 1 and 2 ITS this will be SR 3.4.18.3. FENOC is proposing to make this SR applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained. The JFD states the four-hour time limit is acceptable as the BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 is only applicable when an RCS loop has been isolated for greater than four (4) hours or drained. In previous licensing activity (Ref. 3) this four-hour time limit was deemed adequate to ensure there is no boron stratification in the isolated loop. However, this seems to be contradicted by BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2, which requires the isolated loops boron concentration to be verified within two (2) hours prior to opening the loop isolation valves, this after the isolated loop had been drained and filled from a known water source at or above the SDM requirement, in accordance with BVPS Unit Nos. 1 and 2 ▼TS SR 4.4.1.5.1. The rationale in the previous licensing activity (Ref. 3) for BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2 was to ? . . . provide reasonable assurance that the boron concentration will stay within acceptable limits until the loop is unisolated.? This indicates a concern that the boron concentration in an isolated loop can change within two hours, as stipulated by the STS SR 3.4.18.2, not four hours as the BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 Applicability would indicate. With respect to the proposal to make For BVPS Unit Nos. 1 and 2 ITS SR 3.4.18.3 applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained please provide the following information:
a. Provide an explanation of the apparent contradiction of BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 Applicability and BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2, with respect to the difference in time limits.
b. Please clarify the term ?drained?, i.e., at what per cent of water removed from the isolated loop is it considered ?drained??
c. Are there processes, other than draining and refilling, that can cause a turnover in the water inventory in an isolated loop?
d. Prior to the license amendments approved in Reference 4 BVPS Unit Nos. 1 and 2 had an electronic interlock to ensure an isolated loop was recirculated for 90 minutes before opening a loop isolation valve. With the

license amendments approved in Reference 4 BVPS Unit Nos. 1 and 2 have a requirement to drain and fill an isolated loop before opening a loop isolation valve. Both of these requirements were intended to ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve. In FENOC?s current LAR there is no readily apparent requirement to ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve. Hence, any boron sample taken may not be representative of the loop as a whole. Provide an explanation of how BVPS Unit Nos. 1 and 2 ITS would ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve.

5. In previous licensing activity (Ref. 3) BVPS submitted a license amendment request to modify the criteria for boron dilution analysis during Modes 4, 5, and 6, and to also modify the isolated loop startup TS. That LAR was approved when the NRC issued amendment number 195 to license DPR-66 and amendment number 78 to license NPF-73 on February 12, 1996 (Ref. 4). By virtue of those changes BVPS eliminated its analysis for a boron dilution event in Modes 4, 5, and 6. That licensing activity placed three controls on the startup of an isolated loop that ? . . . virtually eliminates any inappropriate sudden positive reactivity addition from unborated water . . . ? Those controls were (1) the isolated loop boron concentration was to be maintained higher than the shutdown margin requirement in the operating loops, (2) the loop isolation valves could not be opened unless the loop had been drained and filled with water from the Refueling Water Storage Tank or from the Reactor Coolant System, and (3) power was removed from the loop isolation valve operators.

a. Given that control (2) is being replaced by a less restrictive TS and control (3) was relocated to the LRM (Ref. 5 & 6), please explain how the justification for not performing a boron dilution event in Modes 4, 5, and 6 remains valid.

6. Prior to the licensing activity in References 3 and 4, BVPS had three interlocks which were credited in preventing a loss of SDM during startup of an isolated reactor coolant loop. Two of those interlocks were eliminated by the licensing activity of References 3 and 4, on the grounds that the requirement to drain and fill the isolated loop from the RWST or RCS within four hours of opening the loop isolation valves made those two interlocks unnecessary. In its current LAR the licensee has eliminated the requirement to drain and fill the isolated loop from the RWST or RCS within four hours of opening the loop isolation valves, but has not addressed whether the justification for eliminating the interlocks remains valid. Please provide a response that addresses whether the justification for eliminating the interlocks remains valid.

REFERENCES

1. First Energy Nuclear Operating Company (FENOC), letter L-05-027 dated February 25, 2005 from James H. Lash, Director Site Operations USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 296 and 169

2. NUREG 1431, Standard Technical Specifications Westinghouse Plants

3. Duquesne Light Company, letter dated July 10, 1995 from G. S. Thomas

	to USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 224 and 95 **4. Letter from Donald S. Brinkman to Mr. J. E. Cross, Senior Vice President and Chief Nuclear Officer, Nuclear Power Division, Duquesne Light Company, Beaver Valley Power Station, Unit Nos. 1 and 2 (TAC NOS. M92938 and M92939) dated February 12, 1996.** **5. Letter from Lawrence J. Burkart to Mr. L. W. Myeres Senior Vice President FirstEnergy Nuclear Operations, re: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENT RE: PHASE 1 CONVERSION TO IMPROVED STANDARD TECHNICAL SPECIFICATIONS (TAC NOS. MB1577 AND MB1579) dated January 24, 2002 (ML0133204641)** **6. Letter from Lawrence J. Burkart to Mr. L. W. Myeres Senior Vice President FirstEnergy Nuclear Operations, re: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 - REVISED IMPLEMENTATION PERIOD FOR LICENSE AMENDMENT NOS. 246 AND 124 (TAC NOS. MB1577 AND MB1579) dated January 29, 2002 (ML0202803612)**
Issue Date	**09/15/2005**

Close Date	**05/15/2006**	Resolution requires change to: Other Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 02/02/2006	Please see attached PDF file addressing BSI-12 questions.
Licensee Response by Frank Ferri on 04/25/2006	BSI-12 proposed changes to the BVPS Technical Specifications requirements for isolated loop startup. Considering the staff resources (both licensee and NRC) necessary to address additional questions regarding BSI-12, and the limited benefit to the plant provided by BSI-12, Beaver Valley Power Station (BVPS) will no longer pursue the change introduced by BSI-12 at this time. The BVPS ITS Conversion submittal will be revised to retain the current BVPS Technical Specification requirements for isolated loop startup. The current BVPS technical specification requirements will be reformatted to fit the the standard ITS presentation of Technical Specification requirements. As BVPS will retain the current NRC approved Technical Specification requirements for isolated loop startup, this is no longer a BSI issue in the BVPS conversion license amendment request.
NRC Response by Kent Wood on 05/15/2006	BVPS withdrew BSI # 12 via email on 04/25/2006.

Date Created: 09/15/2005 02:11 PM by Kent Wood
Last Modified: 05/15/2006 11:35 AM

Questions.wpd

On February 25, 2005 First Energy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) (Ref. 1) to revise the Current Technical Specifications (CTS) for BVPS Unit Nos. 1 and 2 to Improved Technical Specifications (ITS) consistent with the Standard Technical Specifications (STS) as described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 2 (Ref. 2), with additional changes to make the resulting BVPS ITS more consistent with Revision 3 of NUREG-1431. In addition, Technical Specification Task Force (TSTF) changes to Revision 3 have been incorporated. This LAR also includes changes to consolidate the separate Unit Nos. 1 and 2 Technical Specifications into a single set of ITS applicable to both units.

Additionally the LAR is requesting changes that would result in several individual TS which are appreciably different from the STS. Changes that result in a TS which is appreciably different from the STS are considered beyond scope items (BSI) and require additional review by the NRC staff. The changes FENOC is requesting for STS 3.4.18, RCS Isolated Loop Startup would result in a TS appreciably different from the STS.

For TS 3.4.18 FENOC is proposing four appreciable changes that classify this as a BSI. Those four changes are:

1. STS 3.4.18 LCO requires an isolated loop to remain isolated if it's the cold leg temperature is more than 20-F colder than the highest cold leg temperature of an operating loop. FENOC is proposing the isolated loop to remain isolated if its cold leg temperature is less than the temperature used in the Modes 5 and 6 shutdown margin (SDM) calculation.
2. FENOC is proposing an addition to the LCO that would require the isolated loop to remain isolated based on certain RCP and steam generator conditions.
3. FENOC is proposing adding a note to the LCO stating that a loop is not considered isolated if one isolation valve is stroked for testing or maintenance provided the other isolation valve remains open.
4. The STS surveillance requirement (SR) 3.♥.18.2 requires the boron concentration of an isolated loop to be verified within two hours prior to opening the hot or cold leg isolation valve in an isolated loop. FENOC is proposing to make this SR applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained.

The staff requests responses to the following questions in order to continue the review of the licensee's amendment request (Ref. 1):

<u>Questions</u>

1. With respect to the proposal to require the isolated loop to remain isolated if the cold leg temperature is less than the temperature used in the Modes 5 and 6 SDM calculation, please provide the following information:
   a. The STS requires the isolated loop cold leg temperature to be referenced to the highest cold leg temperature of the operating loops. This information is readily available in the control room. How would the Modes 5 and 6 SDM calculation temperature be captured, controlled, and provided to control room operators?
   b. The Justification for Deviation (JFD) indicates the current Modes 5 and 6 SDM calculation temperature is 50-F, the minimum RCS operating temperature. With the high boron concentrations expected in Modes 5 and 6 colder water is not necessarily more limiting. Was a sensitivity study performed to determine the most limiting Modes 5 and 6 SDM calculation temperature? What were the results? If no sensitivity study was performed, justify the lack thereof.

c. The STS requires the isolated loop to remain isolated if its cold leg temperature is more than 20-F colder than the hottest cold leg temperature of an operating loop. In addition to reactivity concerns this limits the effect of any thermal stresses caused by the injection of cold water into the RCS. By allowing an isolated loop to be un-isolated if the cold leg temperature is equal to the Mode 5 and 6 SDM calculation temperature of 50-F the temperature differential could be much larger than the STS anticipates. Provide an evaluation of the stresses associated with injecting a loop of cold water at the minimum RCS operating temperature into the operating portion of the RCS at the maximum RCS operating temperature. Include the possibility and effect of creating a vacuum in the RCS, in all possible Mode 5 and Mode 6 operating conditions.

2. With respect to the proposal to require the isolated loop to remain isolated based on certain RCP and steam generator conditions please provide the following information:

a. BVPS's proposed ITS 3.4.18 prohibits opening loop isolation valves when a RCP is running in a non-isolated loop and the secondary temperature of the isolated Steam Generator is more than 50-F above the cold leg of any non-isolated loop. Explain why this prohibition doesn't apply if the isolated steam generator is more than 50-F above the cold leg of the isolated loop?

b. BVPS's proposed ITS 3.4.18 prohibits opening loop isolation valves when a RCP is running in the isolated loop and no RCPs are running in any unisolated loop, and the secondary temperature of the isolated and any unisolated Steam Generator is more than 50-F above the cold leg of any non-isolated loop. What is the difference between the terms 'unisolated' and 'non-isolated?'

c. The STS indicate the temperature differential limit between the secondary side of a steam generator and an RCS cold leg for starting a RCP is a site specific value. Therefore, provide a description of the analysis which determined 50-F as the appropriate temperature differential limit for BVPS Unit Nos. 1 and 2. Include input parameters, assumptions, and plant configurations used in the analysis.

3. With respect to the proposal to add a note to the LCO stating that a loop is not considered isolated if one isolation valve is stroked for testing or maintenance provided the other isolation valves remains open, so that the NRC staff can better understand this stroke, please provide the following information:

a. How is the stroke controlled? What happens if the loop isolation valve fails closed? What happens if the loop isolation valve fails partially open/closed? What is the total duration of the stroke which if exceeded will result in the loop being considered isolated?

4. STS surveillance requirement (SR) 3.4.18.2 requires the boron concentration of an isolated loop to be verified within two hours prior to opening the hot or cold leg isolation valve in an isolated loop. The intent is to ensure there is no unanticipated positive reactivity insertion when loop isolation valves are opened. For BVPS Unit Nos. 1 and 2 ITS this will be SR 3.4.18.3. FENOC is proposing to make this SR applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained. The JFD states the four-hour time limit is acceptable as the BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 is only applicable when an RCS loop has been isolated for greater than four (4) hours or drained. In previous licensing activity (Ref. 3) this four-hour time limit was deemed adequate to ensure there is no boron stratification in the isolated loop. However, this seems to be contradicted by BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2, which requires the isolated loops boron

concentration to be verified within two (2) hours prior to opening the loop isolation valves, this after the isolated loop had been drained and filled from a known water source at or above the SDM requirement, in accordance with BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.1. The rationale in the previous licensing activity (Ref. 3) for BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2 was to " . . . provide reasonable assurance that the boron concentration will stay within acceptable limits until the loop is unisolated." This indicates a concern that the boron concentration in an isolated loop can change within two hours, as stipulated by the STS SR 3.4.18.2, not four hours as the BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 Applicability would indicate. With respect to the proposal to make For BVPS Unit Nos. 1 and 2 ITS SR 3.4.18.3 applicable only if the loop has been isolated for greater than four hours or if the isolated loop has been drained please provide the following information:

a. Provide an explanation of the apparent contradiction of BVPS Unit Nos. 1 and 2 CTS 3.4.1.5 Applicability and BVPS Unit Nos. 1 and 2 CTS SR 4.4.1.5.2, with respect to the difference in time limits.

b. Please clarify the term 'drained', i.e., at what per cent of water removed from the isolated loop is it considered 'drained?'

c. Are there processes, other than draining and refilling, that can cause a turnover in the water inventory in an isolated loop?

d. Prior to the license amendments approved in Reference 4 BVPS Unit Nos. 1 and 2 had an electronic interlock to ensure an isolated loop was recirculated for 90 minutes before opening a loop isolation valve. With the license amendments approved in Reference 4 BVPS Unit Nos. 1 and 2 have a requirement to drain and fill an isolated loop before opening a loop isolation valve. Both of these requirements were intended to ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve. In FENOC's current LAR there is no readily apparent requirement to ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve. Hence, any boron sample taken may not be representative of the loop as a whole. Provide an explanation of how BVPS Unit Nos. 1 and 2 ITS would ensure adequate mixing of the boron concentration in an isolated loop before opening a loop isolation valve.

5. In previous licensing activity (Ref. 3) BVPS submitted a license amendment request to modify the criteria for boron dilution analysis during Modes 4, 5, and 6, and to also modify the isolated loop startup TS. That LAR was approved when the NRC issued amendment number 195 to license DPR-66 and amendment number 78 to license NPF-73 on February 12, 1996 (Ref. 4). By virtue of those changes BVPS eliminated its analysis for a boron dilution event in Modes 4, 5, and 6. That licensing activity placed three controls on the startup of an isolated loop that " . . . virtually eliminates any inappropriate sudden positive reactivity addition from unborated water . . . " Those controls were (1) the isolated loop boron concentration was to be maintained higher than the shutdown margin requirement in the operating loops, (2) the loop isolation valves could not be opened unless the loop had been drained and filled with water from the Refueling Water Storage Tank or from the Reactor Coolant System, and (3) power was removed from the loop isolation valve operators.

a. Given that control (2) is being replaced by a less restrictive TS and control (3) was relocated to the LRM (Ref. 5 & 6), please explain how the justification for not performing a boron dilution event in Modes 4, 5, and 6 remains valid.

6. Prior to the licensing activity in References 3 and 4, BVPS had three interlocks which were credited in preventing a loss of SDM during startup of an isolated reactor coolant loop. Two of those interlocks were eliminated by the licensing activity of References 3 and 4, on the grounds that the requirement to drain and fill the isolated loop from the RWST or RCS within four hours of opening the loop isolation valves made those two interlocks unnecessary. In its current

LAR the licensee has eliminated the requirement to drain and fill the isolated loop from the RWST or RCS within four hours of opening the loop isolation valves, but has not addressed whether the justification for eliminating the interlocks remains valid. Please provide a response that addresses whether the justification for eliminating the interlocks remains valid.

REFERENCES

1. First Energy Nuclear Operating Company (FENOC), letter L-05-027 dated February 25, 2005 from James H. Lash, Director Site Operations USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 296 and 169

2. NUREG 1431, Standard Technical Specifications Westinghouse Plants

3. Duquesne Light Company, letter dated July 10, 1995 from G. S. Thomas to USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 224 and 95

4. Letter from Donald S. Brinkman to Mr. J. E. Cross, Senior Vice President and Chief Nuclear Officer, Nuclear Power Division, Duquesne Light Company, Beaver Valley Power Station, Unit Nos. 1 and 2 (TAC NOS. M92938 and M92939) dated February 12, 1996.

5. Letter from Lawrence J. Burkart to Mr. L. W. Myeres Senior Vice President FirstEnergy Nuclear Operations, re: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 - ISSUANCE OF AMENDMENT RE: PHASE 1 CONVERSION TO IMPROVED STANDARD TECHNICAL SPECIFICATIONS (TAC NOS. MB1577 AND MB1579) dated January 24, 2002 (ML0133204641)

6. Letter from Lawrence J. Burkart to Mr. L. W. Myeres Senior Vice President FirstEnergy Nuclear Operations, re: BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2 - REVISED IMPLEMENTATION PERIOD FOR LICENSE AMENDMENT NOS. 246 AND 124 (TAC NOS. MB1577 AND M #579) dated January 29, 2002 (ML0202803612)

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NRC ITS TRACKING

NRC Reviewer

ID	**200601231133**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.4 **ITS Number:** BSI 6	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Kulin Desai**			
Comment	**January 18, 2006** **Beaver Valley BSI 6 - Proposed SR 3.4.1.4 NOTE** **Not Required to be performed until 30 days after > [90]% RTP.** **ISTS SR 3.4.1.4 NOTE** **Not Required to be performed until 24 hours after > [90]% RTP.** **Questions:** **We have received your response dated December 6, 2005. We have the following questions:** **1. Provide recent experience of power ascension testing schedules after refueling from 90% to 100% power to demonstrate that the 24 hour time would not be achievable.** **2. Provide recent examples of plant stability data which demonstrate that plant conditions require 3 days after reaching 100% power to permit testing.** **3. Provide recent examples of startup delays encountered between 90 - 100% power.** **4. Describe the details of performance of this test, including setup, data collection, data reduction and reviews, and discuss why improvements in methodology and test administration are impracticable.** **Describe your administrative procedures during this SR testing.** **5. Provide recent examples of the adjustments made to the RC flow instruments after the heat balance is performed to justify that the instruments are actually in calibration prior to the test.** **6. You performed your SR at 100% power to achieve accurate results. You maintained this level about at least 7 days without having accurate power level and the RCS flow rate information. During this period, the plant could be operating at a higher power level than it was analyzed for.** **Provide a discussion justifying operation during this period that provides reasonable assurance that the plant will be operated within its license, technical specification, and regulatory requirements. Does it have any impact on other technical specifications ?** .			

Issue Date	**01/23/2006**

Close Date	**03/10/2006**	Resolution requires change to: None Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 02/03/2006	The BVPS response previously posted to the Excel web site database on 12/6/05 detailed the BVPS reasons for proposing a surveillance frequency different than the ISTS. The questions above appear to be requesting a justification for relaxing the current BVPS technical specifications. Currently BVPS and most other Westinghouse plants modeled after the previous Standard Technical Specifications (i.e., NUREG-0452, Rev. 4 or earlier) have no restriction on the performance of this surveillance requirement except the 18 month frequency. It should be noted that BVPS is voluntarily adopting a new restriction for performing this SR. As such, the change proposed by BVPS represents the addition of a more restrictive technical specification requirement and operating restriction than currently required by the BVPS technical specifications. BVPS currently performs the subject surveillance based on Westinghouse guidance and the 18 month Frequency. Separate surveillance requirements (i.e., ITS SR 3.3.1.2 required daily after 15% power and ITS SR 3.3.1.9 required within 7 days after reaching 50% power) provide adequate assurance that the power range indication is properly calibrated independently from the RCS flow measurement surveillance. In addition, the technical specifications continue to require that RCS flow be verified greater than or equal to the required limits every 12 hours (i.e., ITS SR 3.4.1.3). The current BVPS surveillance to verify RCS flow requires that the RCS flow indication be verified every 18 months. The current BVPS 18 month frequency is consistent with the calibration frequency used for many safety-related indications used in the plant. This surveillance interval is adequate to maintain safety significant indications (and trip setpoints) within their required tolerance. As such, any significant changes in RCS flow would be readily detectable by the control board indication. The previous Westinghouse Standard Technical Specifications (NUREG-0452, Rev. 4) only required an 18 month Frequency for this surveillance. Consistent with the rules for using technical specifications this surveillance could legally be performed anytime during an operating cycle (i.e., mid-cycle) as long as the performance was within 18 months of the last performance. Most Westinghouse plants with technical specifications modeled after NUREG-0452 (or earlier) do not have restrictions on the performance of this SR

	except that it be performed within 18 months. If the 18 month frequency is an issue, it is generic for all plants with older technical specifications and should be addressed as such. The ITS for (7) Westinghouse Plants were reviewed to find if any Westinghouse plants had accepted the 24 hour restriction of the ISTS for the performance of this surveillance. Only one Westinghouse plant out of 7 accepted the 24 hour restriction. Therefore, the NRC has already approved numerous extensions for the performance of this surveillance up to and including 30 days in the North Anna ITS. Based on the numerous NRC approvals of variations in the frequency for performing this surveillance and the justifications provided by other Westinghouse Plants, the proposed change is not a plant specific issue. BVPS should not be required to show a more detailed plant specific justification (that is beyond what other Westinghouse Plants have provided) for the addition of this new operating restriction to the BVPS technical specifications. If the proposed change, as modified by the BVPS response dated 12/6/06, is still not acceptable, BVPS would like to request a conference call with the NRC Technical Specification branch present to address our concerns.
Licensee Response by Frank Ferri on 03/03/2006	As per our 2/17/06 telecon, BVPS agreed to modify the note associated with ITS SR 3.4.1.4 to read Not required to be performed until 7 days after greater than or equal to 95% RTP. In addition, in response to the questions asked during the telecom the following responses are provided. ---1. ITS Surveillance Requirement SR 3.3.1.2 requires that the power range indication be verified daily after 15% power. This ITS SR compares the power range indication with a secondary side calorimetric heat balance calculation and requires that the power range channels be adjusted if the if the secondary side calorimetric heat balance calculation results exceed the power range channel output by more than + 2%. RCS flow is not used in this SR for determining the correct power range indication. ---2. The NRC has previously approved a 7 day allowance in the note associated with BVPS ITS SR 3.4.1.4 for the following plants: Farley Units 1 & 2, Braidwood Units 1 & 2, Byron Units 1 & 2, R. E. Ginna Nuclear Power Plant and Wolf Creek Unit 1. The approved power level in each plant's note varies from 90% RTP to 95% RTP. ---3. In accordance with WCAP-15584, "Westinghouse Setpoint Methodology for Protection Systems", BVPS performs the flow measurement test as close to 100% power as possible in order to minimize flow measurement uncertainty. Depending on the required testing during startup, and the plant conditions it can typically take up to 3 days to reach 100% power from 90%. BVPS typically allows another 3 days for stable power operation (particularly the feedwater flow) after reaching a power as close to 100% as possible. Feedwater flow requires time to stabilize due to feedwater heater level adjustments and steam generator chemistry optimization. The performance of the testing including the analysis of data takes another day. As such, if BVPS is to continue to

	perform this testing near 100% power and the plant startup after refueling proceeds on a typical schedule, and the feedwater flow can be stabilized within the typical time after reaching near 100% power, the earliest reasonable time to schedule completion the surveillance after 90% power would be 7 days. This leaves little to no time for potential delays during startup. The current proposed change (i.e., 7 days after reaching 95% power) does provide some additional time to allow for potential startup delays as this time would start from 95% power versus 90% power. ---4. A review of the last 3 RCS flow measurement surveillance results for both units showed an average change in RCS flow of 0.94% between operating cycles.

Date Created: 01/23/2006 11:33 AM by Kulin Desai
Last Modified: 03/10/2006 10:48 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200511071459**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **3.4** **ITS Number:** **None**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**I have begun my review of Section 3.4.**			
Issue Date	**11/07/2005**			

Close Date	**11/07/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 11/07/2005	Start of review acknowledged.

Date Created: 11/07/2005 02:59 PM by Pete Hearn
Last Modified: 11/07/2005 03:00 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200512121535**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **3.4** **ITS Number:** **None**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**I have completed my revoew of Section 3.4.**			
Issue Date	**12/12/2005**			

Close Date	**12/12/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/13/2005	Review completion acknoledged.

Date Created: 12/12/2005 03:35 PM by Pete Hearn
Last Modified: 12/12/2005 03:36 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200510061005**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.5 **ITS Number:** None	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**I have begun reveiwing Setion 3.5.**			
Issue Date	**10/06/2005**			

Close Date	**10/06/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 10/07/2005	Start of review acknowledged

Date Created: 10/06/2005 10:05 AM by Pete Hearn
Last Modified: 10/06/2005 10:06 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200510281610**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** 3.5 **ITS Number:** 3.5.2	**DOC Number:** None	**JFD Number:** 5 **Bases JFD Number:** None	**Page Number(s):** 7
NRC Owner	**Pete Hearn**			
Comment	**SR 3.5.2.3 and SR 3.5.2.7 (JFD 5, and 6) Justify replacing SR 3.5.2.3 and SR 3.5.2.7 with Administrative Controls. Provide a description of these controls including the title of the document that contains the controls and a justification for satisfyng the requirements of 10 CFR 50.36(c)(3).**			
Issue Date	**10/28/2005**			

Close Date	**01/12/2006**	Resolution requires change to: Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/06/2005	ISTS SR 3.5.2.3 requires that the ECCS piping be verified full of water every 31 days and ISTS SR 3.5.2.7 requires that the "position stop" for each ECCS throttle valve listed is in its correct position every 18 months. Verifying the ECCS piping is sufficiently full of water helps to detect the formation of voids or pockets of entrained gas in the ECCS piping that could impact the system capability to deliver the required flow. The verification of "position stops" in the ECCS throttle valves provides assurance that the valves remain in the correct position such that each cold leg receives the correct injection flow. Both these ISTS SRs are bracketed indicating that the SRs are plant specific. The current technical specifications for both BVPS units do not include these ISTS surveillances. However, BVPS has adequately addressed and managed the concerns of these ISTS surveillances by the use plant procedures. BVPS procedure 3BVT01.11.04, "Void Monitoring" addresses void monitoring in both BVPS unit's ECCS piping to maintain the ECCS free of gas migration that could challenge system availability or operability. The procedure was initially

performed monthly and as directed by the system engineer (i.e., for Mode changes, etc.) however, the procedure allows for adjustment of test frequency by the system engineer based on performance results. The procedure provides instructions for the ultrasonic test (UT) examination of the ECCS piping to detect and vent void spaces. In addition, the procedure provides instruction for measuring and tracking void spaces in the ECCS piping. Historical data are maintained in a database. The detection of different (i.e., larger) or unexpected voids requires additional evaluation to determine the impact on the system and may also require that additional piping be tested (depending on the location of the void) and that more frequent testing be performed. The procedure also addresses the appropriate method for venting sections of piping (vacuum or atmospheric) and provisions for collecting and analyzing a gas sample when possible. The performance of this procedure has proven adequate to assure the ECCS system is sufficiently full of water to maintain system operability. BVPS procedures 1&2 OST-11.14B, HHSI Full Flow Test, are the Unit 1 and 2 procedures performed on a refueling outage basis (i.e., every 18 months) that verify the High Head Safety Injection (HHSI) flow to the cold and hot legs of the RCS. This test is performed to verify branch line flow balancing through the cold leg injection lines and hot leg recirculation lines with the HHSI pump in accordance with the applicable Westinghouse Technical Bulletins. The acceptance criteria for this test confirms the required injection and recirculation flows for each branch line of the SI system. As such, the performance of this test confirms that the throttle valve positions are correct to ensure the required ECCS performance. In addition, the HHSI throttle valves are administratively controlled (i.e., locked, sealed or otherwise secured in the required position) to prevent the valves from being inadvertently mispositioned. The testing described above and the administrative controls in place to secure the valves in the required position have proven adequate by BVPS operating experience to assure the HHSI system throttle valves remain in the correct position. 10 CFR 50.36(c)(3), Surveillance Requirements, is met by the 7 different SRs proposed in the BVPS ITS 3.5.2, ECCS - Operating. The proposed surveillances include the verification of the active system components (i.e., components required to activate or change position in order for the system to perform its intended safety function). Thus, the proposed surveillance requirements are adequate to confirm the system capability as defined by the applicable selection criterion 3 (i.e., a system that functions or actuates to mitigate a design basis accident). The technical specifications normally do not contain surveillances that verify all parameters or features required for system operability (e.g., individual pump lube oil requirements, etc.). The ISTS surveillances consistently provide exceptions for the requirement to verify valve position for valves that are locked or sealed in the required position (e.g., ISTS SR 3.5.2.5). The reason given in the

	ISTS why it is acceptable not to verify valves that are locked or sealed in position is because the administrative controls that keep these valves in the required position is an adequate control (as is the case with the BVPS ECCS throttle valves). Additionally, other fluid systems required by the technical specifications do not have surveillance requirements to verify the piping is full of water. Similar to the existing technical specification surveillance exceptions for locked valves and lack of surveillances to verify the piping of other fluid systems is full, the proposed BVPS ITS and existing CTS continue to meet the requirements of 10 CFR 50.36 (c)(3). The technical specifications do not include verifications of every aspect of system operability but instead rely on the definition of operability (in addition to specific surveillances) to address the various conditions necessary for individual component or system operability. Plant procedures and controls that maintain standby systems and components in a ready to operate state address the conditions not specifically called out by surveillance requirements. The BVPS procedures described above are examples of controls that supplement the existing surveillances to assure the necessary conditions for system operability are met. Based on the current plant technical specifications, past operating history, and the adequacy of the existing BVPS procedures, this level of technical specification surveillance requirements and administrative controls has proven adequate to ensure the operability of the ECCS system. Therefore, the addition of more technical specification surveillances will not provide a significant additional safety benefit to plant operation. Additionally, a review of some other Westinghouse Plants ITS has shown the following plants ITS conversion was approved without one or both of the surveillances in question. Ginna does not have either SR, and Prairie Island and Farley do not have the SR to verify the ECCS is full of wate .Ⓓn addition, NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted."

