AmerenUE
Callaway Plant

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September 29, 2010

ULNRC-05731

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

10 CFR 50.90

Ladies and Gentlemen:

DOCKET NUMBER 50-483
CALLAWAY PLANT
UNION ELECTRIC CO.
APPLICATION FOR AMENDMENT TO
FACILITY OPERATING LICENSE NPF-30
COMPLETION TIME EXTENSIONS FOR TS 3.3.2
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS)
INSTRUMENTATION FUNCTIONS
TAC NO. ME2822 (LDCN 09-0039 SUPPLEMENT)

References: 1. AmerenUE letter ULNRC-05665 dated November 25, 2009
2. AmerenUE letter ULNRC-05694 dated April 22, 2010
3. AmerenUE letter ULNRC-05704 dated May 14, 2010
4. NRC letter dated May 5, 2010, "Callaway Plant, Unit 1 – Issuance of Amendment RE: Revision of Technical Specification 3.3.2, "Engineered Safety Feature Actuation System Instrumentation," Function 6.G, Condition J (Exigent Circumstances) (TAC. NO. ME3595)," ADAMS Accession No. ML101100665
5. AmerenUE letter ULNRC-05724 dated August 24, 2010

AmerenUE submitted a license amendment request via Reference 1 that proposed changes to Technical Specification (TS) 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," as contained in Facility Operating License Number NPF-30 for the Callaway Plant. AmerenUE responded to NRC requests for additional information (RAIs) in support of that amendment application via References 2 and 3.

The changes requested and described in Attachment 2 of Reference 1 included the revision of Condition J of TS 3.3.2. Specifically, a new Note for limiting Separate Condition entry was proposed, along with the revision of the Completion Times of Required Actions J.1 and J.2. However, after the issuance of License Amendment No. 196 in Reference 4, it was recognized in Reference 5 that the proposed Note on Separate Condition entry would not accomplish the intended

function discussed in Reference 1 since Condition J had been revised to cover one or more inoperable channels, thereby covering the inoperability of one, two, three, or all four channels in Function 6.g, "Trip of All Main Feedwater Pumps," of TS Table 3.3.2-1. An amendment supplement is therefore required to revise the changes proposed in Reference 1.

Attachment 1 hereto responds to additional electronic RAIs issued on September 7 and 8, 2010, with respect to Reference 5. These RAI responses reflect the results of a teleconference held on September 21, 2010 between AmerenUE and NRC staff.

Attachment 2 describes the basis and justification for the changes to TS 3.3.2 Condition J and new TS 3.3.2 Condition M. Attachments 3 through 5 provide the Markup of Technical Specifications, Retyped Technical Specifications, and Proposed Technical Specification Bases Changes, respectively. Attachments 3 through 5 completely supersede Attachments 2 through 4 of Reference 1. Although the only new markups are those associated with TS 3.3.2 Condition J and new Condition M, the entire set of requested TS and Bases changes is contained in Attachments 3 through 5 for completeness and preventing confusion as to the final set of requested changes.

Attachment 5 hereto is provided for information only. Final TS Bases changes will be processed under the program described in TS 5.5.14, "Technical Specifications Bases Control Program," at the time this amendment is implemented.

The risk basis for the 24-hour Completion Times is contained in Reference 1. The TS changes and risk metrics contained in Reference 5 are entirely superseded and should not be cited in the NRC Safety Evaluation for this amendment.

The conclusions of the licensing evaluations submitted in Reference 1 (i.e., the no significant hazard consideration (NSHC) evaluation and the environmental consideration (EC) evaluation in Sections 5.1 and 6.0 of Attachment 1 to Reference 1, respectively) remain valid and unchanged.

In addition, it should be noted that, similar to the original amendment request, there are no commitments contained in this letter.

The Callaway Onsite Review Committee has reviewed and approved the submittal of the revised TS 3.3.2 Condition J and new Condition M markups.

AmerenUE continues to request approval of this license amendment request prior to November 20, 2010. In addition, AmerenUE still requests that the license amendment be made effective upon NRC issuance, to be implemented within 90 days from the date of issuance.

In accordance with 10 CFR 50.91, a copy of this letter is being provided to the designated Missouri State official. If you have any questions on this amendment application, please contact me at (573) 676-8719 or Mr. Tom Elwood at (314) 225-1905.

I declare under penalty of perjury that the foregoing is true and correct.