Date Created: 10/28/2005 04:10 PM by Pete Hearn
Last Modified: 01/12/2006 02:34 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200511071457		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.5 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	My review of 3.5 is complete pending the resolution of my questions.			
Issue Date	11/07/2005			

Close Date	11/07/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 11/07/2005	Completion of review (pending question resolution) acknowledged.

Date Created: 11/07/2005 02:57 PM by Pete Hearn
Last Modified: 11/07/2005 02:58 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200510311533		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.6 ITS Number: 3.6.1	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Craig Harbuck			
Comment	No comments on Sections 3.6.1 and 3.6.2			
Issue Date	10/31/2005			

Close Date	10/31/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 11/07/2005	No comment on 3.6.1 and 3.6.2 acknowledged.

Date Created: 10/31/2005 03:33 PM by Craig Harbuck
Last Modified: 10/31/2005 03:33 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200510311604**		Conference Call Requested? **Yes**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.6 **ITS Number:** 3.6.3	**DOC Number:** None	**JFD Number:** 2 **Bases JFD Number:** 5	**Page Number(s):** 68
NRC Owner	**Craig Harbuck**			
Comment	**JFD 2, 7, 11** **ok not to adopt LCO Note 4 and Condition E based on (a)prior NRC review of BV's current purge and exhaust valve leak test frequency per Appendix J and the CLRT program and (b) the retained prohibition against opening purge & exhaust valves in Modes 1-4 and therefore no need to reenergize them for remote position indication to verify they are closed during MODEs 1-4.** **Does the change to atmospheric containment design change any of these points?**			
Issue Date	**10/31/2005**			

Close Date	**01/27/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 11/09/2005	The JFDs referred to in the question address changes to the ISTS containment purge and exhaust valve requirements. The changes to the ISTS requirements are based on the CTS requirements that were developed for a subatmospheric containment (i.e., containment purge and exhaust valves are not used in Modes 1-4 and are required by technical specification SR to be deactivated in the closed position in Modes 1-4). The BVPS License Amendment Request (LAR) Nos. 317 (Unit 1) and 190 (Unit 2), commonly referred to as the Containment Conversion LAR, requested permission to operate both units with an atmospheric containment design. However, the changes proposed in the Containment Conversion LAR do not revise the required containment pressure to atmospheric conditions. The requirements included in the

	Containment Conversion LAR continue to maintain the BVPS Unit Nos. 1 and 2 containments slightly subatmospheric (12.8 psia to 14.2 psia). As the BVPS ITS Conversion LAR will not be implemented until after the Containment Conversion LAR, the required containment pressure specified in proposed BVPS ITS 3.6.4, "Containment Pressure" is the post Containment Conversion LAR required pressure. The Containment Conversion LAR continues to require the containment for both BVPS units to be maintained at subatmospheric conditions and does not change the current technical specification requirements for the containment purge and exhaust valves to remain closed and deactivated in Modes 1-4. Therefore, the licensing basis for the containment purge and exhaust valve requirements in the existing CTS and proposed ITS remains valid after the Containment Conversion LAR is implemented.
Licensee Response by Frank Ferri on 12/13/2005	Per our conference call on 12/8/05 (BVPS ITS Conversion status call) the question you originally posted on the BVPS ITS Conversion database regarding the BVPS Atmospheric Containment Conversion License Amendment Request has evolved now to question whether the standard ISTS 3.6.3, Containment Isolation Valves, Action Note # 4 should be retained. The standard Note # 4 requires the applicable Conditions and Required Actions of LCO 3.6.1, Containment, to be entered when isolation valve leakage exceeds the overall containment leakage rate acceptance criteria. BVPS has proposed to delete this Note as it is unnecessary because BVPS does not perform any valve leakage surveillance tests in ITS 3.6.3. The standard ISTS 3.6.3 includes valve leakage testing for the containment purge and exhaust valves for plants that are required to meet a separate leakage rate acceptance criteria for these valves. BVPS does not have a separate leakage rate requirement for these valves due to the design and requirement to lock close the containment purge and exhaust valves in Modes 1-4 so no additional leakage rate testing is required in proposed BVPS ITS 3.6.3. The BVPS containment purge and exhaust isolation valves are Type C tested in accordance with 10 CFR 50 App. J in the same manner as all the other containment isolation valves. BVPS maintains that the sole purpose of ISTS 3.6.3 Action Note 4 is to address the fact that the containment purge and exhaust valves have leakage rate requirements in ISTS 3.6.3 that are beyond the requirements of App. J and that this additional leakage rate testing may result in entry into ISTS 3.6.1, Containment. Since BVPS does not require this additional leakage rate testing in ITS 3.6.3, there are no leakage rate results that may require entry into ISTS 3.6.1, therefore, Action Note 4 is not applicable or required for BVPS. The BVPS position is backed by a specific ISTS 3.6.3 Bases paragraph, (fourth paragraph in the LCO section of the Bases) that states: "Purge valves with resilient seals [and secondary containment 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 Bases statement specifically supports the BVPS position, that if the containment purge and exhaust valves are treated in the same manner as all other containment isolation valves, only LCO 3.6.1, Containment, addresses the leakage rate requirements, not LCO 3.6.3. Therefore, in the case of BVPS, the ISTS Action Note is unnecessary. In addition, the Bases for ISTS LCO 3.6.1, SR 3.6.1.1 also references the specific leakage rate requirements in ISTS 3.6.3. SR 3.6.1.1 requires compliance with the Containment Leakage Rate Testing Program. The Bases for SR 3.6.1.1 describes the relationship between the requirements of ISTS 3.6.1 and 3.6.3 as follows: " Failure to meet air lock [and purge valve with resilient seal] leakage limits specified in LCO 3.6.2 [and LCO 3.6.3] does not invalidate the acceptability of these overall leakage determinations unless their contribution to overall Type A, B, and C leakage causes that to exceed limits. BVPS believes that the Action Note #4 in ISTS 3.6.3 references the overall leakage requirements of ISTS 3.6.1 solely due to the additional containment purge and exhaust valve leakage rate testing required for some plants. Note 4 of ISTS 3.6.3 provides a tie back to ISTS 3.6.1 to prevent a plant from failing the containment purge and exhaust valve or secondary containment bypass valve leakage rate testing required in ISTS 3.6.3 and staying in ISTS 3.6.3 even if the leakage limits of ISTS 3.6.1 are exceeded. The connection between ISTS 3.6.3 and ISTS 3.6.1 is the same as the relationship between ISTS 3.6.1 and ISTS 3.6.2, Airlocks. The corresponding Note in ISTS 3.6.2, Airlocks, establishes the same reference to ISTS 3.6.1 for the same reason and is also discussed in the Bases for SR 3.6.1.1. Note that because BVPS has separate air lock leakage limits, the proposed BVPS ITS 3.6.2 retains the appropriate Note (#3 in ITS 3.6.2) referencing the requirement to enter LCO 3.6.1.

Date Created: 10/31/2005 04:04 PM by Craig Harbuck
Last Modified: 01/27/2006 06:20 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601181338**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.6 **ITS Number:** 3.6.4	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Craig Harbuck**			
Comment	**no comments on ITS 3.6.4**			
Issue Date	**01/18/2006**			

Close Date	**01/18/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	BVPS acknowledges that you have no comments.

Date Created: 01/18/2006 01:38 PM by Craig Harbuck
Last Modified: 01/18/2006 01:38 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200601181340		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.6 ITS Number: 3.6.5	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Craig Harbuck			
Comment	no comments on ITS 3.6.5			
Issue Date	01/18/2006			

Close Date	01/18/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	BVPS acknowledges that you have no comments.

Date Created: 01/18/2006 01:40 PM by Craig Harbuck
Last Modified: 01/18/2006 01:40 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601181356**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.6 **ITS Number:** 3.6.6	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Craig Harbuck**			
Comment	**no comments on ITS 3.6.6**			
Issue Date	**01/18/2006**			

Close Date	**01/18/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	BVPS acknowledges that you have no comments.

Date Created: 01/18/2006 01:56 PM by Craig Harbuck
Last Modified: 01/18/2006 01:56 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200601271813**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.6 **ITS Number:** 3.6.7	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Craig Harbuck**			
Comment	**no comments on ITS 3.6.7**			
Issue Date	**01/27/2006**			

Close Date	**01/27/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/30/2006	Review completion acknowledged by BVPS.

Date Created: 01/27/2006 06:13 PM by Craig Harbuck
Last Modified: 01/27/2006 06:13 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200601271814		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.6 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Craig Harbuck			
Comment	Review of ITS Section 3.6 is completed.			
Issue Date	01/27/2006			

Close Date	01/27/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/30/2006	Review completion acknowledged by BVPS.

Date Created: 01/27/2006 06:14 PM by Craig Harbuck
Last Modified: 01/27/2006 06:14 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200603131149**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7	**DOC Number:** None	**JFD Number:** None	**Page Number(s):**
	ITS Number: 3.7.3		**Bases JFD Number:** None	
NRC Owner	**Pete Hearn**			
Comment	**The ITS added the FW Isolation and Regulation Valves to Section 3.7. In the early 1980s the staff required licensees to analyze the plants for feedwater line breaks inside containment with auxilary and main feedwater pump run out. Describe the assumptions made in the analysis for isolating the flow due to main and auxilary feedwater pump run out.**			
Issue Date	**03/13/2006**			

Close Date	**03/15/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 03/14/2006	Main feedwater flow is assumed to be lost to all steam generators at the initiation of a feedline break. Feedwater isolation can be initiated by high containment pressure, low steamline pressure, pressurizer pressure low, and high-high steam generator water level. Since no main feedwater is assumed following the break, the isolation time is not critical to the feedline break analysis. Auxiliary feedwater is initiated based on low-low steam generator water level or other signals which result in safety injection such as low steam pressure, low pressurizer pressure or high containment pressure. Auxiliary feedwater pump runout is prevented by cavitating venturis. The venturis limit flow to the faulted steam generator to a value which prevents pump damage and allows flow to the intact steam generators. After fifteen minutes it is assumed that operators isolate auxiliary feedwater flow to the faulted steam generator which allows for an increase in flow to the intact steam generators. Main feedwater isolation and isolation of AFW flow to the a faulted steam generator is more critical for calculating main

	steam line break mass and energy release data since this event is more limiting from a containment pressure perspective. In these analyses, main feedwater flow to the faulted steam generator increases following the break based on the faulted steam generator pressure. Hydraulic models are used to predict the response of the main feedwater flow to varying pressure conditions in the faulted and intact steam generators. Following receipt of an isolation signal, main feedwater flow is assumed to continue until the delay time specified in the Licensing Requirements Manual (LRM) has expired. The delay time stated in the LRM is the total ESF Response Time for feedwater isolation which includes sufficient time to account for signal processing and valve actuation delays. Auxiliary feedwater flow to the faulted steam generator is assumed to continue at the rate consistent with the design of the cavitating venture until operator action is taken in 15 minutes to isolate the faulted generator.

Date Created: 03/13/2006 11:49 AM by Pete Hearn
Last Modified: 03/15/2006 04:02 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505160915**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7 **ITS Number:** 3.7.2	**DOC Number:** None	**JFD Number:** 3 **Bases JFD Number:** None	**Page Number(s):** 11
NRC Owner	**Pete Hearn**			
Comment	**BSI 13 ITS SR 3.7.2.1 MSIVs/BSI 14 ITS 3.7.3.1 MFIVs, MFRVs and Bypass Valves** **The valve closure times are assumed in the DBA analysis; therefore, are required by 10 CFR 50.36 to be in the TS. Relocating the closure times to the LRM is not justified. The Reactor Trip and the ESFAST TS contain the times you cited in a Table that is part of the TS. If you provide a Table for the valve closure times in the TS, BSI 13 and 14 become within the scope of the TS Conversion review.**			
Issue Date	**05/16/2005**			

Close Date	**02/03/2006**	Docket Response Required? **No**

Responses

NRC Response by Pete Hearn on 05/25/2005	I suggest a conference call to discuss the issue in Section 3.7.2.
NRC Response by Pete Hearn on 06/03/2005	I have done some research into the area we dicussed in our Telecon. Your response involves relocating instrumentation response times, which are too small to identify trending that maybe precursors to furture instrumentation operability problems. The MSIVs and FWIVs are different. The MSIVs and FWIVs surveillance testing results can identify trends that are precursors for future valve operability problems. This is an additional way these responnse times satisfy the requirements of 10 CFR 50.36. In order to remove the valve response times an alternate charactristic is needed in the TS to demonstrate valve operability. A similar approach to my RAI in 3.9 on the RHR Loop operability satisfied my concern about removing the RHR flowrate from the TS.
NRC Response by Pete Hearn on 09/29/2005	I am working toward resolution of this concern with the NRR staff (MEB & RSB). Propects are looking good. This resolution will

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	also resolve BSI 13 & 14.
Licensee Response by Anthony Dometrovich on 05/16/2005	Generic Letter (GL) 93-08, "Relocation of Technical Specification Tables of Instrument Response Time Limits" allowed the relocation of specific Response Time values from the Technical Specifications (TS). Beaver Valley Power Station (BVPS) implemented the recommendations of GL 93-08 in Amendments numbers 210 (Unit 1) and 88 (Unit 2) issued by NRC letter dated 1/20/98. Therefore, the BVPS Reactor Trip and Engineered Safety Feature Actuation System (ESFAS) TS do not contain any Tables listing ESFAS Response Times or valve actuation times. By TS definition, the ESFAS Response Time includes the final valve actuation time necessary for it to reach its required safety function position. Our justification for this change is based on the acceptability of relocating all other ESFAS Response Times per GL 93-08 which includes the valve actuation times where applicable to a specific ESFAS Function (e.g., Safety Injection). The standard TS of NUREG-1431 do not seem to apply GL 93-08 consistently. Standard TS Section 3.3 (Instrumentation) has no Response Time values and Standard TS Section 3.7 (Plant Systems) still retains the two valve isolation times in question. Similar to GL 93-08, an earlier Generic Letter 91-08, "Removal of Component Lists From the Technical Specifications," allowed for the removal of the list of containment Isolation Valves and the associated Isolation time for each valve. BVPS implemented the recommendations of GL 91-08 in Amendments numbers 185 (Unit 1) and 66 (Unit 2) issued by NRC letter dated 3/28/95. In this Amendment the list of containment isolation valves and the required response times were removed from the TS. Regarding the valve isolation times, GL 91-08 on page 4 of Enclosure 1 stated: " The removal of valve closure times that are included in some plant TS would not alter the TS requirements to verify that valve stroke times are within their limits. Therefore, removal of these closure times is acceptable." This concept is retained in the Standard TS Section 3.6 (Containment) which does not contain the containment isolation valve times and by Surveillance SR 3.6.3.5 which states: "Verify the isolation time of each automatic power operated containment isolation valve is within limits." The Bases for SR 3.6.3.5 states that; "The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses." The standard TS Section 3.6 does not include any containment isolation valve times. The result of our proposed change is to make TS Section 3.7 consistent with TS Sections 3.3 and 3.6. In accordance with the guidance of the Generic Letters cited above, TS Sections 3.3 and 3.6 do not contain the specific values for the response or valve actuation time of individual components. TS Sections 3.3 and 3.6 contain surveillance requirements to verify Response and Isolation Times are within the limits. Consistent with TS Sections 3.3 and 3.6 our proposed change also retains the requirement to verify the valve closure times are within the limit. The proposed change would place the

	required isolation times of the affected valves in the BVPS Licensing Requirements Manual (LRM) along with the BVPS Reactor Trip and ESFAS Response Times and Containment Isolation Valve Isolation Times. The safety analyses assume an overall response time that includes the valve actuation time where applicable. The proposed change continues to assure that the required isolation times are verified to be within the limit by Technical Specification surveillance. The proposed change is consistent with similar surveillances in TS Section 3.3 and 3.6. The intent of this change was to treat response times in a uniform manner in all TS Sections.
Licensee Response by Frank Ferri on 05/17/2005	In the NRC Safety Evaluation Report (SER) issued for the BVPS Amendments implementing Generic Letter (GL) 93-08 "Relocation of Technical Specification Tables of Instrument Response Time Limits" the NRC addressed the TS criteria of 10 CFR 50.36. The NRC stated that "The regulation, however, does not specify the particular requirements to be included in the plant TSs." The SER approved the relocation of Response Time values specified in the Reactor Trip System (RTS) and Engineered Safety Feature Actuation System (ESFAS) TS. By the NRC approving the relocation of the specific Response Time values, it can be concluded that the TS surveillance to verify Response Times was considered adequate to meet the intent of 10 CFR 50.36(c)(2)(ii). The BVPS Amendments (#210 for Unit 1 and #88 for Unit 2) were issued 1/20/98. 10 CFR 50.36(c)(2)(ii) requires that an LCO be established for each item meeting one of the criteria listed. The Proposed BVPS ITS contain LCOs for both the Main Steam Isolation Valves and the Feedwater System isolation valves. In addition, the proposed ITS for these isolation valves contain surveillances to confirm the valves are maintained operable. The specified surveillances include verification of the required valve closure times. However, as stated in the NRC SER described above for BVPS Amendment #s 210 and 88, 10 CFR 50.36(c)(2)(ii) does not specify the particular requirements to be included in the TS (e.g., valve closure times). Valve actuation times are important to the safety analyses because they are part of the associated overall ESFAS Response Time assumed in the safety analyses. This concept was described in the NRC SER for BVPS Unit 2 Amendment # 137 issued 6/25/03. In this Amendment, BVPS revised the Main Steam Isolation Valve full closure time in the TS surveillance. In the associated SER, the NRC concluded the change was acceptable, in part, because "The current safety analyses which credit steam line isolation will remain unaffected since the analyses only address the overall delay time which combines both the signal generation and the MSIV closure time, and does not individually address signal generation nor valve stroke time." The proposed change to relocate the affected individual valve actuation times is justified based on the following: 1) the individual valve actuation times are part of the overall ESFAS Response Time; 2) The safety analyses only consider the

	overall Response Times; 3) The NRC has already determined the overall ESFAS Response Time values do not need to be in the TS to meet 10 CFR 50.36 (See BVPS SER for Amendments 210 and 88); and 4) The LCO and Surveillance Requirements to maintain the associated Valves and ESFAS Functions operable (which includes the valve actuation time and overall response time) remain in the TS to satisfy 10 CFR 50.36(c)(2)(ii).
Licensee Response by Frank Ferri on 06/07/2005	The proposed ITS SRs 3.7.2.1 and 3.7.2.2 would verify the isolation time of each MSIV is within limits and the isolation time of each MFIV, MFRV, and MFRV bypass valve is within limits. In addition, it should be noted that the valves stated above are all required to be periodically stroked and timed closed in accordance with the BVPS Inservice Testing (IST) Program. Compliance with the IST Program is required by the CTS 4.0.5 and proposed ITS 5.5.4. The time to full-stroke exercise each power-operated valve is measured and compared to a reference value (baseline time) and the ASME limiting stroke time. Corrective actions are taken if a valve exceeds its specified ASME limiting value for full-stroke time. Valves that fail the ASME stoke criteria are declared inoperable immediately, and an evaluation of the valve?s condition with respect to system operability and technical specifications is required by the IST Program. Based on the above, the IST Program that is required by Technical Specifications, will also require periodic valve stroke time testing for the MSIV, MFIV, MFRV, and MFRV bypass valves. The IST program testing will identify trends (based on changes in stroke time as specified in the IST Program) that are precursors for future valve operability problems. It should be noted that Generic Letter (GL) 91-08, "Removal of Component Lists From the Technical Specifications," allowed for the removal of the list of Containment Isolation Valves and the associated valve isolation times. The containment isolation valve closure timAsaffected by this GL are similar in magnitude to the closure times specified for the MSIV, MFIV, MFRV, and MFRV bypass valves. BVPS implemented the recommendations of GL 91-08 in Amendments numbers 185 (Unit 1) and 66 (Unit 2) issued by NRC letter dated 3/28/95. Therefore, the NRC has previously approved the removal of valve isolation times (i.e., valve closure times) from the technical specifications.
NRC Response by Pete Hearn on 05/16/2005	The problem involves 10 CFR 50.36(c)(2)(ii)(B)and the valve closure times which are assumptions for DBAs; such as, high energy breaks outside containment and Containment over presurization due to feed pump runout during a feedwater line break inside containment. The closure times appear to be TS requirements by 10 CFR 50.36. 10 CFR Part 50 takes precedance over GL. Generic Letter (GL) 93-08, "Relocation of Technical Specification Tables of Instrument Response Time Limits" allowed the relocation of specific Response Time values from the Technical Specifications (TS). Beaver Valley Power Station (BVPS) implemented the recommendations of GL 93-08 in Amendments numbers 210 (Unit 1) and 88 (Unit 2) issued by NRC

letter dated 1/20/98. Therefore, the BVPS Reactor Trip and Engineered Safety Feature Actuation System (ESFAS) TS do not contain any Tables listing ESFAS Response Times or valve actuation times. By TS definition, the ESFAS Response Time includes the final valve actuation time necessary for it to reach its required safety function position. Our justification for this change is based on the acceptability of relocating all other ESFAS Response Times per GL 93-08 which includes the valve actuation times where applicable to a specific ESFAS Function (e.g., Safety Injection). The standard TS of NUREG-1431 do not seem to apply GL 93-08 consistently. Standard TS Section 3.3 (Instrumentation) has no Response Time values and Standard TS Section 3.7 (Plant Systems) still retains the two valve isolation times in question. Similar to GL 93-08, an earlier Generic Letter 91-08, "Removal of Component Lists From the Technical Specifications," allowed for the removal of the list of containment Isolation Valves and the associated Isolation time for each valve. BVPS implemented the recommendations of GL 91-08 in Amendments numbers 185 (Unit 1) and 66 (Unit 2) issued by NRC letter dated 3/28/95. In this Amendment the list of containment isolation valves and the required response times were removed from the TS. Regarding the valve isolation times, GL 91-08 on page 4 of Enclosure 1 stated: " The removal of valve closure times that are included in some plant TS would not alter the TS requirements to verify that valve stroke times are within their limits. Therefore, removal of these closure times is acceptable." This concept is retained in the Standard TS Section 3.6 (Containment) which does not contain the containment isolation valve times and by Surveillance SR 3.6.3.5 which states: "Verify the isolation time of each automatic power operated containment isolation valve is within limits." The Bases for SR 3.6.3.5 states that; "The isolation time test ensures the valve will isolate in a time period less than or equal to that assumed in the safety analyses." The standard TS Section 3.6 does not include any containment isolation valve times. The result of our proposed change is to make TS Section 3.7 consistent with TS Sections 3.3 and 3.6. In accordance with the guidance of the Generic Letters cited above, TS Sections 3.3 and 3.6 do not contain the specific values for the response or valve actuation time of individual components. TS Sections 3.3 and 3.6 contain surveillance requirements to verify Response and Isolation Times are within the limits. Consistent with TS Sections 3.3 and 3.6 our proposed change also retains the requirement to verify the valve closure times are within the limit. The proposed change would place the required isolation times of the affected valves in the BVPS Licensing Requirements Manual (LRM) along with the BVPS Reactor Trip and ESFAS Response Times and Containment Isolation Valve Isolation Times. The safety analyses assume an overall response time that includes the valve actuation time where applicable. The proposed change continues to assure that the required isolation times are verified to be within the limit by

	Technical Specification surveillance. The proposed change is consistent with similar surveillances in TS Section 3.3 and 3.6. The intent of this change was to treat response times in a uniform manner in all TS Sections.
NRC Response by Pete Hearn on 02/03/2006	The proposed removal of the MSIV, MFIV and associated Bypass valves isolation times will be resolved under BSIs 13 and 14. This RAI is closed.

Date Created: 05/16/2005 09:15 AM by Pete Hearn
Last Modified: 02/03/2006 11:28 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505161350**		Conference Call Requested? **No**	
Category	**Minor Technical**			
ITS Information	**ITS Section:** 3.7	**DOC Number:** None	**JFD Number:** 1	**Page Number(s):** 21
	ITS Number: 3.7.6		**Bases JFD Number:** 1	
NRC Owner	**Pete Hearn**			
Comment	**CONDENSATE STORAGE TANK SR 3.7.6.1 list the CS Tank capacity of 130,000 gal based on the value in the CTS. The CST list a CS Tank capacity of 140,00 gal. Explain the difference.**			
Issue Date	**05/16/2005**			

Close Date	**05/25/2005**	Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 05/16/2005	The 130,000 gallon value is the result of a change from the Power Uprate LAR (#s302 for Unit 1 and 173 for Unit 2). The Power Uprate LAR for both Units revises the CST volume for both Units to 130,000 gallons. With this change in volume requirements, the Unit 1 and Unit 2 CST TS become the same and only the Unit 2 TS is shown in the ITS conversion documentation. The Uprate LAR for both Units will be approved prior to the ITS conversion LAR. All changes from this LAR are anticipated in the ITS conversion documentation and are referred to as the current TS or "CTS" for the purpose of the Enclosure 3 markups. These pending LAR changes are typed into the CTS version contained in Enclosure 3 of the conversion documentation and are not marked separately as changes. This was done to minimize the potential confusion from overly complex markups. If any pending LAR identified in the BVPS conversion documentation is approved with changes from the original LAR submittal reflected in our ITS conversion documentation, we will amend the ITS conversion documentation (via a follow-up submittal) with any changes necessary to reflect the final approved version of a pending LAR. The changes on CTS pages that depend on outstanding LARs will be considered open items until the LAR is approved. The complete

	copies of the current BVPS Unit 1 and Unit 2 CTS included in the reference section of the CD submittal documentation do not include the changes from the outstanding LARs. Only the Enclosure 3 markups of the CTS incorporate all pending LAR changes. The Beaver Valley Power Station (BVPS) ITS conversion documentation is based on the approval of several License Amendment Requests (LARs) which are currently being reviewed by the NRC. The current CTS pages in the BVPS ITS conversion documentation (i.e., Enclosure 3) assume approval of all pending LARs currently under review by the NRC. CTS pages affected by outstanding LARs are marked-up as "Draft Pages" with the associated LAR number in the upper right hand corner of the page. However, these draft pages are referred to as the "CTS" in the BVPS ITS conversion documentation. This method for accounting for pending changes is further explained in the outstanding LAR document in Volume 1 of the submittal. Attached to this response is PDF page number 226 from Enclosure 3 in Section 3.7 of the BVPS ITS conversion documentation. This marked-up CTS page shows the 130,000 gallons and is annotated as a draft page from Unit 2 LAR # 173 (Unit 1 LAR # 302). The volume requirement and draft page reference to LAR #s 302 and 173 are circled for easy identification (circles should show red on computer screen). Complete copies of the pending LARs assumed in the ITS conversion documentation are included in the CD version of the BVPS ITS conversion submittal (in the reference section). The power uprate change to the CST volume requirement can be verified by opening the submittal CD to the main menu and selecting "Reference Material." From the reference menu select "Outstanding LARs." Than choose LARs 302 and 173 (Power Uprate). The changes to the CST volume changes are marked on PDF page 119 of 1750 for Unit 1 and Page 137 of 1750 for Unit 2 in the LAR PDF file.

Date Created: 05/16/2005 01:50 PM by Pete Hearn
Last Modified: 05/25/2005 10:33 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505161527**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** 3.7 **ITS Number:** 3.7.8	**DOC Number:** None	**JFD Number:** 1 **Bases JFD Number:** 1	**Page Number(s):** 25
NRC Owner	**Pete Hearn**			
Comment	**SR 3.7..8.2 and 3.7.8.3:** **For the CCW system these 2 SRs were deleted but for the SWS system, using the same justification they were not deleted. Please explain the difference.**			
Issue Date	**05/16/2005**			

Close Date	**05/25/2005**	Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 05/16/2005	Similar to the DOCs for each TS, the JFDs associated with each individual TS are not always the same. The JFD and DOC numbering system restarts at #1 for each individual TS. JFD #1 for the CCW TS justifies the deletion of two SRs while JFD # 1 for the SW only discusses the elimination of brackets around the 18 month SR Frequencies. JFD# 1 for the CCW is on page number 59 (lower right hand corner number) and JFD# 1 for SW is on page 61 (lower Right hand corner)of Section 3.7 Enclosure 1.

Date Created: 05/16/2005 03:27 PM by Pete Hearn
Last Modified: 05/25/2005 11:13 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506140840**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7	**DOC Number:** None	**JFD Number:** 2	**Page Number(s):** 54
	ITS Number: BSI 14		**Bases JFD Number:** None	
NRC Owner	**Summer Sun**			
Comment	**BSI #13 and #14 are related to ISTS SR 3.7.2.1, ?Main Steam Isolation Valves (MSIVs),? and ISTS 3.7.3.1, ?Main Feedwater Isolation Valves (MFIVs), and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves,? respectively. The licensee proposed to change the ISTS SRs for the MSIVs, MFIVs, MFRVs and associated bypass valves to move the valve isolation times to the licensing requirements manual (LRM). The MSIVs, MFIVs, MFRVs and associated bypass valves are required to perform an engineered safety feature (ESF) function. In support of the proposed TS relocation to the LRM, the licensee indicated, based on its interpretation of the ESFAS response time definition specified in ISTS 1.1, that the valve isolation time is included in the ESFAS response time required to be met for the main steam and feedwater isolation. Thereby, the licensee further stated that the proposed TS changes are appropriate because the relocation of the valve isolation times is consistent with the current TS that specifies the ESFAS response time in the Beaver Valley Power Station (BVPS) LRM.** **In 1993, the NRC issued Generic Letter (GL) 93-08, ?Relocation of Technical Specification Table of Instrument Response Time Limits? that allowed licensees to relocate the TS table of reactor trip system (RTS) and the ESFAS response times out of the TS. Enclosures 1 and 2 of GL 93-08 provide TS implementation guidance and the model TSs. Specifically, model TS 3.3.2 in Enclosure 2 of GL 93-08 allows deletion of the ESFAS instrument response times from TS Table 3.3-5. The ESFAS response times in TS Table 3.3-5 are specified in accordance with the ESFAS definition in ISTS 1.1. It is clear that the ESFAS response times do not include isolation times of the required valves. Accordingly, the staff determines that the proposed relocation of the valve isolation times from the TS to LRM is not consistent with GL 93-08 guidance for relocation of the RTS and ESFAS response times.** **The licensee should provide additional information to justify adequacy of the proposed relocation of the valves isolation times from the TS to LRM. The information should include:** **1. A discussion of the purpose of removal of the valve isolation times out of**			

	the proposed TSs. **2. A list of the design basis events that rely on the MSIVs , MFIVs, MFRVs and associated bypass valves for consequence mitigation.** **3. A discussion of a sensitivity study that quantifies the effect of the valve isolation times on the acceptance criteria (i.e., DNBR, peak RCS pressure and pressurizer overfill limits) for each applicable design basis event identified in item 2 above .** **4. A comparison of the plant data for isolation times of the required valves in ISTSs 3.7.2 and 3.7.3 with values used in the analysis of design basis events to show that: (1) the data are in the range of the valve isolation times assumed in the analysis of record (AOR); and (2) changes of the plant data of isolation times will not significantly affect the results of the AOR.**
Issue Date	**06/14/2005**

Close Date	**04/03/2006**	Resolution requires change to: CTS Markup Typed ITS Bases JFD Bases JFD Typed ITS Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/14/2005	Please see the response to BSI # 13 (database # 200506140834) which applies to this item as well.

Date Created: 06/14/2005 08:40 AM by Summer Sun
Last Modified: 04/03/2006 10:58 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506140834**		Conference Call Requested? **Yes**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7 **ITS Number:** BSI 13	**DOC Number:** None	**JFD Number:** 3 **Bases JFD Number:** None	**Page Number(s):** 53
NRC Owner	**Summer Sun**			
Comment	**BSI #13 and #14 are related to ISTS SR 3.7.2.1, ?Main Steam Isolation Valves (MSIVs),? and ISTS 3.7.3.1, ?Main Feedwater Isolation Valves (MFIVs), and Main Feedwater Regulation Valves (MFRVs) and Associated Bypass Valves,? respectively. The licensee proposed to change the ISTS SRs for the MSIVs, MFIVs, MFRVs and associated bypass valves to move the valve isolation times to the licensing requirements manual (LRM). The MSIVs, MFIVs, MFRVs and associated bypass valves are required to perform an engineered safety feature (ESF) function. In support of the proposed TS relocation to the LRM, the licensee indicated, based on its interpretation of the ESFAS response time definition specified in ISTS 1.1, that the valve isolation time is included in the ESFAS response time required to be met for the main steam and feedwater isolation. Thereby, the licensee further stated that the proposed TS changes are appropriate because the relocation of the valve isolation times is consistent with the current TS that specifies the ESFAS response time in the Beaver Valley Power Station (BVPS) LRM.** **In 1993, the NRC issued Generic Letter (GL) 93-08, ?Relocation of Technical Specification Table of Instrument Response Time Limits? that allowed licensees to relocate the TS table of reactor trip system (RTS) and the ESFAS response times out of the TS. Enclosures 1 and 2 of GL 93-08 provide TS implementation guidance and the model TSs. Specifically, model TS 3.3.2 in Enclosure 2 of GL 93-08 allows deletion of the ESFAS instrument response times from TS Table 3.3-5. The ESFAS response times in TS Table 3.3-5 are specified in accordance with the ESFAS definition in ISTS 1.1. It is clear that the ESFAS response times do not include isolation times of the required valves. Accordingly, the staff determines that the proposed relocation of the valve isolation times from the TS to LRM is not consistent with GL 93-08 guidance for relocation of the RTS and ESFAS response times.** **The licensee should provide additional information to justify adequacy of the proposed relocation of the valves isolation times from the TS to LRM. The information should include:** **1. A discussion of the purpose of removal of the valve isolation times out of**			

	the proposed TSs. **2. A list of the design basis events that rely on the MSIVs , MFIVs, MFRVs and associated bypass valves for consequence mitigation.** **3. A discussion of a sensitivity study that quantifies the effect of the valve isolation times on the acceptance criteria (i.e., DNBR, peak RCS pressure and pressurizer overfill limits) for each applicable design basis event identified in item 2 above .** **4. A comparison of the plant data for isolation times of the required valves in ISTSs 3.7.2 and 3.7.3 with values used in the analysis of design basis events to show that: (1) the data are in the range of the valve isolation times assumed in the analysis of record (AOR); and (2) changes of the plant data of isolation times will not significantly affect the results of the AOR.**
Issue Date	**06/14/2005**

Close Date	**04/03/2006**	Resolution requires change to: CTS Markup Typed ITS Bases JFD Bases JFD Typed ITS Docket Response Required? **Yes**

Responses

NRC Response by Summer Sun on 08/01/2005	The staff's position on BSI #13 and 14 is that a TSTF for removal of closure times for MSIVs and MFIVs from the ITS must be proposed and approved by the staff when considering approval of the Beaver Valley application. Please inform the staff of the TSTF submittal date that should be consistent with the BV review schedule.
NRC Response by Summer Sun on 06/16/2005	I suggest to have a conference call.
Licensee Response by Frank Ferri on 06/14/2005	We respectfully disagree with the position that the ESF response times do not include the isolation times of the required valves. The definition of ESF response time in the ISTS (NUREG-1431) and the same definition in the previous standard Westinghouse Plant Technical Specifications (TS) (NUREG-0452) included the ESF equipment being actuated. GL 93-01 addressed the removal of the ESF response time values from the TS. The ESF Response times previously specified in Table 3.3-5 in the ESFAS instrumentation TS included equipment actuation times consistent with the TS definition. As such, the relocation of a part of the ESF response time (valve actuation time) is consistent with the intent of GL 93-01. The definition of ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME (ISTS 1.1) in NUREG 1431 Revision 3 states: "The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its actuation setpoint at the

	channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC". Based on the ESF response time definition stated above "(i.e., the valves travel to their required positions...)? the isolation time of each MSIV, MFIV, MFRV, and MFRV bypass valve is included in the ESF response time definition. Therefore, the ESFAS surveillance to verify the total ESF response time includes time it takes for any associated equipment (e.g., valves, pumps, etc.) to actuate. Valve actuation times are important to the safety analyses because they are part of the associated overall or total ESF response time assumed in the safety analyses. This concept was described in the NRC SER for BVPS Unit 2 Amendment # 137 issued 6/25/03. In this Amendment, BVPS revised the Main Steam Isolation Valve full closure time in the TS surveillance. In the associated SER, the NRC concluded the change was acceptable, in part, because "The current safety analyses which credit steam line isolation will remain unaffected since the analyses only address the overall delay time which combines both the signal generation and the MSIV closure time, and does not individually address signal generation nor valve stroke time." The proposed change to relocate the affected individual valve actuation times is justified based on the following: 1) the individual valve actuation times are part of the overall ESF response time; 2) The safety analyses only consider the overall response times; 3) The NRC has already determined the overall ESF response time values do not need to be in the TS to meet 10 CFR 50.36 (See BVPS SER for ESF response time relocation Amendments 210 and 88 issued 1/20/98 TAC Nos. M99671 & M99672); and 4) The LCO and Surveillance Requirements to maintain the associated Valves and ESFAS Functions operable (which includes the valve actuation time and overall response time) remain in the TS to satisfy 10 CFR 50.36(c)(2)(ii). For more information please see the additional questions and responses for this BSI item, with NRC Reviewer Pete Hearn, in Beaver Valley database item 200505160915 for Section 3.7, ITS number 3.7.2.
NRC Response by Summer Sun on 09/01/2005	The staff is still waiting for information related to your RAI response. The review can be conducted through two different routes: (1) An independent review of BSIs 13 & 14 for the BVPS specifically - the approval of the BSIs is subjected to acceptance of your response to satisfactorily resolve issues in four questions of the RAI dated 6/14/2005. Your response of 6/14/2005 did not address the issues directly. The issues remain open. (2) The

	approval of the BSIs for the BVPS pending acceptance of the TSTF that satisfactorily addresses the isuues in the 6/14/05 RAI. If the TSTF is submitted too late, or the staff does not have resurces to complete the TSTF review at least one month before the SE target date of 12/15/2005, the review of the BSIs # 13 & 14 will be delayed and a new review date, agreeable to both you and the staff, should be reestablished.
Licensee Response by Frank Ferri on 07/29/2005	1. Submit TSTF. Response: Planned to be proposed for consideration at the August 2005 Westinghouse ITS Working Group meeting. 2. Have Valves ever exceeded the limit in the past? Response: Only the BVPS MSIVs have a specific limit stated in the technical specifications lfor valve closure time. All other ESF Response Times and Valve actuation times related to the MSIVs and the valves used to isolate the main feewater system are controlled outside of the technical specifications. The fact that BVPS Unit 2 MSIV has exceeded the technical specification limit was the cause for BVPS Unit 2 License Amendment Request (LAR) # 179 submitted to the NRC on 7/24/2002. This LAR requested the MSIV closure time be changed from 5 seconds to 6 seconds. The NRC approved this LAR in Amendment # 137 issued 6/23/2003 (TAC # MB 5686). The following is extracted from BVPS Unit 2 LAR # 179: The Unit 2 MSIVs are designed to close within 5 seconds of receipt of automatic close signal input. The valve design standard for the MSIVs is not being changed. BVPS supplied a plant-specific value of 5 seconds, consistent with the MSIV design, for the original TS surveillance 4.7.1.5 value when the original BVPS Unit No. 2 TS were first developed prior to initial plant startup. Measured valve stroke test values for BVPS Unit No. 2 MSIVs typically have occurred in the range of 4.5 seconds to 4.9 seconds. However, the response times have marginally exceeded the 5 second limit in the past which required follow-up corrective activities through the corrective action program. The current criteria provides very little margin for small changes in the valve closure response time, without exceeding the TS SR 4.7.1.5 limit. The inservice testing program from ASME Section XI, 1989 Edition, defines the acceptance criteria for valve performance for BVPS Unit No. 2. ASME Section XI, Section IWV-1000 refers to ASME/ANSI Operations and Maintenance Standard Part 10 [OM-10] for inservice testing criteria to assess the operational readiness of safety related valves used in nuclear power plants. Section 4.2.1.8 of this reference states Other power-operated valves {other than electric-motor-operated valves} with reference stroke times less than or equal to 10 seconds shall exhibit no more than a plus or minus 50% change in stroke time when compared to the reference value. This industry standard acknowledges that some increase above a valves design stroke value can be accepted and should not be a sole basis to declare the valve inoperable. The proposed increase in the MSIVs stroke time limit to 6 seconds is well within the limits allowed by this standard for a valve with a design stroke time of 5 seconds. The safety

analyses for the design basis accidents described in the BVPS Unit No. 2 UFSAR credit the ESF function of Steam Line Isolation. Inherent in the assumption for Steam Line Isolation is the time delay for automatic MSIV closure signal generation/transmission and the time delay for the MSIVs to physically close. The surveillance test at BVPS Unit No. 2 which measures the time delay involved in generating an automatic MSIV closure signal includes sensor response time and channel time (relay delay time is grouped with the MSIV closure time in the surveillance test). Measured test values for BVPS Unit No. 2 instrumentation time to generate an automatic MSIV closure signal typically occur in the range of 0.10 seconds to 0.20 seconds. The safety analyses for the design basis accidents (DBA) described in the BVPS Unit No. 2 UFSAR credit a total delay of 7.0 seconds for the ESF function of Steam Line Isolation to occur. With the current TS surveillance 4.7.1.5.b criteria for each MSIV stroke time to be less than 5 seconds, this leaves a minimum of 2 seconds for generation of an automatic MSIV closure signal in order to meet the overall analysis-assumed delay of 7.0 seconds for Steam Line Isolation. Two seconds for signal generation provides a very large margin from the typical measured values for this type of signal generation as described in the above paragraph. In the NRC safety evaluation report (SER) for the amendment granting this change the NRC stated: The current safety analyses which credit steam line isolation will remain unaffected since the analyses only address the overall delay time which combines both the signal generation and the MSIV closure time, and does not individually address signal generation nor valve stroke time. The NRC also stated in the SER that The MSIV valve stroke time/closure time limit will increase to 6 seconds and remains within the updated Final Safety Analysis Report (UFSAR)-referenced ASME code standard for this valve design being judged operationally acceptable. ThABVPS ESF Main Feedwater System Isolation Function is currently required in the technical specifications via the ESFAS technical specification requirement to verify the ESF response time for feedwater isolation. The ESF response time (by technical specification definition) includes the associated valve closure times. The BVPS Unit 2 ESF response time for feedwater isolation is less than or equal to 7 seconds. The BVPS Unit 1 ESF Reponse time for feedwater isolation is less than or equal to 10 seconds for the Feedwater Regulation and Feedwater Isolation Valves and less than or equal to 30 seconds for the Feedwater Regulation Bypass Valves. The relationship of the valve actuation time and instrument signal delay time to the total ESF response time is similar as that described for the MSIVs above. 3. What is the significance of changing valve actuation time up to the limit and beyond limit? Response: Based on the response to question #2 above it can be seen that exceeding the closure time limit by a small amount can still be acceptable. The significance of exceeding the limit must be evaluated considering valve

operability and the affect on total ESF response time. This type of evaluation must be performed whether the valve closure time limit is in the technical specifications or in a document controlled under the provisions of 10CFR 50.59. The LCOs for the MSIV and the Feedwater isolation valves require the valves to be operable. The technical specifications do not contain all the parameters, requirements, and values used to evaluate the operability of specified equipment. As can be seen from the response to question 2 above, the applicable ASME standards and ESF response time are not directly specified in the technical specifications. As such, exceeding the technical specification limit for valve closure time would require that the valve be declared inoperable even though the valve performance may still be acceptable (per ASME standards) and not have an impact on the safety analyses. For example, if the Unit 2 MSIVs discussed above exceeded the new technical specification limit (6 seconds) by 0.2 sec the valves would be declared inoperable for failing the valve actuation time technical specification surveillance. However, in accordance with the ASME standards cited above and the margin still available in the total ESF response time (also described in response to question # 2 above) the valve stroke time could be determined to be acceptable and the ESF response time for MSIV isolation assumed in the safety analyses would not be affected. Therefore, in this type of situation, enforcement desecration may be requested to allow continued plant operation. If the valve actuation time were controlled outside the technical specifications, small changes (such as described in response to question 2 above) would not require a license amendment request. Larger changes in valve actuation time may bring into question valve operability or have an impact on the total ESF response time. As described above, there are acceptable industry standards for determining valve operability due to changes in the stroke time. The indust y standards can be applied to evaluate the valve operability. However, a large enough change in the closure time of the valves could impact the total ESF response time for system isolation. The total ESF response time is assumed in the safety analyses. Therefore, a larger change in valve actuation time would have to be evaluated against the criteria for an operable valve and the impact on the safety analyses. A more detailed discussion of the applicable safety analyses for the MSIVs and main feedwater valves required for isolation is included in the Bases for ITS 3.7.2 and ITS 3.7.3 respectively. The total ESF response time is located in the BVPS Licensing Requirements Manual or LRM (i.e., relocated from the technical specifications to the LRM). The existing BVPS MSIV closure time requirements are proposed to be relocated to the LRM in the ITS conversion. The BVPS technical specification requirements relocated to the LRM are incorporated by reference into the UFSAR. Therefore, these relocated technical specification requirements can only be changed via the 10 CFR 50.59 process. As such, the 50.59 process would control changes in the valve actuation time with the

potential to affect the assumptions of the safety analyses. 10 CFR 50.59 contains the following criteria that limits what can be changed without a license amendment: A licensee shall obtain a license amendment pursuant to 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would: Result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the final safety analysis report (as updated); Result in more than a minimal increase in the likelihood of occurrence of a malfunction of a structure, system, or component (SSC) important to safety previously evaluated in the final safety analysis report (as updated); Result in more than a minimal increase in the consequences of an accident previously evaluated in the final safety analysis report (as updated); Result in more than a minimal increase in the consequences of a malfunction of an SSC important to safety previously evaluated in the final safety analysis report (as updated); Create a possibility for an accident of a different type than any previously evaluated in the final safety analysis report (as updated); Create a possibility for a malfunction of an SSC important to safety with a different result than any previously evaluated in the final safety analysis report (as updated); Result in a design basis limit for a fission product barrier as described in the FSAR (as updated) being exceeded or altered; or Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses. The criteria of 10 CFR 50.59 provide adequate assurance that changes with the potential to affect the safe operation of the plant will receive prior NRC review and approval. 4. Are there any precedents for this change? Response: A review of TSTF changes to NUREG-1431 revealed that no TSTF was processed that would relocate the MSIV (ISTS 3.7.2) and feedwater valve (ISTS 3.7.3) values for valve closure time. In additio≡ⓐⓡⓔview of the technical specifications from a number of Westinghouse Plants that have implemented NUREG-1431 was done to check if they contained valve closure times for the MSIVs and the valves required to isolate the main feedwater system. The Technical Specifications for twenty Westinghouse Plants were checked. All plants checked had the MSIV isolation time in ITS 3.7.2. However, the technical specifications (ITS 3.7.3) for 6 plants did not contain the isolation time for the valves required to isolate the main feedwater system. The plants with technical specifications that did not contain the value of the isolation time for the main feedwater valves were Braidwood Units 1&2, Byron Units 1&2, Farley Units 1&2, Indian Point Unit 2, Point Beach Units 1&2, and Prairie Island Units 1&2. Because the technical specification requirement for the valves used to isolate main feedwater was introduced in NUREG-1431 and was not part of the previous standard technical specifications many plants did not have a specific time requirement for these valves in their technical specifications. BVPS does not have a specific time limit in the technical

specifications for the valves required to isolate main feedwater. It can be concluded that the License Amendment Requests for converting these plants to the standard technical specifications of NUREG-1431 contain the justifications for not including the main feedwater valve isolation times in the technical specifications. For example, in the Farley Plant conversion to NUREG-431, the justification for not including the isolation time of the required main feedwater valves stated in part; The measurement of total closing time including the actuation signal delay for these valves is verified by the ESFAS response time testing requirement. The Farley Plant justification went on to state; In addition, the FNP current closure times for these valves are defined in the Inservice Testing Program. The STS SR 3.7.3.1 is further modified to replace the specific valve closure times with a reference to the FNP valve closure times (in the Inservice Testing Program) consistent with the current licensing basis location of this information. The NRC approved the Farley Plant request not to include the valve closure times in the Farley Plant ITS. BVPS is requesting a similar change to the NUREG-1431 requirements with a similar justification. There are LCO requirements in the technical specifications (ITS 3.7.2 and ITS 3.7.3) for MSIV and feedwater isolation that require the affected valves to be operable and there are surveillances in the technical specifications to verify the closure time of each valve is within the required limits. Therefore, the proposed change is a question of how much operability detail is required in the technical specifications. The ISTS, in general, has reduced the level of detail in the technical specifications. This has helped to reduce the number of license amendment requests for changes that do not affect system operability or the safety analyses (e.g., the BVPS LAR # 179 described in response to question 2 above). In addition, for operability details relocated from the technical specifications to the BVPS Licensing Requirements Manual (LRM) (as is proposed for the BVPS MSIV valve closure times), the requirements the 10 CFR 50.59 process must be applied to any changes. The 10 CFR 50.59 criteria described in response to question 3 above, provide adequate assurance that prior NRC review and approval will be requested for changes to LRM requirements with the potential to affect the safe operation of the plant. 5. What is the affect on plant operation if valve actuation times are exceeded? If the valve actuation times are specified in the technical specifications, the affected valves would be declared inoperable and the applicable technical specification Actions would be taken up to and including a plant shutdown. The responses to questions 2 & 3 above address the affect of the ESF response time (including valve actuation time) on the safety function performed by these valves. However, if the valve actuation time were controlled outside of the technical specifications and the change in valve actuation time was determined to be acceptable under the provisions of 50.59 (i.e., considering ASME standards and safety analyses assumptions the

	valve remains capable of performing its intended safety function) continued safe operation of the plant would be possible. The following discussion considers the affect of a slower valve actuation time (based on the determination that the valve remains capable of performing its intended safety function) on the normal operation of the valves. The MSIVs are open during power operation and are not normally operated (closed) during power operation. Operation of the MSIVs at power could cause a reactor trip. Therefore, a slower MSIV operating time would not affect normal plant operation. The safety function performed by the MSIVs is to close within the time assumed in the safety analyses. The responses to questions 2 and 3 above describe the relationship of the MSIV closure time and safety analyses. The main feedwater isolation valves are normally open during power operation and are not normally operated during power operation as feedwater isolation during power operation can result in a reactor trip. The feedwater regulation valves (which are part of the feewater isolation system) are used to control feedwater flow during normal power operation. As such, these valves modulate as necessary to maintain the associated SG level, and are not normally closed during power operation. The feedwater regulation bypass valves (which are also part of the feedwater isolation system) are used during startup and low power operation to control the feedwater flow. At approximately 15% power, feedwater control is transferred to the main feedwater regulation valves. Therefore, the bypass valves are closed during normal power operation after approximately 15% power. The time it takes these feedwater valves to isolate on an ESF signal would not be expected to have an impact on the valves during normal operation (based on a small change in valve isolation time) as a rapid closure time is not required for the valves to perform their normal power operation functions.
NRC Response by Pete Hearn on 02/08/2006	I have discussed this issue with the Reactor Systems and Component (Valve) reviewers and they will require the phrase "within limits" replaced with the phrase "within Inservice Testing limits". They will also require some words in the Bases to describe why this change is necessary. We can discuss the details of this issue by phone.
NRC Response by Pete Hearn on 02/09/2006	RAI of 2/8/2006 I am withdrawing the above RAI and will replace it with an RAI in the future. I am trying to develope the wording to satisfy the concerns of everybody involved.
Licensee Response by Frank Ferri on 03/20/2006	The following summarizes the NRC/BVPS Telecon on 3/16/06. BVPS re-stated the justification for removing the valve actuation times from the ISTS as follows: The proposed change continues to meet the requirements of 10 CFR 50.36(c)(2)(ii) that that an LCO be established for each item meeting one of the criteria listed. The proposed BVPS ITS contain LCOs for both the Main Steam Isolation Valves (MSIVs) and the valves used to isolate the Main Feedwater System. In addition, the proposed ITS for these

	isolation valves contain surveillances to confirm the valves are maintained operable. The required surveillances include verification of the required valve closure times. BVPS currently only has a specific technical specification (TS) requirements for the MSIVs and does not have a specific TS for the feedwater isolation valves. BVPS is proposing to relocate the required closure time for the MSIVs to the Licensing Requirements Manual (LRM) consistent with the location of the overall ESF Response Times. The required valve actuation times are part of the overall ESF Response time. The applicable BVPS safety analyses only consider the overall ESF Response Time and do not model individual components. Similar to the MSIV TS, the required closing time for the Main Feedwater system valves would also be located in the LRM. For items removed from the technical specifications, the LRM is considered part of the UFSAR. Therefore, any changes to these LRM requirements would be subject to the 10 CFR 50.59 process. The 10 CFR 50.59 criteria provide adequate assurance that prior NRC review and approval will be requested for changes to LRM requirements with the potential to affect the safe operation of the plant. In addition, the provisions of the ASME Inservice Testing Program were discussed. The affected Main Steam and Main Feedwater valves are subject to periodic testing and acceptance criteria in accordance with the Inservice Testing (IST) Program. Compliance with the IST Program is not optional as it is required by the BVPS ITS in Specification 5.5.4. In addition, the IST program is required by 10 CFR 50.55. The IST Program is the method by which valve performance is measured and controlled. The IST program includes specific reference value baseline operating times for valves that can not be arbitrarily changed to suit a plant?s needs. Measured valve stroke times are compared to the IST reference time and acceptance criteria and valve operation evaluated accordingly. As such, the IST Program contains the requirements that assure the appropriate corrective actions are taken to maintain the required valves operable. The provisions of 10 CFR 50.59 and the IST Program establish standards which would prevent arbitrary or excessive changes to any valve operating times without required approval or declaring the valve inoperable (per the IST Program requirements and/or exceeding LRM limit). These requirements assure the valves continue to be maintained in accordance with the safety analyses assumptions and the industry standard valve operability requirements in the IST Program. The NRC requested that the location of the valve closure times be identified in the bases for the technical specifications. BVPS confirmed that the current proposed ITS bases for the affected MSIVs and Main Feedwater valve LCOs contained a statement identifying the location of the required closure times (i.e., the LRM). With this confirmation, an agreement was reached that the valve closure times may be relocated outside the technical specifications.
NRC Response by Summer Sun	BSI 13 was closed.

on 04/03/2006	

Date Created: 06/14/2005 08:34 AM by Summer Sun
Last Modified: 04/03/2006 10:58 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200507061635		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.7 ITS Number: BSI 15	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Raul Hernandez			
Comment	BSI 15 & 16 The licensee is proposing to include a new Condition (Condition C) to TS 3.7.7 and TS 3.7.8. Condition C would apply when there are two trains inoperable with insufficient water flow to the RHR heat exchangers to support the required decay heat removal in Mode 5. In the justification for the BSI the licensee stated that the new Condition C is similar to a Condition provided in the AFW System specifications. The required action for the Condition provided in the AFW System specifications requires that operators immediately take action to restore one AFW train to operable status. The proposed Condition C for the CCW and the SW Systems requires immediate action to implement an alternative means of decay heat removal. 1. Define what alternate means of decay heat removal that would be used. 2. Justify why the proposed Conditions C do not require immediate action to restore one of the system's trains, similar to the above mentioned condition for the AFW system. 3. If the AFW system is considered to be part of an alternative means of decay heat removal, describe how the operability of necessary AFW system pumps would be assured in Mode 4.			
Issue Date	07/06/2005			

Close Date	01/25/2006	Resolution requires change to: None Docket Response Required? No

Responses

NRC Response by Raul Hernandez on 12/08/2005	1. After evaluating the licensee's RAI response dated July 29, 2005 the staff finds acceptable to consider the restoration of the affected train as the preferred action. The proposed condition 3.7.7.C.1

	would require to initiate action to implement an alternative means of decay heat removal. Explain how that the alternate means of decay heat removal will provide assurance that the plant can be maintained in safe conditions if the CCW or the SW can not be restored. 2. If the main feed water is not available and the AFW system is operation with only the Turbine driven AFW pump, the proposed condition 3.7.7.C.2 would require to initiate actions to be in Mode 5. Describe how the operability of the Turbine driven AFW Pump would be assured in Mode 4.
Licensee Response by Frank Ferri on 12/16/2005	Upon considering the staff?s response above, BVPS will modify the proposed CCW and SW Action Condition C as follows: Required Action C.1 will be revised to read ?Initiate action to restore one train of [insert SW or CCW as applicable] to OPERABLE status.? The Completion time for this Action will remain ?Immediately.? The Required Action C.2 and associated Completion Time will be deleted. This modification of proposed Action Condition C will make it similar to the corresponding NRC approved ISTS 3.7.5, AFW, Action Condition D applicable when all three trains of AFW are inoperable. The modifications to Action Condition C described above will provide the additional guidance for plant operation needed in this plant condition (the same as AFW Action Condition D accomplishes for the AFW system) and which was the intent of adding this type of Action Condition to the SW and CCW technical specifications in the first place. The modification of proposed Action Condition C and associated Bases described above will be included in the next revision (Rev. 2) of the BVPS ITS Conversion submittal.
Licensee Response by Frank Ferri on 07/29/2005	1. Depending on the inoperable condition of the SW or CCW systems the following methods may be used: BVPS has an alternate SW system for Unit 1 and Unit 2. The alternate system is comprised of additional pumps and ties into the main SW system piping. The alternate SW systems are designed with sufficient capacity to cool the units from 100% power to Mode 5. In addition, the Unit 1 and Unit 2 SW systems can be cross connected such that one unit could supply the other. In the case of the CCW system, no installed alternate or backup system exists that could provide an adequate supply to support RHR operation. However, the plant can be maintained in a stable condition and cooled to near Mode 5 conditions by releasing steam via the steam dump valves or SG atmospheric release valves and feeding the SG by using the main feedwater, condensate, or AFW systems. Additional cooling may be provided by feeding up and bleeding down the secondary side water level in the steam generators. 2. The conditions applicable to the AFW is different than the CCW or SW. The AFW Action Condition in question is applicable in Modes 1-3. With three inoperable AFW pumps no safety related means of shutting down an operating plant exists. The plant is required to be maintained operating until it is capable of being shut down with a safety related system. Shutdown by an alternate means is precluded by the AFW Actions. Even if one of the three

inoperable AFW pumps is restored to operable status the plant remains in the Actions and may still be required to initiate an immediate plant shutdown. In the ITS, restoration of inoperable conditions to avoid shutdowns is always an implied (and preferred) Action that is not always stated unless it is the only appropriate action. If alternate remedial measures (other than restoration) are available, the Actions usually specify these alternate measures and assume restoration to the LCO requirements is another option. In the case of the AFW, the restoration of the safety related means to take an operating plant to shutdown conditions is the only acceptable action. A plant transient (shutdown from 100% power) without the required safety systems may introduce more risk than it alleviates. The proposed Actions in question for the CCW and SW systems are only applicable in Mode 4 (i.e., the plant is already shutdown). In the proposed Action Conditions for CCW and SW the plant is in a safer condition to start with (Mode 4) and the object would be to maintain the plant shutdown and stable or if possible cooled down further to Mode 5 by some means other than the inoperable CCW or SW. Unlike the AFW Action Conditions, the restoration of one CCW or SW train to operable status would immediately exit the action requirement to shutdown as one train of CCW or SW can be inoperable for up to 72 hours without requiring a plant shutdown. Under these circumstances the restoration of one train of CCW or SW (and exiting the shutdown Action) would always be the preferred action. Considering that exiting the shutdown Action by restoring one train of CCW or SW to operable status would be a priority, the proposed Action to also implement an alternate method of cooling the plant imposes an additional burden on the plant staff that provides more assurance the plant can be maintained in a safe condition if CCW or SW can not be restored. In other words, it is a better (safer) course of action than the alternative of simply waiting for sufficient CCW or SW to be restored to cool the plant down. In summary, an immediate Action to restore the CCW or SW trains to operable status (like the referenced AFW Action) is not required for the following reasons: A. Restoration of an AFW train is required in order to initiate a plant shutdown from Mode 1. Using an alternate means (non-safety system) to shutdown from Mode 1 is prohibited. In the case of the CCW and SW Action Condition in question, the plant is already in Mode 4 and CCW and SW are only required operable in Modes 1-4, B. Restoration of a CCW or SW train in Mode 4 would eliminate the need for an immediate shutdown to Mode 5 and is the preferred Action whether specifically stated in the technical specifications or not, C. The proposed Action Condition C contains immediate Actions to remove the plant from the applicable Mode where CCW or SW is required operable, without waiting for one train of CCW or SW to be restored to operable status to enable a shutdown to Mode 5. 3. The BVPS proposed ITS 3.7.5 for AFW system operability requires one AFW train to be operable in Mode 4 when relying on

	the SGs for heat removal. This is consistent with the standard requirements in NUREG-1431. However, it would not be absolutely necessary to use the AFW if the main feedwater system was operable. Once pressure was reduced in the SG, the condensate system could also be used.