Very truly yours,

Executed on: 9/29/2010

Scott M

Scott Maglio
Regulatory Affairs Manager

GGY/nls

Attachments

1 – RAI Responses
2 – Basis and Justification for New Changes to TS 3.3.2 Conditions J and M
3 – Markup of Technical Specifications
4 – Retyped Technical Specifications
5 – Proposed Technical Specification Bases Changes (for information only)

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ATTACHMENT 1

RAI RESPONSES

REQUEST FOR ADDITIONAL INFORMATION
CALLAWAY PLANT,
UNION ELECTRIC COMPANY,
LICENSE AMENDMENT SUPPLEMENT (LCDN 09-0039)
FOR COMPLETION TIME EXTENSIONS FOR TS 3.3.2,
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM (ESFAS)
INSTRUMENTATION FUNCTIONS
TAC NUMBER ME2822

The NRC staff requests additional information to complete its review of the license amendment request for revision of Technical Specification (TS) 3.3.2, "Engineered Safety Feature System (ESFAS) Instrumentation" Function 6.g., "Trip of all Main Feedwater Pumps" and Action Statement J, for the Condition of "One or more main Feedwater Pumps trip channel(s) inoperable."

By letter dated November 25, 2009, Union Electric Company (licensee) proposed TS change to permit a 24-hour Completion Time (CT) for placing a single Main Feedwater (MFW) Pump separation group channel in trip. During this 24-hour period, with only one channel inoperable and prior to placing its separation group channel in a trip condition, the logic would still maintain the safety function of starting the Auxiliary Feedwater (AFW) Pumps if the unit experienced the loss of both Main Feedwater (MFW) Pumps due to the remaining separation group channels still being operable during that 24-hour period.

Subsequent to the November 25, 2009 amendment request, the NRC staff issued exigent amendment (ML101100665, ME3595 dated May 5, 2010) which permits placing multiple ("one or more") inoperable MFW Pump separation group channels in trip for the existing 1-hour CT period, even if a loss of safety function condition exists. This loss of safety function can exist for either of two reasons: (1) separate condition entries are allowed for each MFW Pump trip function (as per an initial note in TS 3.3.2); or, (2) a subsequent trip of the running MFW pump during the 1-hour CT prior to the affected,"Reset" MFW pump, requiring LCO entry, having its separation group channels placed in trip. In its review of the exigent amendment, the NRC staff recognized that if a certain combination of channels were inoperable, then the loss of safety function condition would exist. Based on the limited time of 1-hour, the regulatory consistency of TS actions required following loss of important equipment, and the significance of the safety function, the NRC staff approved the 1-hour CT.

The August 24, 2010 supplemental submittal, which incorporates the initial amendment with the exigent amendment changes, proposes that the Condition J. CT be increased to 24 hours. This change would permit unavailability of the specified safety function of starting the AFW Pumps on loss of all MFW Pumps for the same two reasons as stated above, but now for a 24 hour CT.

Based on the above NRC staff review, the NRC staff has following four additional questions:

Question (1):

What additional justification can be provided to clarify the industry's regulatory consistency by increasing the unavailability for the TS safety function from 1 to 24 hours?

Response:

First, a minor clarification is offered regarding the 2nd paragraph of the above RAI introduction, repeated below with changes tracked to assure the Callaway design and original license amendment request are fully understood.

> By letter dated November 25, 2009, Union Electric Company (licensee) proposed TS change to permit a 24-hour Completion Time (CT) for placing a single Main Feedwater (MFW) Pump separation group channel in trip. During this 24-hour period, with only one channel per MFW pump inoperable in the same separation group and prior to placing those same separation group channels in a tripped condition, the logic would still maintain the safety function of starting the Auxiliary Feedwater (AFW) Pumps if the unit experienced the loss of both Main Feedwater (MFW) Pumps due to the remaining separation group channels still being operable during that 24-hour period.

Preservation of the ESFAS 6.g function (Auxiliary Feedwater – Trip of All Main Feedwater Pumps) will be addressed by the revised changes to TS 3.3.2 Condition J and new TS 3.3.2 Condition M as discussed in further detail in Attachment 2. Attachment 3 contains the complete set of TS changes being requested.

Question (2):

The NRC staff noted that the 24-hour CT may be used for operational and/or maintenance convenience, while the controls of a MFW Pump are in "Reset." Since the stated intent for exigent amendment request discussed MFW pump operations during plant start-up and shutdown with one MFW pump in "Reset," the increased CT would expose the plant to a potential loss of the AFW actuation safety function for up to 24 hours should the separation group channels for the "Reset" MFW Pump not be placed in a trip condition and the running MFW Pump fail. What additional justification can you provide to justify the operational intent in employment of the proposed Condition J?

Response:

See the response to Question (1) above.