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NRC ITS TRACKING

NRC Reviewer

ID	**200507061636**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7 **ITS Number:** BSI 18	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Raul Hernandez**			
Comment	**The licensee's proposed Action Condition B for ITS 3.7.9 is revised such that the proposed Action does not include UHS upper and lower temperature limits. The proposed Action would require more frequent monitoring of the UHS temperature, and ultimately require a Unit shutdown if the UHS temperature, averaged over the previous 24 hours, exceeds the limit.** **NUREG-1431, Standard Technical Specifications for Westinghouse Plants, allows for the averaging of the UHS temperature over a 24 hours period to ensure the analytical value for UHS temperature is not exceeded and includes a separate upper UHS temperature limit. The upper temperature limit is required to assure equipment temperature limitations will not be exceeded and that all licensing basis cooling criteria will be satisfied (e.g. spent fuel pool cooling, decay heat removal criteria, room cooling piping supports, and others that are applicable).** **Explain how the equipment temperature limitations will not be exceeded and that all licensing basis cooling criteria will be satisfied without including an upper temperature limit.**			
Issue Date	**07/06/2005**			

Close Date	**10/20/2005**	Resolution requires change to: Typed ITS Bases Docket Response Required? **Yes**

Responses

NRC Response by Raul Hernandez on 09/07/2005	In the response dated 8/19/05 the licensee stated that the intention of the proposed change is to incorporate the NUREG-1435 allowance to average the UHS temperature over 24 hours into the BVPS ITS. The proposed Action Condition B for ITS 3.7.9 is not consistent with NUREG-1431 (STS). The STS require the licensee

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	to determine an upper UHS temperature based on temperature limitation of the equipment that is relied upon for accident mitigation and safe shutdown of the unit. The proposed Action Condition B for ITS 3.7.9 does not includes this limit. The justification provided in the response for the elimination of the upper UHS temperature is not rigorous in that the description of earlier river temperature response does not provide assurance that the safety analysis conditions will be satisfied. Additional information is required to explain how the equipment temperature limitations will not be exceeded and that all licensing basis cooling criteria will be satisfied without including an upper temperature limit.
Licensee Response by Frank Ferri on 09/30/2005	BSI-18 revised the Actions of ITS 3.7.9 to require a plant shutdown when the average UHS temperature over a 24 hour period exceeded the single Beaver Valley Power Station (BVPS) limit for UHS temperature. The current BVPS technical specifications did not include a separate upper temperature limit that could be used in ITS 3.7.9 to conform more closely with the standard ITS 3.7.9 Actions. Considering the staff resources (both licensee and NRC) necessary to address additional questions regarding BSI-18, and the limited benefit to the plant provided by BSI-18, Beaver Valley Power Station (BVPS) will no longer pursue the change introduced by BSI-18 at this time. The BVPS ITS conversion submittal will be revised such that ITS 3.7.9 contains a single Action Condition (A) to address an inoperable UHS (i.e., a required UHS level or required UHS temperature limit is exceeded). The Required Action applicable for Condition A will be revised to require the plant be placed in Mode 3 in 6 hours and Mode 5 in 36 hours (standard ITS shutdown requirement). This change will result in a proposed ITS 3.7.9 Action that is the same as the current technical specification 3.7.5.1 Action (i.e., as soon as a UHS limit is exceeded the plant is required to shutdown). The proposed revision wil include appropriate changes to the ITS 3.7.9 markup and associated JFD-2 as well as the markup of current technical specification 3.7.5.1 and associated DOC L.1 (which will be deleted). In addition, the ITS 3.7.9 Bases will be revised to reflect the changes to ITS 3.7.9.
Licensee Response by Frank Ferri on 08/19/2005	BVPS currently only has one UHS temperature limit based on the design bases accident heat load requirements. The BVPS current technical specifications do not currently include an upper temperature limit as described in NUREG-1431. The intention of the proposed change is to incorporate the NUREG-1431 allowance to average the UHS temperature over 24 hours into the BVPS ITS using the single BVPS temperature limit available. In order to put the proposed change in perspective, river water temperature data from July and August of 2001 to 2004 and part of 2005 was reviewed. Altogether 261 days of daily temperature readings were reviewed. The data shows that for the majority of days (238) the temperature decreased or only increased less than or equal to 1 degree F in a day. In only 23 days out of 261 did the temperature

	of the river increase more than 1 degree F in a day. The highest daily increase recorded was 2 degrees F in one day. Thus, it can be concluded that over any 24-hour period the river water temperature can be expected to change very slowly. The highest river water temperature recorded during the 261 days was 83 degrees F. The current BVPS limits for river water temperature are 90 degrees F for Unit 1 and 89 degrees F for Unit 2. River water temperatures near these limits could be expected to increase even more slowly due to the decreasing delta between the river and air temperatures. The proposed change would allow the river water temperature to be averaged over a 24 hour period once the technical specification limit was reached before a unit shutdown was required. Based on the data evaluated, the most probable river water temperature increase in a 24 hour period would be less than 1 degree F. Therefore, a sustained increase in river water temperature over the technical specification limit would most probably result in a unit shutdown within 24 hours based on reaching an average temperature only a fraction of a degree F higher than the limit. Thus, the proposed change would only allow a small change in river water temperature above the limit for a short time (less than 24 hours) before the unit must be shut down. It should be noted that as the river water temperature increases and eventually exceeds the limit, and the 24-hour tech spec action for UHS temperature becomes applicable, the operators would have a heightened awareness of the condition and would monitor more closely the temperatures of operating equipment cooled by river water. Therefore, as the river water temperature increases slowly there would be ample time for operators to detect and take corrective actions for any operating equipment with elevated temperatures. The proposed change does not permit continued operation of the plant with the temperature above the limit. The proposed change would limit operation with the river water temperature above the limit to 24 hours or less. Although the river water temperature would be allowed to increase slightly above the maximum assumed UHS temperature limit for the worst case DBA, the proposed actions would still ensure a timely plant shutdown if the river water temperature remained above the limit. The 24-hour limit is reasonable considering that the most probable increase in temperature above the limit would be less than or equal to 1 degree F and that the probability of a worse case DBA occurring during this short period, which would require a lower river water temperature, is low.

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NRC ITS TRACKING

NRC Reviewer

ID	**200509211327**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.7 **ITS Number:** BSI 26	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Raul Hernandez**			
Comment	**BSI 26 TS 3.7.5 Auxiliary Feedwater (AFW) System The licensee?s proposed TS are consistent with proposed TSTF-412. However, TSTF-412 has not been approved by the staff. The following RAIs are consistent with the staff comments on the proposed TSTF-412, Rev 1. 1. Condition E applies when there are three AFW trains are inoperable in modes 1, 2, or 3 and the turbine-driven AFW pump is inoperable for reasons other than one inoperable steam supply. The required action for proposed Condition E requires immediate actions to be taken to restore one AFW train to operable status. While in this condition, all required actions that require mode changes are suspended until at least one AFW train is restored to operable status. This is not entirely consistent with proposed Condition D, that applies when three AFW trains are inoperable in Mode 1, 2, or 3 and the turbine-driven AFW pump is inoperable solely due to one inoperable steam supply. Condition D requires the plant to be placed in Mode 4 if the turbine driven pump train is inoperable solely due to an inoperable steam supply. In the case of proposed Condition E, if the turbine driven AFW pump train is inoperable due to two inoperable steam supplies and one steam supply is subsequently restored, Condition E would still prohibit any mode changes while Condition D would require the plant to be placed in Mode 4. Clarify the apparent inconsistency between conditions D and E. 2. The proposed Condition D applies when two AFW trains are inoperable in Mode 1, 2 or 3. The required actions for Condition D requires to place the plant in Mode 3 within 6 hours and then Mode 4 within 18 hours. The Mode 4 LCO requirement is to have one motor-driven AFW train operable, and, in Mode 4, steam pressure may become inadequate to run the turbine driven AFW pump. In the case that Condition D is entered because both motor driven AFW pumps are inoperable, following the required actions could result in having no functional AFW supply. Clarify how can you achieve RHR entry conditions with only the steam driven AFW pump operable. 3. On the basis section B 3.7.5, for Action A.1.a, the following statement is**			

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	being added at the end: "and the turbine driven train is still capable of performing its specified function." This is not entirely correct in that the turbine driven train may not be able to perform its function for a MSLB or FLB that affects the remaining operable steam supply for the turbine driven AFW pump. **Clarify that the turbine driven train is still capable of performing its specified function during a MSLB or FLB or correct the above mention statement.**
Issue Date	**09/21/2005**

Close Date	**01/25/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/09/2005	1. The question asks to clarify the inconsistency between Conditions D and E with regard to the turbine-driven AFW pump steam supplies. Specifically, when in Condition E (i.e., two inoperable steam supplies) and the condition of the turbine-driven pump changes from two inoperable steam supplies to one inoperable steam supply (i.e., addressed by Condition D). For this transition between two and one inoperable steam supply the Actions of Condition E are inconsistent with Condition D (i.e., Condition D would require entering Mode 4 while Condition E does not). Please note that the turbine-driven AFW pump is supplied by two 100% capacity steam lines. Either steam line can be used to drive the turbine-driven AFW pump to full capacity. However, both steam lines are required operable due to the potential to lose one supply line due to an accident that results in a faulted SG. Condition E is intended to address the condition of three inoperable AFW trains where there is insufficient AFW flow available from any pump to safely shutdown the plant to Mode 4. This is clarified in the Note that defines Condition E which states that the turbine-driven pump is inoperable for reasons other than a single inoperable steam supply line (i.e., two inoperable steam supplies, broken pump, or broken turbine, etc.). Therefore, Condition E requires the restoration of an AFW train instead of a shutdown. Condition D also addresses the condition where all three AFW pumps are inoperable, however, in Condition D the Note defining the condition states that the turbine-driven AFW pump is inoperable solely due to one inoperable steam supply. Therefore, although technically inoperable, the turbine-driven AFW train in Condition D still has one 100% capacity steam line left and is not inoperable for any other reason. As such, in condition D the turbine-driven pump remains functional and can

be used to safely shutdown the plant. Given the above description of the Action Conditions and applicable notes, the question can be answered by understanding that the proposed Action Condition E and the applicable portion of Action Condition D (i.e., 3 AFW Trains inoperable) are modified by Notes that make the Actions mutually exclusive with regard to the number of inoperable steam lines. The Note in Condition E states "This Condition is only applicable when the turbine-driven AFW train is inoperable for reasons other than one inoperable steam supply." Similarly, Action Condition D is modified by a Note that states: "This condition is only applicable when the turbine-driven AFW train is inoperable solely due to one inoperable steam supply." Therefore, the application of these conditions with regard to inoperable turbine-driven pump steam supplies is very specific. For example, the postulated scenario in the question addresses the initial condition of two turbine-driven pump steam supplies inoperable which makes Condition E applicable (per the modifying note). The proposed scenario than goes on to speculate what would happen if one of the inoperable steam supplies was restored to operable status such that the turbine-driven pump was inoperable solely due to one inoperable steam supply. The question assumes that Condition E remains applicable and expresses concern that Condition E does not provide the same Action as Condition D for one inoperable steam supply. However, due to the Note modifying Condition E, Condition E does not remain applicable in this case. The Note Modifying Condition E limits the applicability of that Condition to "when the turbine-driven AFW train is inoperable for reasons other than one inoperable steam supply." When the condition of the inoperable turbine-driven pump changes (with regard to inoperable steam supplies) the applicable Action Condition also changes (due to the modifying Note). Once the turbine-driven pump inoperability is limited solely to one inoperable stea° supply, Condition E can no longer be applied, only Condition D fits the description of the current turbine-driven pump inoperability (due to the Notes in Conditions D and E). Therefore, in the proposed scenario, once a steam supply is restored to operable status and the remaining inoperable steam supply is the sole reason the turbine-driven pump is inoperable, Condition D immediately becomes applicable per the modifying Note (i.e., the turbine-driven AFW train is inoperable solely due to one inoperable steam supply) and the applicable Actions of Condition D must be applied. The application (i.e., transition between) of these Action Conditions as described above is not optional or open to interpretation. The Action Conditions are very specific and the transition between them when the status of inoperable steam lines changes is required to meet the technical specifications. In the proposed scenario, ignoring the Notes that define these Conditions would result in a failure to meet the technical specifications. Therefore, there is no inconsistency between these Action Conditions with regard to inoperable steam

lines. 2. The question asks for a clarification of how can RHR entry conditions be achieved with only the turbine-driven AFW pump operable. It should be noted that this issue was already addressed in the existing ISTS for AFW (NUREG-1431, etc). In existing NUREG-1431 (ISTS) 3.7.5, AFW, Action Condition C provides the same shutdown Action for two inoperable AFW pumps. Both the inoperable pumps in the existing Action Condition may be the motor-driven pumps. Therefore, the requirement to reach Mode 4 RHR entry conditions with a turbine driven pump is not new and is a current requirement of the ISTS 3.7.5 Actions. It was not the intention of TSTF-412 to introduce a new or different means to shutdown a plant. Rather TSTF-412 proposed more refined Actions to clarify the relationships between the required steam supply lines, turbine-driven train operability, and the associated accident analyses. However, the requested information can be supplied for this review as well. The turbine-driven AFW pump is designed to cool the plant down to RHR entry conditions. It should be noted that the turbine-driven AFW pump capacity is greater than the motor-driven pump capacity (approximately twice the motor-driven pump capacity) and that only one steam line is needed to reach full capacity. The turbine-driven AFW pump is required operable in Modes 1-3. Therefore, the turbine driven pump may be considered fully operable down to the Mode 3 and 4 transition point (i.e., 350 degrees F). Below 350 degrees F the plant is in Mode 4 and RHR may be placed in service. Therefore, at the pressure and temperature conditions in the upper end of Mode 4, the turbine-driven pump is functional but may have less than its full capacity. However, considering the larger capacity of the turbine-driven pump (when compared to a motor-driven pump) and the slight decrease in temperature from fully operable conditions (i.e., 350 degrees) to Mode 4 entry (i.e., anything less than 350 degrees F) the turbine-driven pump still has sufficient capacity to allow Mode 4 entry an≡@ place RHR in service. In addition, the applicable Actions for this Condition in both the existing ISTS (3.7.5 Condition C) and the proposed TSTF-412 (Condition D) allow more time to reach Mode 4 than is normally allowed (i.e., 18 hours to get to Mode 4 vs the normally allowed 12 hours). The additional time provided for this Action recognizes that this particular Mode transition may take longer than normal. Also, it should be noted that the time allowed to reach Mode 4 in the Actions is bracketed (i.e., the [18] is for a plant specific time to be inserted) for plants that may require even more time to reach Mode 4 in this condition. Further, consider that an RHR loop may be placed in service as soon as the RCS temperature is less than 350 degrees F (i.e., the Mode 3 to Mode 4 transition point). As such, the AFW turbine-driven pump must only supply enough cooling capacity to cross the Mode 3 to Mode 4 temperature boundary in order for RHR to be placed in service. Once in Mode 4 (i.e., less than 350 degrees F) ISTS 3.4.6, RCS Loops - Mode 4, provides the Limiting Conditions for Operation

	(LCO) for RCS cooling including the loops required to be in service and the Required Actions if the LCO requirements are not met. The requirements of ITS 3.4.6 allow flexibility in choosing which loops (i.e., RCS, RHR, or a combination) are used to meet the LCO in Mode 4. As such, ITS 3.4.6 allows plant operation on the RHR loops alone without reliance on an RCS loop (i.e., SG) for cooling and therefore, without the need for an operable AFW pump. The motor-driven AFW pump is only required operable in Mode 4 to provide support for an RCS loop (i.e., SG) if it is used to meet the requirements of ITS 3.4.6. If in Mode 4 and the RCS loop cooling requirements of ITS 3.4.6 are not met, ITS 3.4.6 provides the appropriate Action(s) not ITS 3.7.5. 3. This question identifies an inconsistency in TSTF-412 Bases for Required Action A.1.a Specifically, in the condition when one steam supply line to the turbine-driven AFW pump is inoperable. The proposed TSTF-412 Bases wording states that the turbine-driven train "is still capable of performing its specified function." The question notes that this statement is not entirely correct in that the turbine-driven train may not be able to perform its function for a MSLB or FLB that affects the remaining operable steam supply for the turbine-driven pump. BVPS agrees that the basis statement as written needs clarification. However, the Bases for TSTF-412 Actions C.1 and C.2 contain the additional information that should be added to the Bases for TSTF-412 Action A.1. Therefore, BVPS would modify the affected Bases text for Action A.1.a to be similar to the Bases for Actions C.1 and C.2 as follows: "For the inoperability of the turbine driven AFW pump due to one inoperable steam supply, the 7 day Completion Time is reasonable since there is a redundant steam supply line for the turbine driven pump. Additionally the turbine driven train is still capable of performing its specified function with a single steam supply assuming no single active failures and considering the low probability of an accident (FLB or MSLB) occurring during this time that could result in the loss of the remaining steam supply to the turbine driven AFW pump due to a faulted SG."

Date Created: 09/21/2005 01:27 PM by Raul Hernandez
Last Modified: 01/25/2006 01:45 PM

BSI 26.wpd

BSI 26 TS 3.7.5 Auxiliary Feedwater (AFW) System

The licensee's proposed TS are consistent with proposed TSTF-412. However, TSTF-412 has not been approved by the staff. The following RAIs are consistent with the staff comments on the proposed TSTF-412, Rev 1.

1. Condition E applies when there are three AFW trains are inoperable in modes 1, 2, or 3 and the turbine-driven AFW pump is inoperable for reasons other than one inoperable steam supply. The required action for proposed Condition E requires immediate actions to be taken to restore one AFW train to operable status. While in this condition, all required actions that require mode changes are suspended until at least one AFW train is restored to operable status. This is not entirely consistent with proposed Condition D, that applies when three AFW trains are inoperable in Mode 1, 2, or 3 and the turbine-driven AFW pump is inoperable solely due to one inoperable steam supply. Condition D requires the plant to be placed in Mode 4 if the turbine driven pump train is inoperable solely due to an inoperable steam supply. In the case of proposed Condition E, if the turbine driven AFW pump train is inoperable due to two inoperable steam supplies and one steam supply is subsequently restored, Condition E would still prohibit any mode changes while Condition D would require the plant to be placed in Mode 4.

   Clarify the apparent inconsistency between conditions D and E.

2. The proposed Condition D applies when two AFW trains are inoperable in Mode 1, 2 or 3. The required actions for Condition D requires to place the plant in Mode 3 within 6 hours and then Mode 4 within 18 hours. The Mode 4 LCO requirement is to have one motor-driven AFW train operable, and, in Mode 4, steam pressure may become inadequate to run the turbine driven AFW pump. In the case that Condition D is entered because both motor driven AFW pumps are inoperable, following the required actions could result in having no functional AFW supply.

   Clarify how can you achieve RHR entry conditions with only the steam driven AFW pump operable.

3. On the basis section B 3.7.5, for Action A.1.a, the following statement is being added at the end: "and the turbine driven train is still capable of performing its specified function." This is not entirely correct in that the turbine driven train may not be able to perform its function for a MSLB or FLB that affects the remaining operable steam supply for the turbine driven AFW pump.

   Clarify that the turbine driven train is still capable of performing its specified function during a MSLB or FLB or correct the above mention statement.

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200506101350		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.7 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I have completed my review of 3.7.			
Issue Date	06/10/2005			

Close Date	06/10/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.
Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.

Date Created: 06/10/2005 01:50 PM by Pete Hearn
Last Modified: 06/10/2005 01:53 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200506290937		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.7 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I have completed my review of 3.7			
Issue Date	06/29/2005			

Close Date	06/29/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 06/30/2005	Review completion acknowledged. Thank you.

Date Created: 06/29/2005 09:37 AM by Pete Hearn
Last Modified: 06/29/2005 09:43 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200505031251**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**Started ITS 3.8 Review**			
Issue Date	**05/03/2005**			

Close Date	**10/03/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/08/2005	Thanks. Database access is confirmed.

Date Created: 05/03/2005 12:51 PM by Robert Clark
Last Modified: 10/03/2005 09:37 AM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200506231746**		Conference Call Requested? **No**	
Category	**Minor Technical**			
ITS Information	**ITS Section:** 3.8	**DOC Number:** None	**JFD Number:** 16	**Page Number(s):**
	ITS Number: 3.8.1		**Bases JFD Number:** None	
NRC Owner	**Robert Clark**			
Comment	**SR 3.8.1.20 Please explain how the intend of SR 3.8.1.20 (simultaneous start-up of both DGs)is met if the SR is only applicable to Unit 2.**			
Issue Date	**06/23/2005**			

Close Date	**01/11/2006**	Resolution requires change to: JFD Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 01/11/2006	The design of the safety-related emergency AC supply including the DGs is controlled by sufficient technical specification and regulatory requirements to ensure the required independence and reliability of the DGs are maintained without the addition of another infrequent test that is not part of the Unit 1 licensing basis. The Unit 1 UFSAR states the basic design requirements as follows: Adequate redundancy and independence exists between standby (onsite) power sources and between their distribution systems in accordance with the AEC regulatory position outlined in Safety Guide 6. Specifically, the UFSAR states "The two generator sets are electrically and physically isolated from each other." Additionally, the UFSAR describes the physical layout of the DGs as follows: The emergency diesel generators are located in a building designed to withstand earthquakes and to protect the diesel generators against tornadoes, hurricanes, flying missiles, flooding, etc. Within the protected building, the emergency diesel generators, including associated starting equipment and other auxiliaries, are completely isolated from one another by means of a 12-inch thick reinforced concrete wall. The UFSAR goes on to describe that redundant power sources, circuit breakers, and relays

are physically separated by masonry walls or metal barriers and cabling is installed to preserve the independence of redundant circuits. These design requirements and descriptions in the UFSAR are adequate to assure the independence of the Unit 1 DGs and can only be changed via the 10 CFR 50.59 process. The 50.59 process ensures prior NRC review of changes to the UFSAR when required. The UFSAR requirements for DG independence are applicable at all times and are sufficient without imposing additional (and infrequent) technical specification requirements. The UFSAR also states that: The BVPS Quality Assurance Program covers the emergency power system equipment. The BVPS QA Program is subject to the requirements of 10 CFR 50 Appendix B. 10 CFR 50 Appendix B requires, among many other things, that measures be established to assure design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. The QA program, through numerous program requirements provides assurance the applicable design standards of all affected safety systems are maintained in accordance with the licensed design basis. In addition, the Unit 1 UFSAR also discusses the application of the requirements of 10 CFR 50 Appendix R to ensure that a single fire will not disable both DGs and the resulting separation of control circuits, cables, and equipment that assure compliance with this regulation. 10 CFR 50 Appendix R provides additional assurance that design independence of the DGs is maintained. Considering the the train separation inherent in the design of the DGs, the regulatory requirements that ensure the DG design and reliability are maintained (e.g., design configuration control requirements), and the scope of the existing Unit 1 UFSAR requirements regarding the DGs, the addition of the technical specification requirement for a 10-year simultaneous start of both DGs will not contribute a significant safety benefit to the plant. It shoul≡be noted that NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted." Not adopting the 10-year test for simultaneous start of both DGs in the ITS conversion was previously approved by the NRC for the following

	plants that now have the ITS: Calvert Cliffs, Arkansas Nuclear, Palisades, Point Beach, Prairie Island, Ginna, Duane Arnold, Browns Ferry Unit 1 & 2, Cooper, Fitzpatrick, and Brunswick Unit 1 & 2.
Licensee Response by Frank Ferri on 06/27/2005	ISTS SR 3.8.1.20 (Beaver Valley ITS SR 3.8.1.15) is a 10 year surveillance that requires the simultaneous start of both Diesel Generators (DGs). The proposed ITS surveillance contains a note that states it is applicable only to Unit 2. In the current Technical Specifications (CTS) the surveillance that corresponds to SR 3.8.1.15 only exists in the Unit 2 CTS. The Unit 1 CTS does not contain a corresponding surveillance. Currently each unit has a separate set of Technical Specifications. As such, the corresponding Unit 2 CTS surveillance requires that both Unit 2 DGs be started simultaneously. Although the proposed BVPS ITS is a common set of Technical Specifications that applies to both BVPS units, each requirement in the ITS (including each surveillance) will be applied separately to each unit unless otherwise stated in the ITS. Therefore, SR 3.8.1.15, as modified by the Unit 2 only note, would only be applied to Unit 2 and continue to require the simultaneous start of both the Unit 2 DGs in the same manner as the corresponding Unit 2 CTS surveillance.
NRC Response by Robert Clark on 10/03/2005	Please provide technical bases for not performing the iSTS recommended 10 year surveillance test for simultaneous startup of both unit 1 DGs.

Date Created: 06/23/2005 05:46 PM by Robert Clark
Last Modified: 01/11/2006 04:18 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200509201353**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.1	**DOC Number:** None	**JFD Number:** 14 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**Proposed ITS SR 3.8.1.10 would allow each DG to run continuously at full load with a power factor less than or equal to 0.9 for an interval of not less than 1 hour. This minimum duration is not consistent with NUREG-1431 which requires that each DG run at rated capacity for at least 24 hours at a power factor as close as practical to the design bases accident power factor. In addition, the ISTS also recommends that each DG be capable of running for 2 hours are more at 110% of full load.** **A one-hour DG run at rated capacity is not a good indicator of DG reliability because it would most likely not detect potential equipment degradations due to aging, mechanical vibration, thermal expansion/contraction and/or maintenance errors. For these reasons the staff considers the 24 hour endurance run to be appropriate and not just for initial design qualifications.** **Please provide technical justification for not performing the 24-hour endurance test and the 110% overload test as recommended by NUREG-1431. In addition, the staff request that the licensee confirm that the design bases accident loads do not exceed the DG continuous ratings as specified in the proposed ITS.**			
Issue Date	**09/20/2005**			

Close Date	**03/17/2006**	Resolution requires change to: JFD Typed ITS Other Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 01/13/2006	The 24-hour DG endurance test is not included in the BVPS technical specifications because Unit 1 is licensed to Safety Guide 9 which does not require this testing and the Unit 2 requirements

regarding this testing are contained in UFSAR Section 1.8, Conformance to NRC Regulatory Guides (Regulatory Guide 1.108). The Unit 2 UFSAR allows for this testing to be done under licensee control. Although not in the technical specifications, BVPS does perform 24-hour endurance testing of the Unit 1 and Unit 2 DGs. Consistent with our current licensing bases, the performance of a 24-hour endurance test for both Unit's DGs is controlled by procedures outside of the technical specifications. BVPS currently performs the 24 hour test approximately every 24 months for each DG. Each BVPS DG has been tested twice in the last 4 years. During this testing, the Unit 1 DGs are run at the normal monthly test value for one hour and than increased to 90-100% of full load (approximately 2400kW) for the duration of the run. The Unit 2 DGs are run at the normal monthly test kW value for 1 hour and than decreased to 90-100% of full load (approximately 4000 kW) for the duration of the run. As for testing over 100% full load, the Unit 1 DGs are run at 110% (2850 kW) for 1 hour every 18 months and the Unit 2 DGs are currently run monthly at 104-105%. In addition, the Unit 2 DGs are brought to 110% during outage testing for a short duration to show that they have the fuel rack travel. The current DG testing described above (per CTS requirements and plant procedures) is adequate to ensure DG operability is maintained. The imposition of technical specification requirements for a 24-hour test would not provide a significant additional safety benefit over the current BVPS testing. It should be noted that NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted." Not adopting the 24 hour DG test in the ITS conversion was previously approved by the NRC for the following plants that now have the ITS: Calvert Cliffs, Arkansas Nuclear, Point Beach, Ginna, Brunswick Unit 1 & 2, and Duane Arnold. Regarding the DG accident loading requirements, the applicable limits for Unit 1 are stated in Unit 1 UFSAR Section 8.5.2.1 as follows: The diesel generator loads do not exceed the smaller of the 2,000 hour rating (2,850 kW) or 90 percent of the 30 minute rating (0.9 x 3,050 kW = 2,745 kW)." For Unit 1, the design basis accident loading is maintained below 2745

	kW. The applicable DG loading limits for Unit 2 are stated in Unit 2 UFSAR Section 8.3.1.1.15 as follows: The maximum load imposed on the diesel does not exceed the smaller of the 2,000-hour rating (4535 kW), or 90 percent of the 30-minute rating specified by Regulatory Guide 1.9 (4577 kW), and is less than the continuous rating of the machine (4238 kW). For Unit 2 the design bases accident loading is currently below 4238 kW.
Licensee Response by Frank Ferri on 03/17/2006	BVPS agrees to revise proposed ITS SR 3.8.1.10 to require a DG run time of greater than or equal to 2 hours instead of the current proposed duration of greater than or equal to 1 hour.