Question (3):

The original November 2009 license amendment request was noticed to the public in the Federal Register on April 29, 2010. The August 2010 supplemental submittal expanded the scope of the original license amendment request by extending the loss of safety function duration from 1 to 24 hours, but a "No Significant Hazards Determination" was not provided to address this change. Please describe what changes are needed to the "No Significant Hazards Determination" in order to complete the supplemental submittal.

Response:

There are no changes needed to the NSHC determination provided in Section 5.1 of Attachment 1 to ULNRC-05665 dated November 25, 2009 due to this reconciling of the LDCN 09-0039 amendment request with TS 3.3.2 Condition J as revised by License Amendment 196. The responses to the three questions of 10 CFR 50.92 are unaffected. The *Basis for proposed no significant hazards consideration determination* posted in 75 FR 27833 dated May 18, 2010 is unaffected. That FR Notice reflects the submitted NSHC determination. The amendment request description in the Federal Register Notice would be affected as discussed in Attachment 2; however, that does not affect the answers to the 50.92 questions. The impact and effect of all requested TS changes are covered by the NSHC determination in ULNRC-05665 (Reference 1).

Question (4):

Callaway Amendment 197 added a new ESFAS function (#10) for SG blowdown and sample isolation, and this uses condition Q of the proposed TS change we are reviewing for an extension to 24 hours. Should your supplement address how the proposed change to the BOP ESFAS logic CT has been considered for this new function, and address this new function as well as AFW auto start and switchover logic?

Response:

Amendment 197 has no impact on the LDCN 09-0039 amendment request. The deterministic and risk evaluations presented in ULNRC-05665 already include the effects on new ESFAS Function 10.b which has always been one of the design functions actuated by BOP ESFAS. The effects on steam generator (SG) blowdown and sample line isolation were discussed in ULNRC-05665 (Attachment 1, pages 4, 16, 21, 22; Attachment 6, Table 2, F/O SC-4). The risk results reported in ULNRC-05665 already reflect the impact of BOP ESFAS Completion Time extensions on all risk-significant functions initiated from the BOP ESFAS cabinets, including SG blowdown and sample line isolation.

ATTACHMENT 2

BASIS AND JUSTIFICATION FOR NEW CHANGES TO TS 3.3.2 CONDITIONS J AND M

BASIS AND JUSTIFICATION FOR NEW CHANGES TO TS 3.3.2 CONDITIONS J AND M

Original Amendment Request

In AmerenUE's original amendment request (Reference 1, ULNRC-05665 dated November 25, 2009), the following discussion of the proposed change to Technical Specification (TS) 3.3.2 Condition J was provided in Section 2.0 of Attachment 1:

> "Since the risk impact associated with the loss of one train of BOP ESFAS actuation logic and actuation relays is greater than the loss of individual analog channel input(s) into that BOP ESFAS train, it is also proposed that the Completion Times for TS 3.3.2 Required Action J.1 (for TS Table 3.3.2-1 Function 6.g, Auxiliary Feedwater – Trip of All Main Feedwater Pumps) and Required Action O.1 (for TS Table 3.3.2-1 Function 6.h, Auxiliary Feedwater – Pump Suction Transfer on Suction Pressure – Low) be changed from 1 hour to 24 hours. The Completion Time for Required Action J.2 (shutdown to MODE 3 if Required Action J.1 is not met within 24 hours) would be extended to 30 hours (24 + 6). The Completion Time for Required Action O.2 would be unchanged.
>
> An additional restriction would be added to TS 3.3.2 Condition J in the form of a new Note limiting the application of separate Condition entry. Since the Required Channels for Function 6.g are specified in TS Table 3.3.2-1 as 2 per pump, Condition J may be entered separately for each main feedwater pump. However, as shown on the J-104-00176 logic block diagram provided in Attachment 5, satisfying the trip logic requires the presence of a low oil pressure signal in the same separation group on each main feedwater pump. An inoperable separation group 1 channel on one pump coincident with an inoperable separation group 4 channel on the other pump would lead to the loss of this actuation function. Therefore, a new Note would be added to Condition J that would read:
>
> > 'Separate Condition entry is restricted to one inoperable channel per pump in the same separation group.'
>
> This would assure that the AFW start signal after the loss of both main feedwater pumps would be generated by the operable inputs from the other separation group to both motor-driven AFW pumps (cross train actuations are provided as shown in Attachment 5)."