Date Created: 09/20/2005 01:53 PM by Robert Clark
Last Modified: 03/17/2006 03:40 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506231711**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.1	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):** 2
NRC Owner	**Robert Clark**			
Comment	**LCO 3.8.1, B.1 and B.2. Minor format problem. The "And" condition use to separate action statements B.1 and B.2 should be increased to better separate the completion times specified for B.1 and B.2.**			
Issue Date	**06/23/2005**			

Close Date	**10/03/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/27/2005	Regarding the logical connector AND used to separate Actions B.1 and B.2 in ITS 3.8.1, we agree with the comment. Additional space between these Actions (consistent with the standard ITS format) is necessary to clarify the two separate Actions. We agree to modify the final typed copy of the BVPS ITS to incorporate this comment.

Date Created: 06/23/2005 05:11 PM by Robert Clark
Last Modified: 10/03/2005 09:48 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509201429**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.1	**DOC Number:** None	**JFD Number:** 15 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**ISTS 3.8.1.15, DG hot fast re-start, was deleted per JFD-15. This test requires the hot fast re-start of each DG to rated voltage and frequency after operating for at least 2 hours every 18 months. This test is normally associated with the requirement to perform a 24-hour run to establish the required "hot" conditions. However, the proposed bases for ITS 3.8.1 in the LCO section states in part with regards to DG testing that: "These capabilities are required to be met from a variety of initial conditions such as DG in standby with the engine hot and DG in standby with the engine at ambient conditions." Please provide technical justification for excluding DG hot fast re-start surveillance requirements from the ITS which appears to be inconsistent with the proposed bases for ITS 3.8.1, page B 3.8.1-3, under the section labeled "LCO."**			
Issue Date	**09/20/2005**			

Close Date	**02/01/2006**	Resolution requires change to: Typed ITS Bases JFD Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 01/13/2006	The BVPS DGs do not have any system interlocks (electrical, fuel oil, cooling water, or lube oil) that would prevent or inhibit the emergency start of a DG that was previously operated and still hot. The BVPS DGs have been started after previous operation when they were still hot. Although the BVPS operating experience with a hot DG restart did not include the same conditions as the ISTS surveillance, the accumulated operating experience is adequate to provide assurance that the DGs are capable of meeting the hot restart SR as specified in the ISTS. Additionally, the Unit 2 preoperational testing specified in the UFSAR included a hot

	restart test of the DGs (that required a 24 hour loaded pre-run and verified proper voltage and frequency were attained within the specified time). Therefore, the ITS Bases statement regarding the DG capability to start from hot or standby conditions is true for BVPS without the need for additional test requirements. The BVPS DG operating experience spans over 20 years and has not included or needed this additional surveillance test to ensure the DGs are maintained operable. No new or different surveillance tests are needed to demonstrate the operability of the BVPS DGs. As such, the addition of the ISTS requirement for a Hot Fast Restart will not provide a significant safety benefit but will increase the DG wear and tear by requiring an additional fast start. Not adopting the Hot-Fast Restart surveillance in the ITS conversion was previously approved by the NRC for the following plants that now have the ITS: Calvert Cliffs, Arkansas Nuclear, Palisades, Point Beach, Indian Point 3, Prairie Island, Ginna, Duane Arnold, Browns Ferry Unit 1 & 2, Cooper, Fitzpatrick, and Brunswick Unit 1 & 2. It should be noted that NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted."

Date Created: 09/20/2005 02:29 PM by Robert Clark
Last Modified: 02/01/2006 02:49 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200512191417**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** **3.8** **ITS Number:** **3.8.1**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):** **15**
NRC Owner	**Robert Clark**			
Comment	**Please verify that the DG power factor specified in Note 3 for ITS SR 3.8.1.8 and SR 3.8.1.10 are the calculated worst case loading power factor.**			
Issue Date	**12/19/2005**			

Close Date	**03/15/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

NRC Response by Robert Clark on 02/01/2006	Based on the information provided, the PF specified in Note 2 for SR 3.8.1.8 and Note 3 for SR 3.8.1.10 should be less than or equal to 0.89. The bases for SR 3.8.1.8 and 3.8.1.10 should also be revised accordingly.
Licensee Response by Frank Ferri on 01/10/2006	The calculated worst case power factor for BVPS Unit 1 EDG is 88.8% for a short duration (DBA scenario) and long term operation power factor is 89.9% (DBA scenario) at rated voltage. The calculated worst case power factor for BVPS Unit 2 EDG is 89.1% for a short duration (DBA scenario) and long term power factor is 89.5% (DBA) at rated voltage.
Licensee Response by Frank Ferri on 01/12/2006	The short term and long term means there are several loads like the quench spray pumps that operate for a short duration (two to four hours), once they are done operating the loading on the EDG reduces significantly and the KVAR loading on the EDG reduces after that (which is considered long term operation).
NRC Response by Robert Clark on 01/12/2006	For DBA scenarios, please defined short and long term duration.
Licensee Response by Frank	BVPS agrees to revise the specified power factor in SR 3.8.1.8

Ferri on 03/14/2006	(Note 2) and SR 3.8.1.10 (Note 3)to less than or equal to 0.89. The associated SR Bases will also be revised to state a power factor value of less than or equal to 0.89. The Bases will be further modified to clarify that the required power factor value (less than or equal to 0.89) is an indicated value. These changes will be included in Revision 2 of the BVPS ITS Conversion Submittal.

Date Created: 12/19/2005 02:17 PM by Robert Clark
Last Modified: 03/15/2006 05:48 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200509201401**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** **3.8** **ITS Number:** **3.8.1**	**DOC Number:** **None**	**JFD Number:** **None** **Bases JFD Number:** **None**	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**One of the major reasons for performing ITS SR 3.8.1.14 is to demonstrate that the DG is capable of handling the high reactive loads during load sequencing. Please confirm that the loads with the highest starting currents are energized during this test and that they bound the DG response for all other loads in the LOCA sequence. For loads not energized by this test, please confirm that appropriate sequential and overlap testing procedures are provided to verify load sequencing.** **The bases for ITS SR 3.8.1.14 should clarify that sequential and overlap testing should only be used if during testing there is a potential for equipment damage, undesirable transients, or if testing is not practical due to operating restrictions. The bases should also state that these restrictions are applicable only to those loads that do not challenge the DG's ability to handle high starting currents.**			
Issue Date	**09/20/2005**			

Close Date	**01/11/2006**	Resolution requires change to: Formal RAI Required Other Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 12/22/2005	The equivalent CTS surveillance 4.8.1.1.2.b.3 is performed every 18 months and verifies the required ESF start (i.e., the Safety Injection (SI) signal) and loading of the DG. This CTS surveillance is normally performed with all loads supporting SI available such that the DG and sequencer are tested with all required SI loads starting and running on the DG. This includes the high starting current loads from the large pumps required to start on an SI signal. If the provision of the ITS bases to use sequential and overlap test methods is employed, the electrical breaker for the

equipment not being loaded on the DG would either be put in test during DG testing or the breaker would be tested separately. These methods would ensure that proper breaker operation could be confirmed in lieu of actual loading the affected equipment on the DG. The affected equipment would be started manually at another time to confirm equipment operation when the breaker is closed. The Bases for ITS SR 3.8.1.14 discusses the testing performed in lieu of actual demonstration and states that this alternate testing is acceptable if it "adequately shows the capability of the DG system to perform these functions." BVPS would interrupt this description as maintaining the requirement to assure the capability of the DGs to load the large current loads is verified. In addition, BVPS normally tests the DG with all required loads available for loading, and does not intend to use the ITS provision for overlap testing to routinely avoid loading the largest starting current loads. Considering the ITS bases caveat requiring adequate testing and the BVPS normal practice of testing all loads, the proposed bases addition is unnecessary. Additionally, the proposed Bases addition is a change to the requirements of NUREG 1431 that is not specific to BVPS and should be evaluated through the normal generic change control process. In addition, BVPS has reviewed the ITS Use and Application Section 3.0 and the purpose for performing ITS SR 3.8.1.14 and found that a change to the SR and/or bases is not necessary. SR 3.0.1 establishes the technical specification requirement that SRs must be met for equipment to be considered operable. The requirements of SR 3.0.1 are applicable to all SRs. In the ITS Bases for SR 3.0.1 it states that "Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency." As SR 3.0.1 applies to all SRs and contains this specific guidance for the performance of SRs, further modification of individual SRs should not be required to allow the provisions of SR 3.0.1 to be applied. As such, according to SR 3.0.1 all SRs can be performed by means of any series of sequential, overlapping, or total steps. Therefore, adding a specific note to ITS SR 3.8.1.14 that allows the SR to be performed by means of any series of sequential, overlapping, or total steps would indicate that the provision of SR 3.0.1 does not apply unless a specific note is added to each SR. This is not the intent of SR 3.0.1. This is another reason that the generic process for modifying the ISTS should be followed in lieu of imposing the new requirements on individual plants. Considering that the ITS Use and Application guidance allows sequential and overlap testing to be used for all SRs, the ITS SR 3.8.1.14 requirement to "verify" auto-connected emergency loads energize through the load sequencer does not necessarily preclude the use sequential and overlap testing to meet the SR. Furthermore, ITS SR 3.8.1.14, verifies the DGs ability to handle the required loads during sequencing. The omission of one or two loads will not invalidate the SR. Sufficient high current loads are sequenced on the DG

	during this test (even with the omission of some loads) to prove the DG can adequately handle the loads in the sequenced intervals. ITS SR 3.8.1.14 is not intended to demonstrate the ability of the DG to handle the maximum required loading. Other SRs (i.e., ITS SR 3.8.1.10) verify the DG can load the total required capacity. ITS SR 3.8.1.14 verifies the ability of the DG to sequence loads. Due to the number of sequence intervals and various equipment loaded during each interval, the intent of SR 3.8.1.14 can be satisfied with less than all required equipment being loaded.

Date Created: 09/20/2005 02:01 PM by Robert Clark
Last Modified: 01/11/2006 04:50 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506231722**		Conference Call Requested? **No**	
Category	**Minor Technical**			
ITS Information	**ITS Section:** 3.8	**DOC Number:** None	**JFD Number:** 5	**Page Number(s):**
	ITS Number: 3.8.1		**Bases JFD Number:** None	
NRC Owner	**Robert Clark**			
Comment	**SR 3.8.1.8 Please verify if the unit circuit is the preferred offsite power circuit and not the circuit fed from the main transformer via the station auxiliary transformer.**			
Issue Date	**06/23/2005**			

Close Date	**10/03/2005**	Resolution requires change to: None JFD Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/27/2005	The BVPS specific system description and terminology follows: The BVPS main turbine generator output is designated the unit circuit and the BVPS offsite power supply is designated the system circuit. The unit circuit is supplied from the main unit turbine generator via the unit station service transformers (i.e., normal plant operation). The system circuit is the offsite supply and consists of two independent offsite circuits that supply power to the system station service transformers as required by ITS LCO 3.8.1.a. Each system station service transformer supplies a separate 4.16kV ESF bus. For Beaver Valley, the proposed ITS SR 3.8.1.7 verifies that the power for each 4.16 kV bus can be transferred from the unit station service transformer (i.e., the main turbine generator output) to the associated system (i.e., offsite) power supply. There is only one offsite power supply associated with each 4.16kV ESF bus that can be used to satisfy this surveillance during the SR MODE of applicability (i.e. MODES 1-4). The only other offsite circuit that is available is from backfeeding the main transformer. This activity is performed only in MODES 5 and 6 or during fuel movement involving recently irradiated fuel per BVPS

	site procedures.

Date Created: 06/23/2005 05:22 PM by Robert Clark
Last Modified: 10/03/2005 09:53 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200512191552**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.1	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):** 27
NRC Owner	**Robert Clark**			
Comment	**SR 3.8.1.8 an 3.8.1.10 Bases** **The DG power factor specified in the Bases for SR 3.8.1.8 and SR 3.8.1.10 should specified the calculated worst case loading power factor (PF). In addition, the staff noted that the bases implied that the grid voltage can be varied by adjusting the DG field excitation when operating in parallel with the grid. The grid voltage is primarily controlled by the transmission system operators and the automatic voltage regulators installed on the large generating units tied to the grid. The DG excitation should have little or no effect on the grid. However, the staff does believe that potentially high grid voltage may prevent the DG from obtaining the PF limit specified in the TS due to excessive excitation, and under these conditions Note 3 is warrant.** **Please provide analysis or operating data to demonstrate that the grid voltage can be varied by adjusting the field excitation on a 3-4 Mw DG operating in parallel with the grid. Otherwise, revise the bases for SR 3.8.1.10 accordingly.**			
Issue Date	**12/19/2005**			

Close Date	**03/15/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

NRC Response by Robert Clark on 02/01/2006	The proposed changes to the bases for SR 3.8.1.8 and SR 3.8.1.10 are acceptable except that the power factor should be less than or equal to 0.89.
Licensee Response by Frank Ferri on 01/05/2006	BVPS has proposed a revision to the affected Bases that deletes the reference to grid voltage being varied by adjusting the DG field

	excitation. The attached PDF file is marked-up to show the proposed changes to the Bases for SR 3.8.1.8. If the proposed revision is acceptable, BVPS will revise the Bases for both SR 3.8.1.8 and SR 3.8.1.10 as shown in the attached markup. The revised final bases text will be included in Revision 2 of the BVPS ITS Conversion submittal. Please contact us to let us know if the attached changes are acceptable or not.
Licensee Response by Frank Ferri on 03/14/2006	BVPS agrees to revise the specified power factor in SR 3.8.1.8 (Note 2) and SR 3.8.1.10 (Note 3)to less than or equal to 0.89. The associated SR Bases will also be revised to state a power factor value of less than or equal to 0.89. The Bases will be further modified to clarify that the required power factor value (less than or equal to 0.89) is an indicated value. These changes will be included in Revision 2 of the BVPS ITS Conversion Submittal.

Date Created: 12/19/2005 03:52 PM by Robert Clark
Last Modified: 03/15/2006 05:50 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506231716**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.8	**DOC Number:** None	**JFD Number:** 20	**Page Number(s):**
	ITS Number: 3.8.1		**Bases JFD Number:** None	
NRC Owner	**Robert Clark**			
Comment	**The completion time (CT) of 17 days from discovery of failure to meet LCO 3.8.1 for one required DG is excessive. The arbitary application of two unrelated CTs is a weak justification for extending the CT for an additional 3 days. If BV wish to exceed the 14 day CT specified in the CTS, a PRA analysis should be submitted.**			
Issue Date	**06/23/2005**			

Close Date	**10/03/2005**	Resolution requires change to: None JFD Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/27/2005	This is the same response as posted for Comment # 200506231647 based on your question pertaining to LCO 3.8.1 and not LCO 3.8.4. The 17-day Completion time, as used in ITS 3.8.1, does not extend the time allowed for the offsite power supply or diesel generator (DG) to be inoperable. The 17-day Completion Time is an example of a convention used in the ITS that limits the total time an LCO may not be met. This convention is used elsewhere in the ITS where one LCO addresses different equipment with separate Actions that may be inoperable in series related Action entries (See ITS 3.7.5). The use of this convention is explained in ITS Section 1.3, Completion Times (see Example 1.3-3). The intent of this type of ITS Completion Time is to limit the entry into different Actions of the same LCO. Unlimited entry into different Actions of the same LCO could result in the LCO not being met for extended periods of time. In this case, the 17-day Completion Time limits how many times the 72 hour Action for an offsite circuit and the 14-day Action for an inoperable diesel can be

	entered consecutively. The 17-day Completion Time limits this alternating Action entry to one time (14 days plus 72 hours) by limiting the total time the LCO may not be met (i.e., 17 days). In this case, after 17 days, further Action entry is prohibited and the affected equipment must be operable and the LCO met. The 17-day Completion Time does not extend the time an offsite circuit or an DG is allowed to be inoperable. Wherever a Completion Time, such as the 17-day time in ITS 3.8.1 is used to limit consecutive Action entries, it is combined by an AND connector with the normal Completion Time for the affected plant equipment (e.g., 14-days for the DG in this case). For example, ITS 3.8.1 Action B.4 requires the DG to be restored to operable status within 14 days AND 17 days from discovery of failure to meet the LCO. The Bases for Action B.4 states: "The "AND" connector between the 14 day and 17 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met." Thus, the DG could never be inoperable greater than 14 days. However, if the LCO were not met due to other equipment addressed by the LCO being inoperable for some time prior to the DG being inoperable, the total time that the LCO was not met may become the limiting time instead of the 14-day DG Completion Time. As such, the 17-day Completion Time would only be used when it is the more restrictive Completion Time of the two times connected by AND. Thus, if the 17-day time became limiting, it would require that the DG be restored to operable status in less time than the 14-days normally allowed.

Date Created: 06/23/2005 05:16 PM by Robert Clark
Last Modified: 10/03/2005 09:52 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506231647**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.1	**DOC Number:** None	**JFD Number:** 20 **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**The completion time (CT) of 17 days from discovery of failure to meet LCO 3.8.1 for one required offsite circuit is excessive. The arbitary application of two unrelated CTs is no justification for extending the CT for an additional 3 days. If BV wish to exceed the 14 day CT specified in the CTS, a PRA analysis should be submitted.**			
Issue Date	**06/23/2005**			

Close Date	**10/03/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/27/2005	This is the same response as posted for Comment # 200506231716. The 17-day Completion time, as used in ITS 3.8.1, does not extend the time allowed for the offsite power supply or diesel generator (DG) to be inoperable. The 17-day Completion Time is an example of a convention used in the ITS that limits the total time an LCO may not be met. This convention is used elsewhere in the ITS where one LCO addresses different equipment with separate Actions that may be inoperable in series related Action entries (See ITS 3.7.5). The use of this convention is explained in ITS Section 1.3, Completion Times (see Example 1.3-3). The intent of this type of ITS Completion Time is to limit the entry into different Actions of the same LCO. Unlimited entry into different Actions of the same LCO could result in the LCO not being met for extended periods of time. In this case, the 17-day Completion Time limits how many times the 72 hour Action for an offsite circuit and the 14-day Action for an inoperable diesel can be entered consecutively. The 17-day Completion Time limits this

	alternating Action entry to one time (14 days plus 72 hours) by limiting the total time the LCO may not be met (i.e., 17 days). In this case, after 17 days, further Action entry is prohibited and the affected equipment must be operable and the LCO met. The 17-day Completion Time does not extend the time an offsite circuit or an DG is allowed to be inoperable. Wherever a Completion Time, such as the 17-day time in ITS 3.8.1 is used to limit consecutive Action entries, it is combined by an AND connector with the normal Completion Time for the affected plant equipment (e.g., 14-days for the DG in this case). For example, ITS 3.8.1 Action B.4 requires the DG to be restored to operable status within 14 days AND 17 days from discovery of failure to meet the LCO. The Bases for Action B.4 states: "The "AND" connector between the 14 day and 17 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met." Thus, the DG could never be inoperable greater than 14 days. However, if the LCO were not met due to other equipment addressed by the LCO being inoperable for some time prior to the DG being inoperable, the total time that the LCO was not met may become the limiting time instead of the 14-day DG Completion Time. As such, the 17-day Completion Time would only be used when it is the more restrictive Completion Time of the two times connected by AND. Thus, if the 17-day time became limiting, it would require that the DG be restored to operable status in less time than the 14-days normally allowed.

Date Created: 06/23/2005 04:47 PM by Robert Clark
Last Modified: 10/03/2005 09:45 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509201413**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** **3.8**	**DOC Number:** **None**	**JFD Number:** **13**	**Page Number(s):**
	ITS Number: **3.8.1**		**Bases JFD Number:** **None**	
NRC Owner	**Robert Clark**			
Comment	**ISTS 3.8.1.12, DG fast start on ESF actuation signal, was deleted per JFD-13. However, no justification or analysis was given to explain why surveillance testing is not required to verify on an ESF actuation signal with off-site power available (1) that the permanently connected loads remain energized from the offsite power system, and (2) that the emergency loads are energized or auto-connected through the automatic load sequencer from the offsite power system. Please provide technical justification for excluding these surveillance requirements.**			
Issue Date	**09/20/2005**			

Close Date	**10/28/2005**	Resolution requires change to: Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 10/25/2005	ISTS 3.8.1.12, DG start on an ESF actuation signal does not include a loss of offsite power. The BVPS Unit 1 & Unit 2 design for DG start on an ESF signal (i.e., Safety Injection) without loss of offsite power only includes a DG start, the emergency bus is not stripped nor are loads sequenced on the bus. As long as offsite power is available the DG is not connected to the emergency bus. The Unit 1 DG does not field flash to develop voltage unless there is an undervoltage condition on the emergency bus. The BVPS proposed ITS SR 3.8.1.14 (ISTS SR 3.8.1.19) verifies the DG response to an ESF actuation signal in conjunction with a loss of offsite power. Proposed ITS SR 3.8.1.14 verifies the complete DG response including fast start, bus load shedding, energizing permanently connected loads, and energizing auto connected loads via the sequencer. As such, proposed ITS SR 3.8.1.14 provides a complete test of the required DG response while ISTS SR 3.8.1.12,

	would only verify a DG start. Given the BVPS design, and resulting limited scope of testing provided by the performance of ISTS 3.8.1.12, and the complete DG and bus response testing included in ITS 3.8.1.14 (ISTS SR 3.8.1.19), there is no significant safety benefit derived by adding ISTS 3.8.1.12 to the BVPS ITS. The addition of another fast start requirement (from ISTS 3.8.1.12) would only serve to increase DG wear.

Date Created: 09/20/2005 02:13 PM by Robert Clark
Last Modified: 10/28/2005 02:46 PM

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NRC ITS TRACKING

NRC Reviewer

ID	200601111555		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.8 ITS Number: 3.8.2	DOC Number: None	JFD Number: None Bases JFD Number: 1	Page Number(s):
NRC Owner	Robert Clark			
Comment	Note 2 in the Bases for ITS 3.8.2 should be revised to clarify that SR 3.8.1.13 and SR 3.8.1.14 shall be met prior to entering Modes 1,2,3 and 4 in accordance with SR 3.0.4.			
Issue Date	01/11/2006			

Close Date	02/01/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 01/12/2006	The ITS 3.8.2 SR Note 2 bases discussion is revised to include the following statement: "Prior to entry into MODE 4, the verifications required by SR 3.8.1.13 and SR 3.8.1.14 must be complete for all loads required in MODES 1, 2, 3, and 4 in accordance with SR 3.0.4". For your convenience the entire text of Note 2 follows:---- Note 2 limits the scope of the requirement to verify the automatic load sequencing functions. The Note recognizes that the majority of equipment automatically sequenced on the emergency bus is not required to assure safe operation of the plant in shutdown MODES. The Note limits the verifications required by SR 3.8.1.13 and SR 3.8.1.14 to those loads required in the Applicable MODES of LCO 3.8.2. The required loads are the loads required OPERABLE by Technical Specifications and loads necessary to support the OPERABILITY of the loads required OPERABLE by Technical Specifications. Prior to entry into MODE 4, the verifications required by SR 3.8.1.13 and SR 3.8.1.14 must be complete for all loads required in MODES 1, 2, 3, and 4 in accordance with SR 3.0.4.

Date Created: 01/11/2006 03:55 PM by Robert Clark
Last Modified: 02/01/2006 12:25 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509201418**		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** 3.8.3	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Robert Clark**			
Comment	**Proposed ITS SR 3.8.3.5, Check for and remove accumulated water from each fuel oil storage tank, has a surveillance frequency of 92 days. This is not consistent with NUREG-1431 which specifies a surveillance frequence of 31 days. Please provide justification.**			
Issue Date	**09/20/2005**			

Close Date	**10/17/2005**	Resolution requires change to: Other Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 09/30/2005	The ITS SR 3.8.3.5 Surveillance Frequency of 31 days is a bracketed number. Typically, bracketed values in the ISTS are intended as placeholders for plant specific values. In the BVPS submittal markup of this ITS requirement, the bracketed 31-day frequency is shown as replaced by the 92 days which is marked as the CTS value. As the CTS value for this frequency was already approved by the NRC, no additional justification was considered necessary. This is consistent with the guidance provided in NEI 96-06, Improved Technical Specifications Conversion Guidance. NEI 96-06 was developed with input from the NRC (the efforts of Chris Grimes are recognized along with the members of the NEI Technical Specifications Task Force in the Acknowledgment section). On page A-5, NEI 96-06 addresses the markup of the ISTS and states that "Bracketed numbers or requirements need not be addressed by a difference discussion provided that the existing requirement is being retained". In the case of ITS SR 3.8.3.5 BVPS is proposing to keep the existing CTS frequency requirement of 92 days.

NRC Response by Robert Clark on 10/03/2005	With regards to iSTS SR 3.8.3.5, please identify any other ITS plant with a surveillance frequency other than the 31 days recommended per NUREG 1431 R3.
Licensee Response by Frank Ferri on 10/04/2005	We reviewed plant technical specifications readily available to us. Not all plants that have converted to the ISTS were checked to develop this response. However, a significant number of differences from the NUREG-1431 31-day Frequency were found in our sample. A list of the differences follow: North Anna 1 & 2 ITS SR 3.8.3.4 - 92 days, Clinton ITS SR 3.8.3.5 - 92 days, Grand Gulf ITS SR 3.8.3.5 - 92 days, Hatch Unit 1&2 ITS SR 3.8.3.6 - 184 days, LaSalle 1& 2 ITS SR 3.8.3.4 - 92 days, Palisades ITS SR 3.8.3.5 - 92 days, Palo Verde 1,2,&3 ITS SR 3.8.3.5 - 92 days, Perry ITS SR 3.8.3.5 - 92 days. The following plant's ITS 3.8.3 do not contain any SR to check and remove water from the fuel oil storage tanks: Browns Ferry Unit 1, Dresden Units 2 & 3, Ginna, Prairie Island Units 1 & 2, and Quad Cities 1 & 2.