Effect of License Amendment 196

Prior to the Reference 1 submittal and the subsequent issuance of Reference 4 (License Amendment 196), Condition J addressed only one inoperable channel. Separate Condition entry was allowed for one inoperable channel per main feedwater pump (MFP)

since the Required Channels in TS Table 3.3.2-1 were specified on a "per pump" basis. Separate Condition entry allows individual time tracking of the inoperable MFP channels such that the following postulated example would have been accommodated prior to License Amendment 196 using the equipment identification tag numbers identified in Attachment 5 to Reference 1 (example for demonstration purposes):

- Separation group 1 channel (isolated output from FCPSL0025 on MFP 'A' or isolated output from FCPSL0125 on MFP 'B') is declared inoperable at time = 0 and TS 3.3.2 Condition J entered.

- Time tracking for Required Action J.1 to trip the channel in 1 hour starts at time = 0.

- Prior to time = 1 hour, separation group 4 channel (isolated output from FCPSL0126 on MFP 'B' or isolated output from FCPSL0026 on MFP 'A') is declared inoperable at time < 1 hour. TS 3.3.2 Condition J would be separately entered if the new inoperability affects the opposite MFP as allowed by Separate Condition entry per MFP.

- Separate time tracking for Required Action J.1 to trip the second channel in 1 hour starts at the second Condition J entry.

The total time that the LCO is not met could have approached 2 hours prior to License Amendment 196; however, a loss of function could exist for no more than one hour.

Reference 4 changed TS 3.3.2 Condition J to address one or more inoperable channels. Given the implementation of Reference 4, the above scenario in which there are two inoperable ESFAS Function 6.g channels in different separation groups (involving a loss of function) could be entered when one MFP turbine is reset during the process of placing the pump in service (as discussed in Reference 4). Therefore, the above loss-of-function scenario would not necessarily require Separate Condition entry for an inoperable channel on each MFP. Since TS 3.3.2 Condition J now covers more than one inoperable MFP channel after Amendment 196, Separate Condition entry could theoretically involve the following scenario (for demonstration purposes):

- Separation group 1 and 4 channels (isolated outputs from FCPSL0025 and FCPSL0026 on MFP 'A') declared inoperable at time = 0 and TS 3.3.2 Condition J entered.

- Time tracking for Required Action J.1 to trip both channels in 1 hour starts at time = 0.

- Prior to time = 1 hour, separation group 1 and 4 channels (isolated outputs from FCPSL0125 and FCPSL0126 on MFP 'B') declared inoperable at time < 1 hour. TS 3.3.2 Condition J would be separately entered since the new channel

inoperabilities (one or more inoperable channels allowed by Condition J) affect the opposite MFP as allowed by Separate Condition entry per MFP. However, this is a theoretical exercise since the plant would not remain in MODES 1 or 2 with a total loss of normal feedwater.

- Separate time tracking for Required Action J.1 to trip the second set of channels in 1 hour starts at the second Condition J entry.

The total time that the LCO is not met could approach 2 hours and the loss of function could also exist for up to 2 hours since Condition J now covers one or more inoperable channels.

Deletion of Original Amendment Request's Separate Condition J Entry Note

As discussed above, a new Note was proposed in Reference 1 to restrict Separate Condition entry in conjunction with extending the Completion Time of Required Action J.1 from 1 hour to 24 hours. The additional limitation contained in the Separate Condition entry Note of Reference 1 will not accomplish the intended purpose described above (preservation of the ESFAS 6.g actuation function) during the allowed Completion Time prior to placing the inoperable channels in a tripped condition per Required Action J.1. The originally proposed Separate Condition entry Note would, in fact, offer no restriction to the inoperability of multiple channels in which case the actuation signal from ESFAS Function 6.g may not be available.

Therefore, in order to reconcile the Reference 1 amendment request against the current wording of TS 3.3.2 Condition J, additional restrictions are proposed in Attachment 3 to differentiate between situations when the actuation function is available from one train and when the actuation function is lost. The former (new Condition M) will be allowed a 24-hour Completion Time supported by the risk results reported in Reference 1. When the actuation function is lost, a revised Condition J will limit the Completion Time to 1 hour in accordance with the current (Amendment 196) licensing basis.

New Proposed TS Changes

The changes to TS 3.3.2 Conditions O and Q remain the same as submitted in Reference 1. Those changes are included in the Attachment 3 markups on the current TS pages for completeness.

The new changes, prompted by a teleconference between AmerenUE and NRC staff on September 21, 2010, include the following:

TS 3.3.2 Condition J currently reads:

"One or more Main Feedwater Pumps trip channel(s) inoperable."

TS 3.3.2 Condition J would be revised to read:

> "More than one Main Feedwater Pumps trip channel inoperable with inoperable channels not in the same separation group."