Date Created: 09/20/2005 02:18 PM by Robert Clark
Last Modified: 10/17/2005 11:52 AM

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NRC ITS TRACKING

NRC Reviewer

ID	**200509201305**		Conference Call Requested? **No**	
Category	**Major Technical**			
ITS Information	**ITS Section:** 3.8	**DOC Number:** None	**JFD Number:** 2	**Page Number(s):**
	ITS Number: 3.8.6		**Bases JFD Number:** None	
NRC Owner	**Robert Clark**			
Comment	**Proposed ITS SR 3.8.6.6 would allow an 18-month testing frequency if a battery shows signs of degradation or reaches 85% of the service life expected for the application. This frequency is not consistent with NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," and IEEE Standard 450 testing frequency of every 12 months. IEEE Standard 450 states that annual Performance Tests of battery capacity should be made on any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. Beaver Valley's proposed 18-month battery performance testing interval would leave a 6-month uncertainty regarding the battery operability. A degraded battery, if utilized beyond one year, is believed to have a high probability of DC system failure. The increased Performance Discharge testing frequency of every 12 months is based on an accelerated rate of capacity loss with a battery that shows degradation or has reached 85% of the expected life with capacity less than 100% of manufacturer's rating. Failure of the DC system during or following operational occurrences or accidents have significant safety and risk implications. Provide the technical justification for the 18-month testing frequency when a battery shows signs of degradation or reaches 85% of the service life expected for the application. In addition to the above, NUREG-1431 and IEEE Standard 450 recommend performing a performance discharge test at least once per 24 months for any battery that has reached 85% of the expected life with capacity greater than or equal to 100% of manufacturer's rating. Provide the technical justification for not performing performance discharge testing on a battery that meets the aforementioned criteria.**			
Issue Date	**09/20/2005**			

Resolution requires change to:
JFD
Typed ITS

Close Date	02/02/2006	Formal RAI Required Docket Response Required? **Yes**

Responses

Licensee Response by Frank Ferri on 10/25/2005	IEEE-450 and NUREG-1431 recommend a 12-month frequency for the performance discharge test when a battery shows signs of degradation or reaches 85% of the service life and less than 100% capacity or a 24 month frequency for any battery that has reached 85% of the expected life with capacity greater than or equal to 100% of manufacturer's rating. However, the NRC has approved a compromise surveillance requirement for numerous plants (i.e., the BVPS 18 month frequency) that would require the performance discharge test to be performed every 18 months when the battery shows signs of degradation or reaches 85% of expected life. As the performance discharge test can not be performed in Modes 1-4, and requires the plant to be placed in a cold shutdown condition, the 18-month frequency (i.e., the typical refueling cycle) was approved previously by the NRC for many plants. This compromise between the recommended 12 and 24 month frequencies would require the performance discharge test to be performed every 18 months when the battery shows signs of degradation or reaches 85% of service life regardless of its capacity. Based on operating experience (i.e., the battery typically reaches 85% of expected life with 100% capacity and no degradation) the BVPS 18-month frequency will most likely require more frequent battery testing than the recommended 12 and 24 month frequencies when the battery reaches 85% of expected life. A review of some other plant's ITS requirements shows the 18-month frequency for the battery performance discharge test was previously approved by the NRC in the ITS for Wolf Creek Unit 1, River Bend, Cooper, Fermi Unit 2, Perry, North Anna Units 1 & 2, and Farley Units 1 and 2. The NRC has previously evaluated the use of the 18 month frequency in lieu of the 12 month frequency in the Safety Evaluation Report (SER) associated with BVPS Unit 1 Amendment No. 54 issued 7/27/82. In the SER the NRC stated the following: "NRR Office Letter No. 38 (Procedures for Revision to Technical Specifications enclosure 3, item 2) states that standard technical specifications may be used as guidance for technical specification changes requested on operating reactors but will not be used to impose new requirements. The proposed battery test periodicity is the same frequency that exists in the present Beaver Valley Technical Specifications. Imposing the new requirement to conduct an annual performance discharge test on a battery that shows signs of degradation would require an unscheduled plant shutdown and unnecessarily restrict plant availability without a significant increase in plant safety." In the response to Generic Letter 91-06, Resolution of Generic Issue A-30, Adequacy of Safety-Related DC

	Power Supplies (TAC #s M81410 and M81411) BVPS clearly identified (in the response to Question 7) that the BVPS frequency of 18 Months for the performance discharge test of the battery was a deviation from the standard technical specification requirement of 12 months. No changes to the BVPS performance discharge test 18-month frequency were required as a result. In addition, NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted."
Licensee Response by Frank Ferri on 01/27/2006	Based on discussions with battery manufacturers BVPS proposes to maintain the 18 month requirement to complete a Performance Discharge Test on a battery that has reached 85% expected service life and has degradation. The manufacturers stated that an additional 6 months of battery operation at 85% service life and degradation would not significantly inhibit the battery's operation or result in a sudden decline in performance. The manufacturers also stated that the periodic battery monitoring normally performed on the batteries (i.e., on a weekly, monthly, and quarterly basis) would identify any additional degradat on that could challenge the battery's ability to meet the technical specification requirements for operability. The ITS surveillance requirements specify that battery float current be verified each week, pilot cell voltage and temperature must be verified monthly, and each cell's electrolyte level must also be verified on a monthly basis. The ITS surveillances also require that the voltage of each battery cell be verified quarterly. In addition to the ITS surveillances, each battery cell specific gravity is checked on a quarterly basis. Historically, BVPS has detected cell degradation through normal periodic battery monitoring activities as described above, and not as a result of periodic capacity tests. This experience confirms the battery manufacturer's position that any additional degradation would be detected by the normal periodic battery monitoring performed by BVPS. Additionally, if a battery cell does not meet the minimum technical specification requirements there is enough margin in the design calculations to allow at least one battery cell to be jumpered out. This is contingent upon the battery service test data that is performed

	every outage. The IEEE 450 recommends that the performance testing be performed on a yearly basis with 85% service life and battery degradation. However, EPRI document TR-100248 (Station Battery Guide: Design Application, and Maintenance) Section 14 states that a safety related battery at a nuclear plant might receive a performance test as frequently as annually (or possibly each refueling cycle) once battery degradation has been detected. Based on the above discussion BVPS proposes to maintain the 18 month (in lieu of 12 month) requirement to complete a Performance Discharge Test on a battery that has reached 85% expected service life and has degradation. Based on the discussion with the battery manufacturers, and considering the EPRI guidance, and that BVPS continues to meet the intent of IEEE-450 regarding the periodic verification of battery capacity, there is reasonable assurance that the battery capacity will not degrade significantly more during the additional 6 months. Additionally, based on the routine monitoring of battery cell parameters, adequate assurance is provided that if any further battery degradation did occur, it would be detected in a timely manner for appropriate action to be taken, up to and including declaring the battery inoperable. Therefore, changing the current BVPS surveillance frequency for the Performance Discharge Test from 18 months to 12 months does not provide a significant safety benefit to the operation of the plant. This conclusion is consistent with the Safety Evaluation Report (SER) associated with Unit 1 license amendment No. 54. In that SER, the NRC staff concluded: "Imposing the new requirement to conduct an annual performance discharge test on a battery that shows signs of degradation would require an unscheduled plant shutdown and unnecessarily restrict plant availability without a significant increase in plant safety."
NRC Response by Robert Clark on 02/02/2006	Based on your current licensing bases, the staff agrees with the proposed changes to ISTS SR 3.8.6.6. However, the staff does not necessarily agree with BVPS conclusion that changing the current Beaver Valley technical specification surveillance frequency for the Performance Discharge Test from 18 months to 12 months for batteries that have reached 85% of expected service life and have degradation provides no significant safety benefit. However, the staff acknowledges that the ITS Conversion process is not the appropriate regulatory process for resolving this issue. The staff will continue to study this issue and may consider in the future whether this issue should be pursued as a generic backfit issue for all plants currently without the 12 month frequency.

Date Created: 09/20/2005 01:05 PM by Robert Clark
Last Modified: 02/02/2006 03:03 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200508221254**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.8	**DOC Number:** None	**JFD Number:** None	**Page Number(s):**
	ITS Number: BSI 19		**Bases JFD Number:** None	
NRC Owner	**Duc Nguyen**			
Comment	**See the attached file. Please e-mail me when you have the response to this RAI. My e-mail address is dtn1@nrc.gov**			
Issue Date	**08/22/2005**			

Close Date	**10/21/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

NRC Response by Duc Nguyen on 09/06/2005	1) Regarding your response to Question 1, you have stated that the Note only affects the method used to bring the diesel up to steady state voltage and frequency conditions after the start. Describe the method currently used as required by CTS 4.8.1.1.2.a.5 to bring the diesel up to steady state voltage and frequency conditions. Is it required that diesel starts from standby conditions and achieve steady voltage and frequency of less than a speficied time in seconds. 2) You have stated that the Beaver Valley staff is capable of determining the appropriate requirements for diesel generator operation and whether or not input from the vendor is required. Explain how operating experience determined by Beaver Valley staff continues provide adequate assurance that the intend of surveillance will be met thoroughout the life of the plant comparable to the recommedations provided by the manufacturer. How will differences between operating experience and manufacturer's recommendations be resolved?
Licensee Response by Frank Ferri on 10/04/2005	Response to Question 1: BSI-19 includes a change to the Unit 1 and Unit 2 CTS 4.8.1.1.2.a.5 DG surveillance. The specific change introduced by BSI-19 is discussed in the response to Question 2

	below. The Unit 1 surveillance 4.8.1.1.2.a.5 requires that the diesel starts from standby conditions, and can be gradually accelerated to synchronous speed with generator voltage greater than or equal to 4106 volts and less than or equal to 4368 volts and frequency greater than or equal to 58.8 Hz and less than or equal to 61.2 Hz. Currently, for this surveillance, the Unit 1 diesel generators are typically started manually from a standby condition and are manually accelerated from idle to synchronous speed (approximately 900 rpm). The Unit 1 surveillance 4.8.1.1.2.a.5 does not impose any time limits on this DG start. The Unit 2 surveillance 4.8.1.1.2.a.5 requires that the diesel starts from standby conditions and achieves steady state voltage of greater than or equal to 3994 volts and less than or equal to 4368 volts and frequency of greater than or equal to 59.9 Hz and less than or equal to 60.3 Hz. Currently, for this surveillance, the Unit 2 diesels are typically started manually from a standby condition and come up to synchronous speed (approximately 504 rpm) automatically after the manual start. The Unit 2 surveillance 4.8.1.1.2.a.5 does not impose any time limits on this DG start. Response to Question 2: BSI-19 revises ITS SRs 3.8.1.2 and 3.8.1.3 by modifying a Note to the SRs with the addition of the following statement "or based on operating experience." The addition of this phrase to the surveillance Note would allow plant and industry operating experience to be used when applying the gradual diesel acceleration permitted by the surveillance Note. Considering the staff resources (both licensee and NRC) necessary to address additional questions regarding BSI-19, and the limited benefit to the plant provided by BSI-19, Beaver Valley Power Station (BVPS) will no longer pursue the change introduced by BSI-19 at this time. The BVPS ITS conversion submittal will be revised such that the additional text "or based on operating experience" is deleted from the affected surveillance Notes (Note 2 in ITS SR 3.8.1.2 and Note 3 in ITS SR 3.8.1.3). Therefore the revised surveillance notes will be restored to the standard technical specification text eliminating the Beyond Scope Issue introduced by this change. This change will include the deletion of the associated JFD-17 as well as the revision of the current technical specification markup of page 3/4 8-4 (inserted notes) and the deletion of associated DOC L.19. The above described changes will restore conformity with the standard technical specification requirements and eliminate BSI-19.
Licensee Response by Frank Ferri on 08/30/2005	Question 1 Current TS SR 4.8.1.1.2.a.5 requires that at least once per 31 days on a staggered test basis, verifying the diesel starts from standby conditions, (note 4), and achieves steady voltage of > 3994 volts and < 4368 volts and frequency of > 59.9 Hz and < 60.3 Hz. Note (4) states that all diesel starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. The proposed ITS SR 3.8.1.2 would add an additional note which allows a modified DG start involving idling and gradual acceleration to synchronous speed to be used for this SR as

recommended by the manufacturer or based on operating experience. How does idling and gradual acceleration meets the intent "starts from standby conditions" in the current TS. Response to Question 1: Current TS (CTS) 4.8.1.1.2.a.5 specifies a diesel generator start from standby conditions. ITS SR 3.8.1.2 also specifies a diesel generator start from standby conditions and provides a note that allows the diesel generator to be idled and gradually accelerated to steady state operating conditions after it is started. The addition of the ITS note for gradual acceleration does not affect the requirement that the diesel generator must initially be at standby conditions prior to the start. Both surveillances require the same initial conditions for the diesel generator start. The Note only affects the method used to bring the diesel up to steady state voltage and frequency conditions after the start. As such, the allowance for gradual acceleration does not affect the initial conditions specified for the start of the diesel generator. The allowance provided in the ITS note to idle and gradually accelerate the diesel generator is part of the standard technical specifications for Westinghouse plants (NUREG-1431). As the allowance for idling and gradual acceleration of the diesel generator is part of the standard requirements for all Westinghouse Plants, the adoption of this provision of the note in the Beaver Valley ITS is not beyond the scope of converting to the ITS. Question number 2 below, addresses the beyond scope issue of the proposed change to the standard technical specification note. Question 2 ISTS SRs 3.8.1.2 and 3.8.1.3 are modified by a note. The note states "A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer." The note would be changed with an addition of "or based on operating experience." Explain how testing gained by operating experience is equivalent to the testing as recommended by the manufacturer. How wi l the operating experience be implemented during surveillance execution? Explain how this surveillance implementation using operating experience continues to provide adequate assurance that the intent of the surveillance will be met throughout the life of the plant comparable to the recommendations provided by the manufacturer. How will differences between operating experience and manufacturer's recommendations be resolved? Response to Question 2: The standard technical specification note allows idling and gradual acceleration of the diesel generator to synchronous speed as recommended by the manufacturer. The proposed change would allow the idling and gradual acceleration of the diesel generator to synchronous speed based on operating experience in addition to the manufacturer recommendations. The allowance provided by the ITS note is based on minimizing the mechanical stress and wear on the diesel engine during the numerous starts required by the technical specifications. The Beaver Valley operations, engineering, and maintenance staff responsible for the diesel generator perform the required diesel surveillances, maintenance,

and inspections as well as interface with the diesel vendor. The Beaver Valley staff is aware of the extent of diesel wear and potential maintenance issues. The diesel generators perform an important safety function and represent a significant capital investment and are therefore, operated and maintained carefully to maintain a high degree of equipment reliability and longevity. The diesel generator operating and maintenance experience of the Beaver Valley staff spans more than 23 years for Unit 1 and about 17 years for Unit 1. In addition, there is a significant body of experience provided by the diesel generator vendors owners groups who share operating and maintenance experience between plants. As such, the Beaver Valley staff has accumulated sufficient experience and previous vendor and owners group input to correctly and safely operate the diesel generators without mandatory technical specification requirements to consult with the vendor for changes in routine diesel generator operation. Based on the extensive operating and maintenance experience described above the Beaver Valley staff is capable of determining the appropriate requirements for diesel generator operation and whether or not input from the vendor is required. Diesel generator operation, like other plant equipment operation, and required vendor recommendations, is implemented within plant procedures. The appropriate surveillance procedures will be revised to implement any necessary diesel generator operating requirements. Any changes to the affected plant procedures will be reviewed by appropriate and knowledgeable plant staff to assure the diesel generators are operated correctly and safely. If necessary to ensure the safe and correct operation of the diesel generator, vendor input will be requested as determined by the appropriate and knowledgeable plant staff. In addition, surveillance procedures must always meet the intent of the technical specification requirements. In this case the intent of the surveillance note is to provide an allowance that will help to minimize wear on the diesel generator (i.e., idling and gradual acceleration per vendor recommendation). The proposed wording change would permit the implementation of the provisions of the note based on operating experience as well as the vendor's recommendation. Operating experience can provide additional insights based on specific plant considerations or industry information that can be used to help maximize diesel generator reliability. Both the NRC and industry have recognized the importance of sharing operating experience and the timely incorporation of changes that may result from this shared experience. The proposed change will allow the Beaver Valley engineering staff to utilize pertinent information from sources other than the vendor in a timely manner to optimize the diesel generator operating procedures. It should be noted once again, that the diesel generators represent an important safety system and a substantial capital investment. Therefore, sufficient incentive exists to assure any changes to the operating procedures will be consistent with the correct and safe operation of the diesel

	generators and to assure the longevity of the diesel generators. As the plant goals are to maintain the diesel generators in the best operational condition possible, it is not expected that any conflicts with the vendor recommendations will occur. Rather, the proposed change would allow some engineering judgement (based on many years of plant and industry experience) to be used to determine when the vendor must be consulted rather than the mandatory technical specification requirement to consult the vendor for changes to the operating procedures for the diesel generators.

Date Created: 08/22/2005 12:54 PM by Duc Nguyen
Last Modified: 10/21/2005 08:43 AM

Beaver Valley BSI-19 RAI.wpd

BEYOND SCOPE ITEM (BSI)-19: Improved Standard Technical Specification (ISTS) Surveillance Requirements (SRs) 3.8.1.2 and 3.8.1.3 Note EDGS

1. Current TS SR 4.8.1.1.2.a.5 requires that at least once per 31 days on a staggered test basis, verifying the diesel starts from standby conditions, (note 4), and achieves steady voltage of ≥ 3994 volts and ≤ 4368 volts and frequency of ≥ 59.9 Hz and ≤ 60.3 Hz. Note (4) states that all diesel starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. The proposed ITS SR 3.8.1.2 would add an additional note which allows a modified DG start involving idling and gradual acceleration to synchronous speed to be used for this SR as recommended by the manufacturer or based on operating experience. How does idling and gradual acceleration meets the intent "starts from standby conditions" in the current TS.

2. ISTS SRs 3.8.1.2 and 3.8.1.3 are modified by a note. The note states "A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer." The note would be changed with an addition of "or based on operating experience." Explain how testing gained by operating experience is equivalent to the testing as recommended by the manufacturer. How will the operating experience be implemented during surveillance execution? Explain how this surveillance implementation using operating experience continues to provide adequate assurance that the intent of the surveillance will be met throughout the life of the plant comparable to the recommendations provided by the manufacturer. How will differences between operating experience and manufacturer's recommendations be resolved?

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NRC ITS TRACKING

NRC Reviewer

ID	**200508041317**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.8 **ITS Number:** BSI 20	**DOC Number:** L.18	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):** 46
NRC Owner	**Carolyn Lauron**			
Comment	**The improved standard technical specification (ISTS) surveillance requirement (SR) 3.8.1.5 states, "Check for and remove accumulated water from each day tank [and engine mounted tank]." The proposed BVPS Unit 1 improved technical specifications (ITS) SR 3.8.1.5.1 states, "Check for and remove accumulated water from each engine mounted tank," and is only applicable to Unit 1.** **Beyond Scope Issue (BSI)-20, Enclosure 1, pages 2-3, state that this change is acceptable because only the Unit 1 diesel generators (DGs) have engine mounted tanks and must be checked for water. In addition, the engine mounted tank is fed from the day tank and is the lowest point of the fuel system.** **Based on standard review plan (SRP) 9.5.4, "Emergency Diesel Engine Fuel Oil Storage and Transfer System," and Regulatory Guide (RG) 1.137, "Fuel-oil Systems for Standby Diesel Generators," day or integral tank and storage tanks associated with each diesel-generator set should include provisions for removal of accumulated water. The staff requests the licensee to further address why accumulated water is not a concern in the day tank to require periodic surveillance. In addition, the staff requests a discussion of the surveillance results for both the day tank and engine mounted tank to further support that surveillance requirements of the engine mounted tank is sufficient to ensure fuel oil quality.**			
Issue Date	**08/04/2005**			

Close Date	**02/03/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

NRC Response by Carolyn	This item will remain open pending receipt of the supplemental

Lauron on 10/25/2005	application indicating the changes associated with the withdrawal of BSI-20.
Licensee Response by Frank Ferri on 09/30/2005	BSI-20 is only applicable to Unit 1 and revised the current surveillance requirement to check for and remove accumulated water from the Day Tank to check for and remove accumulated water from the Engine Mounted Tank (proposed ITS SR 3.8.1.5.1). Considering the staff resources (both licensee and NRC) necessary to address additional questions regarding BSI-20, and the limited benefit to the plant provided by BSI-20, Beaver Valley Power Station (BVPS) will no longer pursue the change introduced by BSI-20 at this time. The BVPS ITS conversion submittal will be revised such that the affected Unit 1 surveillance (ITS SR 3.8.1.5.1) requires that both the Day and Engine Mounted Tanks are included in the surveillance. The revised Unit 1 only surveillance SR 3.8.1.5.1 will read as follows: "Check and remove accumulated water from each day and engine mounted tank". The surveillance Note designating the surveillance as applicable only to Unit 1 and the 31-day frequency will remain unchanged (the Unit 2 diesels do not have engine mounted tanks). The revision of the BVPS ITS submittal will include the appropriate changes to the associated JFD-10 and surveillance Bases as well. In addition, the BVPS Unit 1 CTS surveillance 4.8.1.1.2.c.1 will be marked-up to show the addition of the Engine Mounted Tank. CTS DOC L.18 (applicable to CTS surveillance 4.8.1.1.2.c.1 and explaining the elimination of the day tank) will be deleted and a new more restrictive change (M-DOC) will be added to address the inclusion of the Engine Mounted Tank in the BVPS Unit 1 CTS surveillance 4.8.1.1.2.c.1.
NRC Response by Carolyn Lauron on 09/08/2005	The adequacy of the engine mounted tank surveillance for detecting water in both tanks is dependent upon the arrangement of the tanks and the movement of fluid between the tanks. The staff requests a diagram showing the arrangement among the large outside fuel oil storage tank, the day tank, and the engine mounted tank including all connections (sources to and taps from these components) and elevation designations. The staff also requests a discussion of the gravity draining of the day tank contents into the engine mounted tank to include if the draining is continuous from the bottom of the day tank (and therefore water accumulation can be detected through the engine mounted tank surveillance) or if this draining occurs only upon actuation of the diesel and delivery of the engine mounted tank's contents to the diesel. If the latter is true, the staff requests a justification of how any accumulated water in the day tank will not adversely affect diesel performance. The staff also requests a discussion of the corrective actions associated with a change in the turbine building temperature to ensure that the day tank has no accumulation of water.
Licensee Response by Frank Ferri on 08/22/2005	Response to Question 1. The proposed change revises the Unit 1 surveillance to check for and remove water from the EDG Day Tanks every month to check and remove water from the EDG

	Engine Mounted Tanks each month. The proposed change is acceptable for the following reasons: (1) Water may be found in the large outside fuel oil storage tanks, however, the fuel oil transfer system piping is offset from the bottom of the storage tanks making the probability of transferring water to the EDG Day Tank very low, (2) The Day Tanks are located in the EDG building which is temperature controlled. Thus the probability of water accumulating in the day tanks is also highly unlikely, and (3) The Unit 1 Day Tanks are positioned above the Engine Mounted Tanks. Therefore, any water in the Unit 1 Day Tanks would drain (by gravity) to the Engine Mounted Tanks. As such, the proposed change would revise the current surveillance such that the tank most likely to contain water (i.e., the engine mounted tank) is the tank that must be checked monthly. Proposed BVPS ITS SR 3.8.1.5.1 (Unit 1 only) requires the Engine Mounted Tanks to be checked for water and any water found to be removed every 31 days. BVPS ITS SR 3.8.3.5 will also continue to check and remove water form the storage tanks (the most likely source of water) every 92 days. Response to Question 2. The results from all Unit 1 Day and Engine mounted tank surveillance procedures performed from January, 2003 up to and including August 18, 2005 were checked. This data encompasses the last 34 consecutive tests performed for each individual Unit 1 Diesel Generator Day and Engine mounted Tank (4 tanks total, 1 Day and 1 Engine Mounted Tank per diesel). No surveillance test (out of the total of 136 individual tests checked) found a detectable amount of water in either the Day or Engine mounted tanks.

Date Created: 08/04/2005 01:17 PM by Carolyn Lauron
Last Modified: 02/03/2006 09:20 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200601261155		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.8 ITS Number: BSI 29	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Robert Clark			
Comment	BSI 29 is no longer considered a BSI since changes to the bases for SR 3.8.1.18 have been incorporated into NUREG 1431 R 3.1. BSI 29 is closed.			
Issue Date	01/26/2006			

Close Date	01/26/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/27/2006	Review completion acknowledged by BVPS.

Date Created: 01/26/2006 11:55 AM by Robert Clark
Last Modified: 01/26/2006 11:55 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200505251520		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.9 ITS Number: 3.9.4	DOC Number: None	JFD Number: 2 Bases JFD Number: None	Page Number(s): 12
NRC Owner	Pete Hearn			
Comment	SR 3.9.4.1 and SR 3.9.5.1 The purpose of these SRs is to demonstrate that the RHR loop is operating and removing sufficient decay heat. If the flowrate of the loop is deleted from the SR how will you demonstrate that the loop is removing sufficient decay heat? Pages 12 and 16			
Issue Date	05/25/2005			

Close Date	06/01/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 05/26/2005	In the Standard SRs for RHR in Mode 6, a specific minimum RHR flow must be maintained at all times when the technical specifications are applicable. The corresponding BVPS CTS surveillance requirements do not specify an RHR flow for normal RHR operation in Mode 6. The CTS only specifies an RHR flow for reduced RCS inventory conditions and during RCS dilution operations. The BVPS Units control the normal RHR flow by procedures outside of the technical specifications. The demonstration that the loop is removing sufficient decay heat is accomplished by monitoring reactor coolant system temperature to ensure that the RCS temperature is maintained within the desired temperature band. If the RHR loop is not removing sufficient decay heat, the increasing RCS temperature trend and inability to maintain the desired temperature band will be evident to the plant operators. In addition, RHR pump performance is verified in the BVPS Inservice Testing Program. The Inservice Testing (IST)

	Program is required by the CTS (Specification 4.0.5) and in the ITS in the Administrative Controls Section (5.5.4). The IST Program tests the RHR pumps at full flow quarterly during Cold Shutdown and Refueling outages. The RHR loop is only required to remove the decay heat load for the given plant condition. The Modes 4 and 5 decay heat removal requirements following a plant shutdown from full power operation are greater that the Mode 6 decay requirements. The ISTS SRs for RHR in Modes 4 and 5 do not specify a flow requirement for an RHR loop. The Mode 4 and 5 SRs only require that the RHR loop is in operation. The Mode 4 and 5 SRs are consistent with the proposed BVPS RHR SRs for Mode 6 operation.

Date Created: 05/25/2005 03:20 PM by Pete Hearn
Last Modified: 06/01/2005 10:05 AM

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NRC ITS TRACKING

NRC Reviewer

ID	200510131457		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: 3.9 ITS Number: BSI 24	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Kent Wood			
Comment	See Attached File.			
Issue Date	10/13/2005			

Close Date	05/15/2006	Resolution requires change to: None Other Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/21/2005	1.1 It should be noted that the basis for NRC approval of License Amendment 195 and Unit 2 License Amendment 78 did not include the requirement for RCS flow to be maintained at a specified value at all times (e.g., there are no RCS or RHR flow requirements specified in the BVPS CTS for Modes 4 and 5). The requirement to maintain a specified RCS flow during a reduction in boron concentration provides assurance that the measured boron concentration is uniform. This requirement is valid procedural guidance for performing a controlled boron dilution and was made part of the BVPS CTS. However, the BVPS requirement (CTS 4.9.8.1.b) to maintain 3000 gpm flow prior to and during a planned reduction in the boron concentration is not deleted. It should be noted that the 3000 gpm requirement must also be met prior to a planned reduction in boron concentration. As described in DOC LA.2 this CTS surveillance requirement is being relocated to the LRM. DOC LA.2 describes the criteria for retaining requirements in the technical specifications and the requirements necessary to perform a boron dilution evolution properly do not meet the criteria for retention in the technical specifications. The LRM is an appropriate location for this type of requirement. The LRM requirements are implemented in procedures in the same manner

as technical specifications requirements. In addition it should be noted that the ITS SRs in Modes 4, 5, and 6 continue to require the verification of an operating RCS cooling loop. As explained in the Bases for these ITS SRs, the verification of an operating loop includes flow rate, and temperature. As such, the proposed ITS SRs continue to require forced circulation of the RCS in these Modes. Therefore, the plant will continue to be operated in the same manner as before regarding the requirement to maintain RCS flow at all times in Modes 4, 5, and 6 and to maintain a specified RCS flow during planned boron reductions. The relocation of the flow requirement for performing a planned boron dilution to the LRM is consistent with the application of the criteria in 10 CFR 50.36 and therefore, consistent with the normal changes implemented during a conversion to the ITS. As such, this is not a beyond scope change and can be reviewed by the technical specification section. 1.2 Generic Letter (GL) 88-17, Loss of Decay Heat Removal, required licensees to implement recommended actions that consisted of expeditious actions (i.e., specific training and administrative controls to be implemented quickly) and programmed enhancements (i.e., procedural and/or hardware changes and associated analyses to be implemented later). Regarding RHR operation, the GL required the capability to continuously monitor RHR performance from the control room when used for decay heat removal and recommendations were made for visible and audible indications of abnormal conditions. The technical specification section of GL 88-17 only required that technical specification requirements that restrict or limit the safety benefit of the actions identified in the GL be identified and appropriate changes be submitted. As such, compliance with GL 88-17 did not require technical specification changes that added more restrictive requirements (i.e., there was no requirement in GL 88-17 to add a specific RHR flow to the technical specifications). Although BVPS license amendments 148/25 stated that a TS requirement for monitoring RHR flow was consistent with GL 88-17 (i.e., the GL requirement for the capability to continuously monitor the RHR from the control room) the technical specification requirement was not necessary to comply with GL 88-17. The changes proposed in the BVPS conversion to the ITS do not change the capability to monitor the RHR nor do they change the audible and visible indications in the control room, necessary to comply with GL 88-17. Additionally it should be noted that the proposed BVPS ITS SRs in Modes 4, 5, and 6 continue to require that the coolant loop required to be in operation (RHR or RCS) be verified (including flow rate and temperature) every 12 hours. Thus, the proposed ITS SRs are also consistent with the intent of GL 88-17 (i.e., to have the capability to monitor RCS cooling). The deletion of CTS 4.9.8.1.a, which required a flow greater than or equal to 1000 gpm at all times during a reduced inventory condition is an example of a technical specification restriction that reduces operational flexibility and

could potentially result in a loss of decay heat removal. The amount of RCS flow should be controlled administratively (consistent with the other recommended actions of GL 88-17). This is especially applicable in reduced inventory conditions when (depending on the plant conditions) a technical specification requirement (for a specified flow) could conflict with the safe operation of the plant (i.e., too much flow may result in vortexing and subsequent loss of decay heat removal capability). As it is not possible to foresee all potential plant conditions that could affect the RCS flow requirements, operational flexibility in this case will allow the plant to be operated in a safe manner consistent with any plant condition that arises. Allowing the specific flow to be controlled outside of technical specifications does not mean that there will be no flow (i.e., the applicable bases for the SR verifying RHR pump operation clearly requires that the pump be circulating coolant and that flow rate be verified). The plant operations staff are sufficiently trained and experienced to control RHR flow to assure adequate core cooling without inflexible technical specification requirements. In addition, the elimination of CTS 4.9.8.1.a does not change the requirement to maintain RCS flow at greater than or equal to 3000 gpm during planned boron dilutions (relocated to the LRM). Thus, all necessary RCS flow conditions for safe plant operation continue to be met. The BVPS ITS conversion, as all other ITS conversions in the past, revise the technical specifications pursuant to 10 CFR 50.36 and 10 CFR 50 .92. 10 CFR 50.36 contains the criteria for the content of the technical specifications and is required to be applied during a conversion to the ITS. The criteria of 10 CFR 50.36 do not include commitments as a specific item for retention in the technical specifications. Consistent with the application of the 10CFR 50.36 criteria, some requirements in the current technical specifications are deleted or relocated and some new requ rements are added. Individual justifications are provided for each relocation, deletion, and addition consistent with 10 CFR 50.52. The requirements of 10 CFR 50.92 govern changes to the technical specifications and are being applied consistent with the accepted standard and content for an ITS conversion. BVPS has benchmarked several other ITS conversions prior to drafting our conversion to ensure an adequate level of detail was included in the license amendment request and that our beyond scope items were consistent with previous acceptable ITS conversions. The content of our conversion has already been determined acceptable by the technical specification branch. Questions 1.1 and 1.2 above do not meet the accepted standard for beyond scope issues and therefore only require review by the technical specification branch for approval. The accepted standard for ITS conversions include the information provided in NEI 96-06, Improved Technical Specifications Conversion Guidance. NEI 96-06 was developed with NRC input and addresses the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations

from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted." In addition, it should be noted that prior internal NRC guidance also addressed the adoption of standard technical specifications. In the Safety Evaluation Report associated with BVPS Unit 1 Amendment No. 54 issued 7/27/82, the NRC stated the following: "NRR Office Letter No. 38 (Procedures for Revision to Technical Specifications enclosure 3, item 2) states that standard technical specifications may be used as guidance for technical specification changes requested on operating reactors but will not be used to impose new requirements. In general, this NRC guidance has been followed in previous ITS conversion approvals. 2. TSTF-21, Rev. 1 was applicable to NUREG-1431 SR 3.9.6.1 and TSTF-22, Rev. 0 was applicable to NUREG-1431 SRs 3.9.5.1 and 3.9.6.1. These ISTS SRs require a specific RCS flow rate at all times when the associated technical specification is applicable. The BVPS current technical specifications do not contain this surveillance requirement. The BVPS RCS flow requirements in the technical specifications are conditional based on reduced inventory and planned boron dilutions and do not require a specific flow be maintained at all times when the technical specification is applicable. During the normal applicability of ISTS 3.9.5 and ITS 3.9.6 (the majority of the time with no reduced inventory and no boron dilution operation) the BVPS plant staff currently control the RHR flow rate via operating procedures. This has proven adequate by more than 20 years operating experience to assure sufficient decay heat removal is maintained and is the current BVPS licensing basis for the requirements addressed by TSTF-21 and 22. In the staff's rejection of TSTF-22 it was stated that "...it should be understood that plants that do not have particular requirements in their existing technical specifications do not have to add the requirements to conform with the STS ... we would expect conversion applications to cite the licensing basis as justification for departing from the STS ...." The above discussion applies to the SRs addressed by TSTF-21 and 22. The current BVPS technical specifications have specific and different requirements than those addressed by the TSTFs. The following paragraphs address the BVPS specific requirements. The reduced inventory flow requirement in the BVPS current technical specifications (to maintain greater than or equal to 1000 gpm RCS flow) is rarely applicable. The reduced inventory configuration is

based on placing the plant in a "mid-loop" operating mode, typical used in Westinghouse plants without RCS isolation valves to access the SGs and maintain RHR in operation. For this reduced inventory condition a lower RHR flow rate is desirable due to the potential for vortexing (GL 88-17, Enclosure 1, Section 2.1.2) that introduces air into the suction of the RHR pump which could lead to a loss of the RHR pump. However, the BVPS units are equipped with RCS isolation valves and rarely enter the more sensitive condition of reduced inventory. With RCS isolation valves, the SGs can be drained without lowering the water level in the RCS loop where the RHR pump take suction. The 1000 gpm flow requirement was originally placed in the BVPS technical specifications to assure adequate decay heat removal. This value is not assumed in any design basis analysis or calculation. BVPS does not normally use the reduced inventory condition, so this flow rate requirement is rarely applicable. In addition, the BVPS plant staff control the RHR flow during normal RCS inventory conditions (i.e., the majority of the time) via procedures which has been shown by operating experience to be adequate to maintain the decay heat removal function. As such, the proposed change to delete this rarely used technical specification requirement and control the required RHR flow procedurally is acceptable considering that the RHR flow required for decay heat removal purposes is controlled procedurally for all other RCS conditions. The required RCS flow rate during planned boron dilutions remains controlled by the technical specifications (currently) and after ITS by the LRM. In some plants, the RCS flow required during shutdown modes is a specific assumption of an accident analysis (i.e., boron dilution accident). The RCS flow required in this case is necessary to assure the plant is operated within the assumptions of the applicable accident analysis as described in the UFSAR. Therefore, consistent with the criteria of 10 CFR 50.36 a techn c~~al~~specification requirement is necessary. The BVPS surveillance 4.9.8.1.b specifies that a flow rate greater than or equal to 3000 gpm be maintained prior to the start of and once per hour during a reduction in the Reactor Coolant System boron concentration. The purpose of this BVPS specific surveillance is to provide procedural guidance for operating the RHR during dilution operations. The guidance provided by surveillance 4.9.8.1.b assures adequate RCS mixing for the dilution operation to remain a controlled evolution. The requirements specified in the CTS surveillance are not part of the specific safety analysis assumptions of any design basis accident described in the UFSAR. Nor is the CTS surveillance necessary to verify the RHR loop is in operation and meeting the requirements of the LCO. The BVPS RHR flow is controlled procedurally to ensure adequate decay heat removal capability. Therefore, consistent with the criteria of 10 CFR 50.36, this requirement does not belong in the technical specifications. However, due to the need for conducting boron dilution evolutions in a controlled manner, this requirement is not being deleted, but

relocated to the BVPS Licensing Requirements Manual (LRM). The LRM contains many requirements relocated from the technical specifications, and for those requirements, the LRM is part of the BVPS UFSAR. As such, relocated technical specification requirements are controlled in accordance with 10 CFR 50.59. 3. The proposed change is based on making the ISTS consistent with the CTS. The CTS does not specify a required flow at all times during the applicability of the technical specifications as does the ISTS SRs 3.9.5.1 and 3.9.6.1. This is the current licensing basis of the BVPS units. The comparison made between the similar surveillances in Section 3.4 of the technical specifications was not intended to be the technical justification for the change. The comparison was made only because the stated purpose (in the bases) of both the Section 3.4 (e.g., ISTS SR 3.4.6.1) and the Section 3.9 SRs are similar (i.e., to verify flow and decay heat removal capability). For plants with a safety analysis for an uncontrolled boron dilution, the required RCS flow may also be an assumption (initial condition) of that analysis and be required in the technical specifications for reasons other than decay heat removal. However, BVPS does not have a safety analysis for a boron dilution accident. Instead of a boron dilution accident analysis, BVPS has technical specification requirements to maintain unborated water source valves closed. Therefore, the BVPS CTS do not have a specified flow that must be maintained at all times during the applicability of the technical specifications like the ISTS 3.9.5 and 3.9.6. The current BVPS requirements for flow are more similar to the ISTS requirements in Section 3.4 (where boron stratification is not stated in the bases as a reason for the surveillance). The staff has already addressed the issue of current licensing basis requirements being the reason to alter standard requirements. In the staff's rejection of TSTF-22 (which specifically addresses the issue of a required RHR flow in ISTS 3.9.5 and 3.9.6) it was stated that "...it should be understood that plants that do not have particular requirements in their existing technical specifications do not have to add the requirements to conform with the STS ... we would expect conversion applications to cite the licensing basis as justification for departing from the STS...." In addition, the accepted standard for ITS conversions used by plants when developing an ISTS conversion submittal, include the information provided in NEI 96-06, Improved Technical Specifications Conversion Guidance. NEI 96-06 was developed with NRC input and addresses the issue of retaining CTS requirements in lieu of adopting additional ISTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The

	licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the completeness of the ISTS, and determine if a backfit evaluation is warranted." ISTS SRs 3.9.5.1 and 3.9.6.1 impose the operating restriction to maintain a specific RHR flow at all times during the applicability of the associated technical specifications. The BVPS units have more than 20 years of operating experience successfully controlling the specific RHR flow to maintain adequate decay heat removal without the technical specification restriction of ISTS SRs 3.9.5.1 and 3.9.6.1. Based on the BVPS operating experience in this matter, the addition of a technical specification restriction similar to ISTS SRs 3.9.5.1 and 3.9.6.1 is unnecessary and will not contribute a significant safety benefit to the operation of the BVPS units.
Licensee Response by Frank Ferri on 05/11/2006	Beyond Scope Issue (BSI)-24 incorporated an NRC recommended change to TSTF-21. Approved TSTF-21, Rev. 0, incorporated a change to the LCO section of ITS 3.9.5, "RHR and Coolant Circulation – Low Water Level" Bases that provides an exception to the requirement for the RHR loop to be circulating reactor coolant. The Bases exception allows both required RHR pumps to be aligned to the RWST to support filling or draining the refueling cavity or for performance of required testing. This TSTF Bases change was incorporated into Rev. 3 of NUREG-1431. Beaver Valley Power Station (BVPS) has proposed changes to ITS 3.9.5 that are consistent with the recommendations in NRC letter (from W. D. Beckner to J. Davis (NEI) dated 4/29/99). In this letter, the NRC recommended TSTF-21, Rev.0 be revised to include an LCO exception Note in the Specification to enforce the allowance provided by the bases description. In addition, BVPS has expanded the issue addressed by TSTF-21 to include I ®3.9.4, "RHR and Coolant Circulation – High Water Level." As ITS 3.9.4 addresses a more conservative plant condition (high water level) BVPS considered the expansion of the TSTF-21 allowance to be justified. However, due to the desire to have the staff complete the review of the BVPS ITS Conversion License Amendment Request and considering the staff resources (both licensee and NRC) necessary to pursue approval of BSI-24, BVPS is withdrawing the changes proposed in BSI-24. The BVPS ITS conversion submittal will be revised such that the proposed Notes added to ITS 3.9.4 and ITS 3.9.5 in BSI-24 are deleted. The changes to the ITS conversion will include updating all supporting documentation to reflect the withdrawal of the proposed BSI-24 changes. Updating the ITS conversion documentation as described above will eliminate BSI-24.
NRC Response by Kent Wood on 05/15/2006	BVPS withdrew BSI # 24 via email on 05/11/2006. Therefore, this BSI is closed.

Date Created: 10/13/2005 02:57 PM by Kent Wood
Last Modified: 05/15/2006 11:37 AM

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On February 25, 2005 First Energy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) (Ref. 1) to revise the Current Technical Specifications (CTS) for BVPS Unit Nos. 1 and 2 to Improved Technical Specifications (ITS) consistent with the Standard Technical Specifications (STS) as described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 2 (Ref. 2), with additional changes to make the resulting BVPS ITS more consistent with Revision 3 of NUREG-1431 (Ref. 3). In addition, incorporation of Technical Specification Task Force (TSTF) changes to STS Revision 2 and Revision 3 have been requested. This LAR also includes changes to consolidate the separate Unit 1 and Unit 2 Technical Specifications into a single set of ITS applicable to both units.

Additionally the LAR is requesting changes that would result in several individual TS which are appreciably different from the STS. Changes that result in a TS which is appreciably different from the STS are considered beyond scope items (BSI) and require additional review by the NRC staff. The changes FENOC is requesting for STS 3.9.5, Residual Heat Removal (RHR) and Coolant Circulation - High Water, and 3.9.6, Residual Heat Removal (RHR) and Coolant Circulation - Low Water, would result in a TS appreciably different from the STS. (BVPS CTS 3.9.8.1, Residual Heat Removal and Coolant Circulation, is being altered and renumbered to BVPS ITS 3.9.4, Residual Heat Removal (RHR) and Coolant Circulation - High Water.)

BVPS CTS SR 4.9.8.1, states, "Verify at least one residual heat removal loop is in operation and circulating reactor coolant at: (a) A flow rate ≥ 1000 gpm twice per shift when the Reactor Coolant System is in a reduced inventory condition*. (b) A flow rate ≥ 3000 gpm prior to the start and once per hour during a reduction in the Reactor Coolant System boron concentration." The * in SR 4.9.8.1 a. refers to a footnote defining a reduced inventory condition as when the reactor coolant system water level is lower than three feet below the reactor vessel flange.

The STS, Revision 2, SR 3.9.4.1 and SR 3.9.5.1 wording is, "Verify one RHR loop is in operation and circulating reactor coolant at a flow rate of ≥ [2800] gpm."

FENOC is proposing to delete the flow rates and the phrase "circulating reactor coolant" from BVPS ITS 3.9.4 and 3.9.5. The proposed BVPS ITS SR 3.9.4.1 and SR 3.9.5.1 wording is, "Verify one RHR loop is in operation." The proposed BVPS ITS Bases wording for SR 3.9.4.1 and SR 3.9.5.1 will also be changed to be similar to the wording in 3.4 STS Bases, Revision 2.

The justification for deviation (JFD) provides three rationales for removing the specific flow rates: (1) consistency with RHR surveillances in STS 3.4, (2) consistency with CTS normal operation (no specific flow rate is specified for normal operation), and (3) as BVPS is not required to analyze for a boron dilution in Modes 4,. 5, and 6, the prescribed flow rates are not the assumption of any safety analysis. The JFD goes on to state, "The minimum RHR flow is dependent on plant conditions, such as water level, decay heat load, and component cooling water temperature. In some plant conditions (i.e., reduced inventory) maintaining a fixed high rate of flow could increase the likelihood of pump cavitation and loss of RHR cooling. The proposed change would allow some operating flexibility in determining the RHR flow at various plant conditions without adversely affecting plant safety. As such, the proposed surveillance requirement will continue to adequately verify the required RHR loop is operating and able to provide forced RCS flow for heat removal and prevent thermal and boron stratification."

In order for the NRC staff to continue their review of FENOC's request that the flow rates and the phrase "circulating reactor coolant" be deleted from BVPS ITS SR 3.9.4.1 and SR 3.9.5.1 please provide the following information.

1 With respect to the basis for the flow rates:

1.1 In BVPS Unit 1 License Amendment 195 and Unit 2 License Amendment 78, (Ref. 4) the NRC approved BVPS use of administrative controls to isolate the primary water system and prevent an unplanned boron dilution event in Modes 4, 5, and 6. These license amendments removed the Mode 4, 5, and 6, Boron Dilution events from the

BVPS licensing basis. Accordingly, the primary water system is isolated in Modes 4, 5, and 6, except for planned boron dilutions. However, inherent in ensuring a planned boron dilution does not become an unplanned boron dilution is the accuracy with which the initial boron concentration is known. Boron stratification within the RCS will cause inaccurate measurements of the boron concentration. Adequate mixing within the RCS is necessary to ensure boron stratification does not occur. A minimum flow is necessary to ensure adequate mixing. Absent accurate boron concentration measurements, the basis for the NRC's acceptance of removing the Modes 4, 5, and 6, Boron Dilution events from the BVPS licensing basis may no longer be valid. Provide evidence that the basis for the NRC's acceptance of removing the Modes 4, 5, and 6, Boron Dilution events from the BVPS licensing basis remains valid.

1.2 In BVPS Unit 1 License Amendment 148 and Unit 2 License Amendment 25, (Ref. 5) CTS SR 4.9.8.1 item a is recognized as "...consistent with the licensee's commitment in response to Generic Letter 88-17, and is thus acceptable." Provide an explanation of how removing this flow rate will affect the licensee's commitment to 88-17, identify any alternate licensing commitments. Provide an explanation for any other licensing commitments that are being affected by the BVPS conversion to ITS.

2 In rejecting TSTF-21, Revision 1, and TSTF-22, Revision 0, (Ref. 6, 7, & 8) the NRC specifically rejected the idea of licensees that have specific flow rates specified in the Mode 6 RHR Technical Specifications from deleting those flow rates. TSTF-21, Revision 0, when discussing the NRC's rejection of Revision 1 states that it is, "...rejected based on the staff position that those specifications that currently contain a flow rate should retain them." Given this NRC staff position and the licensee's lack of discussion of the previous two items in the initial submital, the NRC staff is unwilling to remove the specific flow rates without a full understanding of the basis for those numbers. In order for the NRC staff to continue their review of this item the licensee must provide a full description of the basis for the specific flow rates and how the requirements to fulfil will be met going forward.

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3 To use one TS to justify the change to another, care must be taken to ensure the comparison is made in context, especially when TS are applicable in different modes. Provide an evaluation of the differences inherent in the 3.4 and 3.9 STS as applicable to the RHR technical specifications and surveillance requirement. The evaluation should include the differences in equipment availability, defense in depth, and plant operation.

REFERENCES

4. First Energy Nuclear Operating Company (FENOC), letter L-05-027 dated February 25, 2005 from James H. Lash, Director Site Operations USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 296 and 169

5. NUREG 1431, Standard Technical Specifications Westinghouse Plants. Revision 2

6. NUREG 1431, Standard Technical Specifications Westinghouse Plants. Revision 3

7. Letter from Donald S. Brinkman to Mr. J. E. Cross, Senior Vice President and Chief Nuclear Officer, Nuclear Power Division, Duquesne Light Company, Beaver Valley Power Station, Unit Nos. 1 and 2 (TAC NOS. M92938 and M92939) dated February 12, 1996. (BVPS U1 & U2 license amendments 195 and 78, respectively)

8. Letter from Peter S. Tam (NRC) to Mr. J. D. Sieber, Vice President, Nuclear Group, Duquesne Light Company, - Beaver Valley Units 1 and 2 - Issuance of Amendments (TAC NOS. 73737 and 73738) dated January 3, 1990. (BVPS U1 & U2 license amendments 148 and 25,

respectively)

9. TSFT-21-A, Make RHR - Low Water Level Surveillances Consistent Between PWR NUREGs, Revision 0, September 16, 1996.

10. Letter from Mr. William D. Beckner, NRC, to Mr. James Davis, Nuclear Engergy Institute, April 29, 1999, re: Retraction of NRC approval of TSFT-21 Revision 1.

11. TSFT-22, Bracket the flow rate requirement in the RHR SR as some plants do not assume a specific flow rate, September 16, 1996.

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200510131503		Conference Call Requested? No	
Category	Major Technical			
ITS Information	ITS Section: 3.9 ITS Number: BSI 24	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Kent Wood			
Comment	See Attached File			
Issue Date	10/13/2005			

Close Date	05/15/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Frank Ferri on 12/27/2005	1. The application of the Notes in question is governed by the plant specific need for each note and the need to manage shutdown safety. Each of the Notes is used for specific tasks that are typically not performed at the same time. The note providing the one hour allowance is used for activities such as core mapping or alterations in the vicinity of the reactor vessel hot leg nozzles and RCS to RHR isolation valve testing. The note providing the four hour exception is used solely for the purpose of ultrasonic inservice inspection inside the reactor vessel nozzles. The tasks associated with each Note would typically not be performed concurrently. In addition, the setup and cleanup times associated with the ultrasonic inservice inspection task would make it unlikely that this task would be performed consecutively with core alterations or core mapping in the same 8 hour period. However, the overriding importance to maintain shutdown safety would also govern activities such as removing the required RHR pump from service. The time to boil and RCS temperature are important factors in maintaining shutdown safety. The time to boil and RCS temperature are routinely monitored during plant shutdowns. If RCS temperature increased significantly beyond the normal Mode 6 parameters, prompt action would be taken to restore adequate

cooling. The application of the two notes in question would not prevent the RHR pumps from being used to cool the reactor if necessary. The RHR flow could be expeditiously restored by starting an RHR pump to cool the core. The time to boil (i.e., with no cooling) is primarily a function of the core load (cycle specific), the time the reactor has been shutdown, and the RCS water inventory. In order to maintain adequate shutdown safety, the time to boil and the RCS temperature would be considered in any evolution affecting the ability to cool the core. During the applicability of ITS 3.9.4 (High Water Level) there is a minimum of 23 feet of water above the reactor vessel flange. The minimum time for core offload (i.e., to start refueling operations) is 100 hours after reactor shutdown. Typically, refueling operations (including the tasks associated with the subject notes) start at least one day later than 100 hours after shutdown). It should be noted that, the decay heat load decreases rapidly with time after the reactor is shutdown. Under the conservative conditions of 23 feet of water above reactor vessel flange and 100 hours after reactor shutdown the margin to boiling the RCS would be approximately 6 hours. Although there is enough time to utilize the two notes consecutively under these conditions without boiling the RCS, it is highly unlikely such an operation and resulting RCS temperature rise would be permitted. Refueling operations require personnel to be in the vicinity of the reactor cavity (to manipulate fuel and cameras, perform inspections, etc.). Due to personnel safety, elevated RCS temperatures would prevent or delay refueling operations. Therefore maintaining the RCS temperature low during refueling operations is a schedule and safety priority. The BVPS notes in question allow the RHR loop, required to be operating, to be removed from service. One note allows the RHR loop to be removed from service for up to one hour per 8 hour period and the other note allows the RHR loop to be removed from service for up to four hours per 8 hour period. These notes exist in the current BVPS technical specifications and are the current BVPS licensing basis for the RHR in Section 3.9 of the technical specifications. As such, the retention of these previously NRC approved notes in the BVPS ITS is not a beyond scope issue. NEI 96-06, Improved Technical Specifications Conversion Guidance, which was developed with NRC input, addressed the issue of retaining CTS requirements. In Section 2.7, Deviations from the Applicable ISTS, of NEI 96-06 it is stated that each ITS will require some degree of customization. The NEI document gives some examples of how the ISTS may be customized. One of the examples given for customizing the ISTS is a plant's current licensing basis (CLB) which justifies retaining CTS requirements. In Section 2.7.2, the NEI document is more specific and states the following: "The licensee may decide not to adopt certain ISTS provisions because conformance with the ISTS would constitute an unwarranted backfit to existing license requirements. For these changes, the NRC may consider whether plant-specific provisions affect the

completeness of the ISTS, and determine if a backfit evaluation is warranted." BVPS has more than 20 years operating experience with the exceptions provided by the two CTS notes without a specific requirement to preclude the application of these notes concurrently or consecutively in the same 8 hour period. Considering the amount of time BVPS has successfully operated with the existing notes, there would appear to be no significant safety benefit to justify adding a technical specification restriction regarding the use of these notes. 2. There are no design basis accident analyses associated with RHR operation in Mode 6. The design cooling capacity of one RHR loop is sufficient to maintain adequate core cooling. The technical specifications assure that the RHR loops are operable when required. Nothing in any of the notes in question prevents the RHR loops from being used to cool the reactor when necessary. The notes only provide an allowance to intermittently interrupt RHR core cooling flow for specific tasks. The notes do not prevent the plant staff from monitoring RCS temperature and redirecting or increasing RHR core cooling as necessary to maintain the plant in a safe shutdown condition. The availability of the RHR loops is also controlled by the shutdown safety procedures which provide additional assurance that the core is maintained in a safe condition. The interaction of the notes allowing the RHR Loops to be removed from service for one and four hours is discussed in response to question 1 above. The new note being added that would allow the operating RHR loop to be used to drain down the reactor cavity does not affect the other notes and can not be applied at the same time as the other notes. The reactor cavity drain down to the RWST is normally commenced at the end of refueling operations (i.e., the least amount of decay heat present). The draining of the reactor cavity is not normally started until refueling operations (other than head installation) are complete (including the tasks for which the other two notes are required). There is not a large difference between the Tech Spec Applicability of more than 23 feet and less than 23 feet. Except that most refueling operations are only permitted during the Applicability of greater than 23 feet of water. Due to the relatively short time to reach less than 23 feet of water, tasks requiring 23 feet of water (i.e., refueling operations and tasks associated with the notes) are not performed during the Tech Spec Applicability transition from greater than 23 feet to less than 23 feet of water. The cavity level is typically reduced to less than 23 feet within one hour after the Mode transition drain down is started. As such, the first two Notes effectively become not applicable during the transition from high water level into the low water level Mode of operation. In addition, if for any reason RHR core cooling is required during a drain down, the RHR flow can be re-aligned to cool the core. Nothing in the proposed note prevents the plant staff from re-aligning the RHR system as necessary to cool the core. However, the transition time from greater than 23 feet to less than 23 feet is short and two RHR loops are required operable prior to

the mode change to less than 23 feet of water. Therefore, a second RHR pump will be available prior to the transition to less than 23 feet of water. In addition, it should be noted that after refueling operations there is a minimum decay heat load. Typically during a post refueling startup, the reactor coolant pumps must be run to add heat in order to increase the RCS temperature to the minimum temperature for criticality. Therefore, following a normal refueling, a significantly reduced level of RHR cooling is required. As such, there is no adverse synergy with the other notes that need be analyzed. 3. The proposed BSI added an LCO note to complement the Bases discussion provided by TSTF-21. TSTF-21 provided a Bases allowance for both RHR pumps required operable by BVPS ITS 3.9.5 (RHR low Water Level) to be aligned to the RWST to support filling and draining the refueling cavity. The reason for the proposed LCO note (i.e., BSI 24) was due to the fact that TSTF-21 did not provide an LCO exception that corresponded to the exception discussed in the bases. In order to use the TSTF Bases provision to align both pumps to the RWST, an LCO exception is required for the RHR pump that must be aligned to circulate reactor coolant. BVPS ITS (as well as the corresponding ISTS) bases for SR 3.9.5.1 specifies that the RHR pump in operation must be circulating reactor coolant. Thus the bases addition provided by TSTF-21 conflicts with the SR bases applicable to the operating pump. As there are no LCO or SR alignment or operating requirements for the second RHR pump required operable, no LCO exception is required to use that operable pump to fill or drain the RWST. Therefore, the proposed LCO note in the BVPS ITS applies only to the operating RHR pump with specific alignment requirements specified in the applicable SR. The proposed change does not affect the TSTF Bases provision for both RHR pumps to be used for fill or drain operations. The proposed Note only provides a necessary LCO exception to allow both pumps to be used a@stated in the bases provision added by TSTF-21. 4. There are no analyses required to support RHR operation in Mode 6. The RHR system is simply designed to remove the required heat load. Operating experience over more than 20 years has proven the design and operation of the BVPS RHR system to be adequate for the intended purpose (even with the two notes that are part of the current licensing basis). The proposed Note regarding the use of the RHR loop for reactor cavity drain down does not change the RHR design nor does it prevent the RHR from being used for the intended purpose of decay heat removal. How the notes are used and the relationship between the Notes is also described in the responses to Questions 1-3 above. In addition to the discussions provided in response to questions 1-3, it should be considered that the 3 notes only apply during the high water level mode of operation. During the high water level Tech Spec Applicability only one RHR pump is required operable and in operation. The other RHR pump may or may not be available. When Note 3 is applied to drain down the

	cavity from the high water level to the low water level, the activities permitted by Notes 1 and 2 would not be applied because as discussed above the water level Applicability transition only takes a short time and once the level is less than 23 feet the notes are no longer applicable. Therefore, the activities requiring the exceptions provided by the notes are completed prior to reducing the cavity level to less than 23 feet. In addition, the application of either Note 1 or 2 to stop all RHR pumps during a drain down would be counterproductive to draining the cavity (i.e., the drain down would be stopped). Additionally, applying Note 2 with Note 3 would not be done since the upper internals are installed prior to the Tech Spec Applicability transition from high water level to low water level. As such, once the upper internals are installed, access to the reactor vessel nozzles is blocked and the nozzle inspections permitted by Note 2 would not be possible. Therefore, considering the responses provided for questions 1-3 above and the response to this question, there are no synergistic effects between these Notes that need to be evaluated.
Licensee Response by Frank Ferri on 05/11/2006	Beyond Scope Issue (BSI)-24 incorporated an NRC recommended change to TSTF-21. Approved TSTF-21, Rev. 0, incorporated a change to the LCO section of ITS 3.9.5, "RHR and Coolant Circulation – Low Water Level" Bases that provides an exception to the requirement for the RHR loop to be circulating reactor coolant. The Bases exception allows both required RHR pumps to be aligned to the RWST to support filling or draining the refueling cavity or for performance of required testing. This TSTF Bases change was incorporated into Rev. 3 of NUREG-1431. Beaver Valley Power Station (BVPS) has proposed changes to ITS 3.9.5 that are consistent with the recommendations in NRC letter (from W. D. Beckner to J. Davis (NEI) dated 4/29/99). In this letter, the NRC recommended TSTF-21, Rev.0 be revised to include an LCO exception Note in the Specification to enforce the allowance provided by the bases description. In addition, BVPS has expanded the issue addressed by TSTF-21 to include ITS 3.9.4, "RHR and Coolant Circulation – High Water Level." As ITS 3.9.4 addresses a more conservative plant condition (high water level) BVPS considered the expansion of the TSTF-21 allowance to be justified. However, due to the desire to have the staff complete the review of the BVPS ITS Conversion License Amendment Request and considering the staff resources (both licensee and NRC) necessary to pursue approval of BSI-24, BVPS is withdrawing the changes proposed in BSI-24. The BVPS ITS conversion submittal will be revised such that the proposed Notes added to ITS 3.9.4 and ITS 3.9.5 in BSI-24 are deleted. The changes to the ITS conversion will include updating all supporting documentation to reflect the withdrawal of the proposed BSI-24 changes. Updating the ITS conversion documentation as described above will eliminate BSI-24.
NRC Response by Kent Wood on 05/15/2006	BVPS withdrew BSI # 24 via email on 05/11/2006. Therefore, this BSI is closed.

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3.9.4 Q4.wpd

On February 25, 2005 First Energy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) (Ref. 1) to revise the Current Technical Specifications (CTS) for BVPS Unit Nos. 1 and 2 to Improved Technical Specifications (ITS) consistent with the Standard Technical Specifications (STS) as described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 2 (Ref. 2), with additional changes to make the resulting BVPS ITS more consistent with Revision 3 of NUREG-1431 (Ref. 3). In addition, incorporation of Technical Specification Task Force (TSTF) changes to STS Revision 2 and Revision 3 have been requested. This LAR also includes changes to consolidate the separate Unit 1 and Unit 2 Technical Specifications into a single set of ITS applicable to both units.

Additionally the LAR is requesting changes that would result in several individual TS which are appreciably different from the STS. Changes that result in a TS which is appreciably different from the STS are considered beyond scope items (BSI) and require additional review by the NRC staff. The changes FENOC is requesting for STS 3.9.5, Residual Heat Removal (RHR) and Coolant Circulation - High Water, and 3.9.6, Residual Heat Removal (RHR) and Coolant Circulation - Low Water, would result in a TS appreciably different from the STS. (BVPS CTS 3.9.8.1, Residual Heat Removal and Coolant Circulation, is being altered and renumbered to BVPS ITS 3.9.4, Residual Heat Removal (RHR) and Coolant Circulation - High Water.)

FENOC is requesting a note be added to the BVPS ITS 3.9.4 and 3.9.5 LCOs that states, "The RHR loop required to be in operation may be removed from operation to support draining of the reactor cavity when aligned to, and during realignment to and from, the refueling water storage tank provided the required RHR loop is capable of being realigned to the RCS." Supporting text is also proposed for the ITS Bases.

The justification for deviation cites TSTF-21 Revision 0 (Ref. 4) and the NRC's rejection of TSTF-21 Revision 1 (Ref. 5) as the rationale for both BVPS ITS 3.9.4 and 3.9.5 LCO notes, although TSTF-21 only explicitly addresses the Residual Heat Removal (RHR) and Coolant Circulation - Low Water STS (BVPS ITS 3.9.5) condition. TSTF-21, Revision 0, approved adding a paragraph to the STS Bases for Residual Heat Removal (RHR) and Coolant Circulation - Low Water which allowed both RHR pumps to be aligned to the Refueling Water Storage Tank (RWST) to support filling or draining the refueling cavity or for performance of required testing. Ref. 5 recommended a LCO note as well as the STS Bases change. The recommendation from Ref. 5 was not incorporated into TSTF-21 or the STS.

At first blush it seems reasonable that if both RHR pumps can be used to drain the reactor cavity in the low water condition, then both RHR pumps can be used to drain the reactor cavity in the high water condition. To use one TS to justify the change to another, care must be taken to ensure the comparison is made in context. Two items that must be addressed are the other BVPS ITS 3.9.4 LCO notes. One would allow the required RHR loop to be removed from operation for ≤1 hour per 8 hour period. The other would allow the required RHR loop to be removed from operation for ≤4 hours per 8 hour period.

In order for the NRC staff to continue their review of FENOC's request to add a note to BVPS ITS 3.9.4, Residual Heat Removal (RHR) and Coolant Circulation - High Water Level that would allow the RHR loop required to be in operation to be removed from operation to support draining of the reactor cavity when aligned to, and during realignment to and from, the refueling water storage tank provided the required RHR loop is capable of being realigned to the RCS please provide the following information:

1. Describe the BVPS controls that prevent the LCO exception that allows the required RHR loop to be removed from operation for ≤1 hour per 8 hour period and the LCO exception that allows the required RHR loop to be removed from operation for≤4 hours per 8 hour period from being invoked during the same 8 hour period or consecutively.

2. Describe the analysis which shows the RHR requirements continue to be met with the worst case synergistic effects of the three BVPS ITS 3.9.4 LCO exceptions. Include all inputs, assumptions, limitations, and results of that analysis. Identify any controls necessary to ensure the analysis remains bounding.

In order for the NRC staff to continue their review of FENOC's request to add a note to BVPS ITS 3.9.5, Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level that would allow the RHR loop required to be in operation to be removed from operation to support draining of the reactor cavity when aligned to, and during realignment to and from, the refueling water storage tank provided the required RHR loop is capable of being realigned to the RCS please provide the following information:

3. BVPS ITS 3.9.5, Residual Heat Removal (RHR) and Coolant Circulation - Low Water Level requires one RHR pump to be operable and in operation with the other RHR pump must be operable and in a standby condition. TSTF-21 Revision 0 allows both RHR pumps to be used to drain the reactor cavity, but the note FENOC is requesting be added to the BVPS ITS 3.9.5 only allows one RHR pump to be used, and that pump is the RHR pump required to be operable and in operation. Please explain the rationale for using the RHR pump required to be operable and in operation rather than the RHR pump which must be operable and in a standby condition.

4. BVPS ITS 3.9.5 and BVPS ITS 3.9.4 are related and the station can reasonably be expected to transition from one to the other. It is possible conditions acceptable under one would be unacceptable under the other. It is presumed the transition from the High Water Level TS to the Low Water Level TS would be limiting. Therefore, describe the analysis which shows the RHR requirements continue to be met with the worst case synergistic effects of the three BVPS ITS 3.9.4 LCO exceptions. Include all inputs, assumptions, limitations, and results of that analysis.

REFERENCES

5. First Energy Nuclear Operating Company (FENOC), letter L-05-027 dated February 25, 2005 from James H. Lash, Director Site Operations USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 296 and 169

6. NUREG 1431, Standard Technical Specifications Westinghouse Plants. Revision 2

7. NUREG 14©Ç Standard Technical Specifications Westinghouse Plants. Revision 3

8. TSFT-21-A, Make RHR - Low Water Level Surveillances Consistent Between PWR NUREGs, Revision 0, September 16, 1996.

9. Letter from Mr. William D. Beckner, NRC, to Mr. James Davis, Nuclear Engergy Institute, April 29, 1999, re: Retraction of NRC approval of TSFT-21 Revision 1.

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200510131504**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** 3.9	**DOC Number:** None	**JFD Number:** None	**Page Number(s):**
	ITS Number: BSI 24		**Bases JFD Number:** None	
NRC Owner	**Kent Wood**			
Comment	**See Attached File**			
Issue Date	**10/13/2005**			

Close Date	**05/15/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 12/06/2005	1. TSTF-265, Revision 2 included changes for the standby pump SRs in Section 3.4 but did not include the Mode 6 surveillance for verification of the RHR standby pump (BVPS ITS 3.9.5.2). This issue is addressed by BVPS ITS conversion BSI # 11. The question is to justify this extension of the TSTF-265 change to the Mode 6 SR based on the differences between the Section 3.4 and Mode 6 plant conditions and equipment availability. However, the basis of the change introduced by TSTF-265 is Mode and plant condition independent. The changes proposed in TSTF dealt with the administration of the required documentation for the affected SRs (i.e., how a standby pump may be verified operable when it is removed from service and the SR is immediately due). The changes proposed in the TSTF were based on the administrative need to document the SR for compliance purposes and do not affect the operability requirements, capacity, capability, availability, or design of any equipment involved and therefore is unrelated to plant conditions. A pump removed from service is not inoperable or unavailable for service just because it was turned off and the standby SR verification was not performed. In the words of the NRC reviewer of TSTF-265 Revision 2, "Removing it [the pump] from operation has not made it inoperable. There are no

criteria of this SR that would be failed with regard to the "not met" issue. The intent should be only to allow a day (24 hours) to document the correct line-ups (i.e., perform the SR)". As such, the intent of TSTF-265 is clearly to provide time for documentation of the SR and considered that the pump remained operable at the time it was removed from service. Allowing the time to perform the necessary paper work to document an operable pump in accordance with the SR does not affect the status of any plant equipment (and is in fact unnecessary because in this case the status of the pump just removed from operation is known to be operable) but is a necessary administrative function to comply with the requirements of the technical specifications. Again, the requirement to document an SR is independent of plant conditions or Modes and is required for all SRs under the rules of the technical specifications. The Mode 6 SR is intended to accomplish the same standby pump verification as the other similar SRs in Section 3.4 and the same documentation is required. In addition, the condition of the pump removed from service in Mode 6 is the same as in other Modes (i.e., its status is known and its SR is due immediately). However, the allowance to accomplish this documentation required to meet the SR after a pump is removed from service is not provided in the Mode 6 SR. In addition, it should be noted that the BVPS current technical specifications do not contain any requirements to verify the standby RHR pump is operable in Mode 6. BVPS is voluntarily accepting this more restrictive change to its Mode 6 technical specifications and is only requesting that the Mode 6 requirement be made consistent with the similar requirements modified by TSTF-265. Without the proposed change the plant would be forced to enter an immediate required action for an inoperable pump whenever the RHR pumps are swapped and BVPS ITS 3.9.5 is applicable. Considering that the affected pump removed from operation is not inoperable, placing the plant in this situation is not warranted. One of the reasons for TSTF-265 was to avoid placing a plant in a situation where an immediate action entry was required. Plant safety is not adversely affected by the proposed change. The change is necessary only to avoid a compliance issue and forced action entry due to an administrative inconsistency in the technical specifications. It should be noted that the NRC has previously approved the extension of the TSTF-265 Note to the Mode 6 surveillance (ISTS SR 3.9.6.2) in both the North Anna and D.C. Cook ITS conversions. The justification provided by these plants relied on maintaining consistency with the changes introduced by TSTF-265 for other similar surveillances. North Anna ITS conversion in Amendment Nos. 231 (Unit 1) and 212 (Unit 2) issued April 5, 2002 (TAC Nos. MB0799 & MB0800). D.C. Cook ITS conversion Amendment Nos. 287 (Unit 1) and 269 (Unit 2) issued June 1, 2005 (TAC Nos. MC2629, MC2630, MC2653 through MC2687, MC2690 through MC2695, MC3152 through MC3157, MC3432 through MC3453). In accordance with the

	response to question 2 below, BVPS will agree to revise the ITS conversion submittal documentation to incorporate the ISTS Note requiring the SR to be performed within 24 hours for pumps removed from operation in BVPS ITS 3.9.5.2. All required conversion documentation will be updated for this BVPS SR Note to conform to the NUREG-1431 version of the SR Note. This change will reduce the scope of BSI # 11. However, based on the NRC's prior approval of this change in the previous two NUREG 1431 ISTS Conversion amendments, BVPS requests that the NRC staff not require Beaver Valley to initiate a TSTF to revise NUREG 1431 to reflect this proposed change. Beaver Valley could not locate any evidence that the previous two plants were required to process a TSTF in order to obtain NRC approval of this change. 2. In the BVPS ITS Conversion documentation a change was proposed to eliminate the 24 hour Note added by TSTF-265 to the SRs that verify standby pump status. The Note required the SR to be performed within 24 hours after a required pump is not in operation. The BVPS proposed change was based on the fact that the status of the pump was known to be operable at the time it was removed from service (as discussed by the NRC reviewer in TSTF-265). Considering that the status of a pump removed from service is known to be operable, the additional 24 hour SR performance proposed in TSTF-265 is an unnecessary distraction for the plant staff that provides no additional safety benefit. The BVPS ITS conversion documentation proposed that the normal SR frequency of 7 days should be allowed for a pump removed from service. The changes proposed to the affected SRs are addressed in BVPS ITS conversion BSI #s 7-11. However, considering the staff resources (both licensee and NRC) necessary to address additional questions regarding this issue, BVPS will no longer pursue the change to the 24 hour Note in the affected SRs at this time. The BVPS ITS conversion submittal will be revised such that the Notes in the SRs affected by BSIs 7-11 are made to conform to the NUREG-1431 version of the 24 hour Note. Therefore the affected surveillance notes will be restored to the standard NUREG-1431 text. This change to the BVPS ITS conversion documentation will completely eliminate BSI #s 7-10 (as the difference from the standard Note text was the only reason for these BSIs). In addition, the conformance to the standard note text will reduce the scope of BSI # 11. BSI # 11 (discussed in response to question 1 above) will continue to propose a change that adds the NUREG-1431 24 hour Note to BVPS ITS SR 3.9.5.2.
Licensee Response by Frank Ferri on 05/11/2006	Beyond Scope Issue (BSI)-24 incorporated an NRC recommended change to TSTF-21. Approved TSTF-21, Rev. 0, incorporated a change to the LCO section of ITS 3.9.5, "RHR and Coolant Circulation – Low Water Level" Bases that provides an exception to the requirement for the RHR loop to be circulating reactor coolant. The Bases exception allows both required RHR pumps to be aligned to the RWST to support filling or draining the refueling cavity or for performance of required testing. This TSTF Bases

	change was incorporated into Rev. 3 of NUREG-1431. Beaver Valley Power Station (BVPS) has proposed changes to ITS 3.9.5 that are consistent with the recommendations in NRC letter (from W. D. Beckner to J. Davis (NEI) dated 4/29/99). In this letter, the NRC recommended TSTF-21, Rev.0 be revised to include an LCO exception Note in the Specification to enforce the allowance provided by the bases description. In addition, BVPS has expanded the issue addressed by TSTF-21 to include ITS 3.9.4, "RHR and Coolant Circulation – High Water Level." As ITS 3.9.4 addresses a more conservative plant condition (high water level) BVPS considered the expansion of the TSTF-21 allowance to be justified. However, due to the desire to have the staff complete the review of the BVPS ITS Conversion License Amendment Request and considering the staff resources (both licensee and NRC) necessary to pursue approval of BSI-24, BVPS is withdrawing the changes proposed in BSI-24. The BVPS ITS conversion submittal will be revised such that the proposed Notes added to ITS 3.9.4 and ITS 3.9.5 in BSI-24 are deleted. The changes to the ITS conversion will include updating all supporting documentation to reflect the withdrawal of the proposed BSI-24 changes. Updating the ITS conversion documentation as described above will eliminate BSI-24.
NRC Response by Kent Wood on 05/15/2006	BVPS withdrew BSI # 24 via email on 05/11/2006. Therefore, this BSI is closed.

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3.9.4 Q5.wpd

On February 25, 2005 First Energy Nuclear Operating Company (FENOC) submitted a license amendment request (LAR) (Ref. 1) to revise the Current Technical Specifications (CTS) for BVPS Unit Nos. 1 and 2 to Improved Technical Specifications (ITS) consistent with the Standard Technical Specifications (STS) as described in NUREG-1431, "Standard Technical Specifications - Westinghouse Plants," Revision 2 (Ref. 2), with additional changes to make the resulting BVPS ITS more consistent with Revision 3 of NUREG-1431 (Ref. 3). In addition, incorporation of Technical Specification Task Force (TSTF) changes to STS Revision 2 and Revision 3 have been requested. This LAR also includes changes to consolidate the separate Unit 1 and Unit 2 Technical Specifications into a single set of ITS applicable to both units.

Additionally the LAR is requesting changes that would result in several individual TS which are appreciably different from the STS. Changes that result in a TS which is appreciably different from the STS are considered beyond scope items (BSI) and require additional review by the NRC staff. The changes FENOC is requesting for STS 3.9.5, Residual Heat Removal (RHR) and Coolant Circulation - High Water, and 3.9.6, Residual Heat Removal (RHR) and Coolant Circulation - Low Water, would result in a TS appreciably different from the STS. (BVPS CTS 3.9.8.1, Residual Heat Removal and Coolant Circulation, is being altered and renumbered to BVPS ITS 3.9.4, Residual Heat Removal (RHR) and Coolant Circulation - High Water.)

STS SR 3.9.6.2 states, "Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation." The frequency is 7 days.

FENOC is requesting a SR with the same wording and frequency, but with a note that states, "Not required to be performed until 7 days after a required pump is removed from service."

The justification for deviation cites TSTF-265, Revision 2, and NUREG-1366 (Ref. 5) as the rationale for this request.

TSTF-265, Revision 2, did not include the Mode 6 RHR TS. It did include the Mode 3, 4, and 5 TS which have a SR to verify breaker alignment and power availability to pumps required to be operable. The wording on those SRs is different in that they are applicable to all required pumps whether they are operating or not. TSTF-265, Revision 2, revised those SRs to clarify that the surveillance is applicable to each required pump regardless of its operating status since both pumps may be operating. Additionally, a Note was added to state that the SR is not required to be met until 24 hours after a required pump is not in operation. Additionally, the STS Bases were revised to indicate that if a pump is verified to be in operation, this is also sufficient to verify the correct breaker alignment and indicated power availability. Prior to TSTF-265, the SR was considered not met as soon as an operating pump was removed from service requiring entering an Action statement with an Immediate completion time. FENOC is requesting the rationale behind TSTF-265 allowing the SR not be required to be met until 24 hours after a required pump is not in operation be extended to the Mode 6 RHR TS, and that the 24 hours be lengthened to 7 days. TSTF-265, Revision 2, represents a consensus between the nuclear industry and the NRC, and significant deviations must be fully explored.

NUREG-1366 is quoted out of context. NUREG-1366 is not a "...comprehensive examination of all TS surveillance requirements to identify those that should be improved." Rather NUREG-1366 was a limited scope evaluation of TS SRs that met four screening criteria. After meeting the screening criteria the TS SR was subjected to an evaluation process that focused on six areas. Only after completing the evaluation process did NUREG-1366 make a recommendation. Often that recommendation was for a relaxation in the SR. However, NUREG-1366 also made recommendations for no change, further study, and an increase in SRs. Claiming that a SR meets one screening criteria or evaluation area as justification for a TS SR change without addressing the entire evaluation process is quoting NUREG-1366 out of context. Additionally, when considering section 3.9 SRs NUREG-1366 found no issues and made no recommendations.

Considering the results of NUREG-1366 and the results and vintage of TSTF-265, Revision 2, it is not obvious to the NRC staff that this SR represents an unnecessary burden.

In order for the NRC staff to continue their review of FENOC's request that TSTF-265, Revision 2, be extended to BVPS ITS SR 3.9.5.2 and that a note be added to the BVPS ITS SR 3.9.5.2 that states, "Not

required to be performed until 7 days after a required pump is removed from service." please provide the following information.

1. TSTF-265, Revision 2, did not include the Mode 6 RHR TS. Provide a justification for extending TSTF-265, Revision 2, to the Mode 6 RHR TS that includes the different plant status, operating conditions, and equipment availability for the modes for which TSTF-265, Revision 2, is currently applicable and Mode 6.

   a. Submit a revision to TSTF-265, Revision 2.

2. TSTF-265, Revision 2, allows 24 hours from the time a pump is removed from operation until the breaker alignment and power availability must be verified. Increasing the duration to 7 days is a significant change. Provide objective evidence that requiring the breaker alignment and power availability to be verified within 24 hours meets the screening criteria of NUREG-1366. Provide the NUREG-1366 evaluation that justifies the change.

   a. Submit a revision to TSTF-265, Revision 2.

   b. FENOC is also requesting this extension from 24 hours to 7 days be applied to all applications of the TSTF-265, Revision 2. Provide objective evidence that requiring the breaker alignment and power availability to be verified within 24 hours meets the screening criteria of NUREG-1366 and the NUREG-1366 evaluation that justifies the change for those items as well.

REFERENCES

3. First Energy Nuclear Operating Company (FENOC), letter L-05-027 dated February 25, 2005 from James H. Lash, Director Site Operations USNRC, re: Beaver Valley Power Station, Unit No. 1 and No . 2, BV-1 Docket No. 50-334, License No. DPR-66, BV-2 Docket No. 50-412, License No. NPF-73, License Amendment Request Nos. 296 and 169

4. NUREG 1431, Standard Technical Specifications Westinghouse Plants. Revision 2

5. NUREG 1431, Standard Technical Specifications Westinghouse Plants. Revision 3

6. TSTF-265-A, Clarify 3.4 "non-operating loop" SRs, Revision 2

7. NUREG-1366, Improvements to Technical Specification Surveillance Requirements

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200506101351		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 3.9 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I have completed my review of 3.9.			
Issue Date	06/10/2005			

Close Date	06/10/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.

Date Created: 06/10/2005 01:51 PM by Pete Hearn
Last Modified: 06/10/2005 01:53 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200506101352		Conference Call Requested? No	
Category	Discussion			
ITS Information	ITS Section: 4.0 ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Pete Hearn			
Comment	I have completed my review of 4.0.			
Issue Date	06/10/2005			

Close Date	06/10/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.
Licensee Response by Anthony Dometrovich on 06/10/2005	Understand that you have completed your review.

Date Created: 06/10/2005 01:52 PM by Pete Hearn
Last Modified: 06/10/2005 01:54 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200506290940		Conference Call Requested? **No**	
Category	**Discussion**			
ITS Information	**ITS Section:** 5.0 **ITS Number:** None	**DOC Number:** None	**JFD Number:** None **Bases JFD Number:** None	**Page Number(s):**
NRC Owner	**Pete Hearn**			
Comment	**I have completed my review of 5.0.**			
Issue Date	**06/29/2005**			

Close Date	**06/29/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/30/2005	Review completion acknowledged. Thank you.

Date Created: 06/29/2005 09:40 AM by Pete Hearn
Last Modified: 06/29/2005 09:44 AM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200601181625		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: None ITS Number: BSI 23	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Jay Lee			
Comment	The staff has completed its reviewed of BSI - 23 (Containment Purge & Exhaust System - SR 3.9.3.c.2) and found the proposed TS changes to be acceptable. BSI -23 is closed.			
Issue Date	01/18/2006			

Close Date	01/18/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/18/2006 04:25 PM by Jay Lee
Last Modified: 01/18/2006 04:25 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200601201226**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** **None**	**DOC Number:** **None**	**JFD Number:** **None**	**Page Number(s):**
	ITS Number: **BSI 25**		**Bases JFD Number:** **None**	
NRC Owner	**Charles Hammer**			
Comment	**By letter dated February 21, 2005, First Energy Nuclear Operating Company (the licensee) submitted a proposed Improved Technical Specification (ITS) for Beaver Valley Power Station, Units 1 and 2. The proposed ITS includes some changes which are beyond the scope of the Improved Standard Technical Specifications (ISTS) documented in NUREG-1431, Revision 3. One of these beyond-scope items is identified as BSI-25, which involves a change to the applicable surveillance intervals listed in the Current Technical Specifications (CTS), for which the 1.25 factor provided in Surveillance Requirement (SR) 3.0.2 would apply. Specifically, the licensee proposes that provisions of SR 3.0.2 be applicable to, not only the intervals listed in the ISTS 5.5.8 table, but to ?other normal and accelerated Frequencies specified in the Inservice Testing Program? for performing inservice testing (IST) activities. The licensee?s proposed addition to ISTS 5.5.8.b stating ?and other normal and accelerated frequencies specified in the Inservice Testing Program? would apply the 25% time extension provided for in SR 3.0.2 to intervals exceeding 2 years, which are unacceptably long additional time extensions. As stated in NUREG-1482, Revision 1, Section 3.1.3 regarding scheduling of inservice tests, licensees should not extend the test intervals to safety and relief valves defined in Appendix I of the ASME Operations and Maintenance (OM) Code, other than to coincide with a refueling outage. Safety and relief valves are tested at refueling outages at no more than every 5-years for ASME Class 1 valves and at no more than every 10-years for ASME Class 2 and 3 valves. Other examples of components which may also be tested at intervals greater than 2 years are piping dynamic restraints and check valves. An additional period of 25% of these intervals is an inordinately long time period compared to the time for a next available refueling outage. A 5-year or a 10-year period of time already spans more than one fuel cycle, presenting more than one opportunity to accomplish the necessary testing, without any extension at all. For this reason the table in ISTS 5.5.8 is necessarily specific in terms of specific time periods, and is limited to no more than 2-years. Therefore, the licensee?s proposal is unacceptable as currently proposed and would need**			

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	to be revised to allow testing periods no greater than 2 years to be acceptable.
Issue Date	**01/20/2006**

Close Date	**03/09/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 02/03/2006	The proposed change to the ISTS 5.5.8.b, Inservice Testing Program (BVPS ITS 5.5.4.b) revises the provision regarding the frequency extension of ITS SR 3.0.2 such that the 25% extension would be applicable to all Inservice Testing Program Frequencies and not just the Frequencies specifically listed in ITS 5.5.4. The NRC comment concerns the potential application of the SR 3.0.2 frequency extension to Inservice Testing Program Frequencies greater than 2 years. The NRC comment indicates that the proposed application of the SR 3.0.2 extension to frequencies greater than 2 years is inappropriate because it is inconsistent with the specific frequencies stated in the Inservice Testing Program (which are all less than or equal to 2 years). The proposed change was originally identified as a Beyond Scope Issue because it was based on a TSTF change to the ISTS that was not yet approved. Subsequent to the BVPS ITS Conversion License Amendment submittal, TSTF-479 was approved (NRC Letter to TSTF dated 12/6/2005) and the change was incorporated into the ISTS (Revision 3.1) currently posted on the NRC web site. Therefore, the proposed change to BVPS ITS 5.5.4.b is no longer a beyond scope issue and is consistent with the NRC approved ISTS for Westinghouse Plants. However, BVPS believes that the specific concern identified in the NRC comment regarding the application of frequency extensions to longer Inservice Testing Program frequencies is adequately addressed by SR 3.0.2, as stated in the ISTS bases. The Bases for SR 3.0.2 states: "The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified." As such, the repeated extension of a surveillance frequency or the extension of a frequency beyond the next refueling outage would be inconsistent with the stated guidance for applying the provisions of SR 3.0.2. In this respect, the guidance for using SR 3.0.2 is similar to that provided in NUREG-1482, Revision 1, Section 3.1.3 where it states that licensees should not extend the test intervals to safety and relief valves defined in Appendix I of the ASME Operations

	and Maintenance (OM) Code, other than to coincide with a refueling outage. Therefore, the NRC concern stated in the comment is addressed by the limitations associated with the use of SR 3.0.2. If the proposed change is still not acceptable, BVPS would like to request a conference call with the NRC Technical Specification branch present to address this issue.
Licensee Response by Frank Ferri on 02/28/2006	The NRC concern with the change proposed by BVPS in BSI-25 was the potential application of the SR 3.0.2 frequency extension to Inservice Testing Program Frequencies greater than 2 years. The NRC indicated that the proposed application of the SR 3.0.2 extension to frequencies greater than 2 years is inappropriate because it is inconsistent with the specific frequencies stated in the Inservice Testing Program (which are all less than or equal to 2 years). The original change proposed by BVPS was based on TSTF-479 which was implemented in NUREG-1431, Rev. 3.1. However, the industry and NRC have subsequently agreed to reconsider the change implemented by TSTF-479 to address the NRC concern regarding the application of Frequency extensions to the Inservice Testing Program. The current industry proposed revision to NUREG-1431, Rev. 3.1 will limit the application of the provisions of SR 3.0.2 to Inservice Testing Frequencies specified as 2 years or less. Therefore, BVPS will revise the original proposed change to the Inservice Testing frequencies to be consistent with the latest proposed revision to NUREG-1431. The original and revised wording of the affected technical specification requirements for Inservice Testing (ISTS 5.5.8.b) are as follows: Original proposed change: "b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and other normal and accelerated Frequencies specified in the Inservice Testing Program for performing inservice testing activities." Revised (i.e., current) proposed change: "b. The provisions of SR 3.0.2 are applicable to the above required Frequencies and to other normal and accelerated Frequencies specified as 2 years or less in the Inservice Testing Program for performing inservice testing actives."
NRC Response by Charles Hammer on 03/09/2006	Yes, this does address the concern. Thanks, Gary Hammer NRR/DCI/CPTB 301-415-2791

Date Created: 01/20/2006 12:26 PM by Charles Hammer
Last Modified: 03/09/2006 03:32 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200601181617		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: None ITS Number: BSI 28	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Lambros Lois			
Comment	The staff has reviewed the following BSIs and found the proposed TS changes to be acceptable: 1) BSI ? 3 (RTS Power Level ? SR 3.3.1.3) 2) BSI ? 4 (Incore/Excore Detectors ? SR 3.3.1.9) 3) BSI ? 28 (Rod Withdraw from Critical Conditions - ITS 3.1.10 and ITS 3.3.1) The above BSIs are closed.			
Issue Date	01/18/2006			

Close Date	01/18/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.
Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/18/2006 04:17 PM by Lambros Lois
Last Modified: 01/18/2006 04:17 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200601181616**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** **None**	**DOC Number:** **None**	**JFD Number:** **None**	**Page Number(s):**
	ITS Number: **BSI 3**		**Bases JFD Number:** **None**	
NRC Owner	**Lambros Lois**			
Comment	**The staff has reviewed the following BSIs and found the proposed TS changes to be acceptable:** **1) BSI ? 3 (RTS Power Level ? SR 3.3.1.3)** **2) BSI ? 4 (Incore/Excore Detectors ? SR 3.3.1.9)** **3) BSI ? 28 (Rod Withdraw from Critical Conditions - ITS 3.1.10 and ITS 3.3.1)** **The above BSIs are closed.**			
Issue Date	**01/18/2006**			

Close Date	**01/18/2006**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/18/2006 04:16 PM by Lambros Lois
Last Modified: 01/18/2006 04:16 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200601181617		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: None ITS Number: BSI 4	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Lambros Lois			
Comment	The staff has reviewed the following BSIs and found the proposed TS changes to be acceptable: 1) BSI ? 3 (RTS Power Level ? SR 3.3.1.3) 2) BSI ? 4 (Incore/Excore Detectors ? SR 3.3.1.9) 3) BSI ? 28 (Rod Withdraw from Critical Conditions - ITS 3.1.10 and ITS 3.3.1) The above BSIs are closed.			
Issue Date	01/18/2006			

Close Date	01/18/2006	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.
Licensee Response by Anthony Dometrovich on 01/23/2006	Review completion acknowledged by BVPS.

Date Created: 01/18/2006 04:17 PM by Lambros Lois
Last Modified: 01/18/2006 04:17 PM

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NRC ITS TRACKING

NRC Reviewer

ID	**200506201136**		Conference Call Requested? **No**	
Category	**Beyond Scope**			
ITS Information	**ITS Section:** **None**	**DOC Number:** **None**	**JFD Number:** **None**	**Page Number(s):**
	ITS Number: **None**		**Bases JFD Number:** **None**	
NRC Owner	**Raul Hernandez**			
Comment	**I've logged on.**			
Issue Date	**06/20/2005**			

Close Date	**06/20/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Frank Ferri on 06/20/2005	Thank you. Database access confirmed.

Date Created: 06/20/2005 11:36 AM by Raul Hernandez
Last Modified: 06/20/2005 11:36 AM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	**200506131531**		Conference Call Requested? **No**	
Category	**Editorial**			
ITS Information	**ITS Section:** **None**	**DOC Number:** **None**	**JFD Number:** **None**	**Page Number(s):**
	ITS Number: **None**		**Bases JFD Number:** **None**	
NRC Owner	**Craig Harbuck**			
Comment	**I have successfully accessed the BV ITS comment database.**			
Issue Date	**06/13/2005**			

Close Date	**08/17/2005**	Resolution requires change to: None Docket Response Required? **No**

Responses

Licensee Response by Anthony Dometrovich on 06/14/2005	Thanks. Database access is confirmed.

Date Created: 06/13/2005 03:31 PM by Craig Harbuck
Last Modified: 08/17/2005 02:03 PM

Edit | Delete | Assign | New Response | Close

NRC ITS TRACKING

NRC Reviewer

ID	200506140835		Conference Call Requested? No	
Category	Beyond Scope			
ITS Information	ITS Section: None ITS Number: None	DOC Number: None	JFD Number: None Bases JFD Number: None	Page Number(s):
NRC Owner	Tim Colburn			
Comment	I've logged on.			
Issue Date	06/14/2005			

Close Date	08/04/2005	Resolution requires change to: None Docket Response Required? No

Responses

Licensee Response by Anthony Dometrovich on 06/14/2005	Thanks. Database access is confirmed.
Licensee Response by Anthony Dometrovich on 06/14/2005	Thanks. Database access is confirmed.

Date Created: 06/14/2005 08:35 AM by Tim Colburn
Last Modified: 08/04/2005 10:41 AM