Since the risk impact associated with the loss of one train of BOP ESFAS actuation logic and actuation relays is greater than the loss of individual analog channel input(s) into that BOP ESFAS train as long as the 6.g function is available, it is also proposed that new TS 3.3.2 Condition M be added to read:

> "One Main Feedwater Pumps trip channel inoperable.
>
> OR
>
> Two Main Feedwater Pumps trip channels inoperable with inoperable channels limited to the same separation group."

A Note above new Condition M would be a reminder to limit its use to only those situations in which the actuation function is not lost.

New Required Actions M.1 (Place channel(s) in trip) and M.2 (Be in MODE 3) would have 24-hour and 30-hour Completion Times, respectively. New Required Actions M.1 and M.2 would have the same bypass testing Note as Required Actions J.1 and J.2.

New Condition M would assure that the AFW start signal after the loss of both main feedwater pumps (ESFAS Function 6.g) would be generated by the operable inputs from the other separation group to both motor-driven AFW pumps via cross train actuations.

The proposed format of TS 3.3.2 Conditions J and M is similar to the split Condition approach used in TS 3.7.2 for the MSIV actuator trains; however, the Completion Times in TS 3.7.2 reflect the impact on actuated end devices (more limiting if a potential single failure could cause two MSIVs to fail to close) rather than the impact on inputs to the BOP ESFAS actuation logic (more limiting if different separation groups are affected resulting in a loss of actuation function).

Approval Basis for TS 3.3.2 Conditions J and M

TS 3.3.2 Condition J retains the current licensing basis (Callaway Amendment 196) in that the Completion Time for a potential loss of actuation function would be limited to 1 hour.

TS 3.3.2 Condition M relaxes the Completion Time for ESFAS Function 6.g when there is no loss of actuation function to 24 hours in accordance with Reference 1.

The TS markups in Attachment 3 to this submittal retain the Separate Condition entry allowances in the current licensing basis.

Effect on NSHC Determination of Reference 1

There is no change to the responses to the three questions of 10 CFR 50.92 in Reference 1. The change introduction in Section 5.0 of Attachment 1 to Reference 1 would be affected as follows with revisions indicated (which would also affect the *Description of amendment request* in 75 FR 27833 dated May 18, 2010):

> "This section addresses the standards of 10 CFR 50.92 as well as the applicable regulatory requirements and acceptance criteria.
>
> This amendment application submits a proposed change to Technical Specification (TS) 3.3.2, "Engineered Safety Feature Action System (ESFAS) Instrumentation," that would add a new Required Action Q.1 to require restoration of an inoperable Balance of Plant ESFAS (BOP ESFAS) train to OPERABLE status within 24 hours. Currently, Condition Q of TS 3.3.2 for Function 6.c of TS Table 3.3.2-1 requires the plant to enter a shutdown track to MODE 3 within 6 hours and to MODE 4 within 12 hours with no allowed outage time provided for restoration. In addition, the Completion Time for TS 3.3.2 Required Action O.1 to trip an inoperable channel that provides an input to BOP ESFAS would also be extended to 24 hours. Shutdown track Completion Times in Condition Q to be in MODES 3 and 4 would be increased to reflect the longer restoration time. TS 3.3.2 Condition J would be revised to assure that the actuation function of Function 6.g in TS Table 3.3.2-1 is not lost for more than the time allowed under the current licensing basis and new TS 3.3.2 Condition M would be added to relax the Completion Time if the actuation function can still be performed. This is a risk-informed amendment request following the guidance of NRC Regulatory Guides (RGs) 1.174, 1.177, and 1.200 Revision 1."

ATTACHMENT 3

MARKUP OF TECHNICAL SPECIFICATIONS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
I. One channel inoperable.	---------- NOTE ---------- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----------	
	I.1 Place channel in trip.	72 hours
	OR	
	I.2 Be in MODE 3.	78 hours
J. ~~One or more Main Feedwater Pumps trip channel(s) inoperable.~~ More than one Main Feedwater Pumps trip channel inoperable with inoperable channels not in the same separation group.	---------- NOTE ---------- One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels. ----------	
	J.1 Place ~~channel(s)~~ channels in trip.	1 hour
	OR	
	J.2 Be in MODE 3.	7 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
M. ~~Not used.~~ INSERT A			
N. One or more Containment Pressure - Environmental Allowance Modifier channel(s) inoperable.	N.1	Place channel(s) in trip.	72 hours
	OR		
	N.2.1	Be in MODE 3.	78 hours
	AND		
	N.2.2	Be in MODE 4.	84 hours
O. One channel inoperable.	O.1	Place channel in trip.	~~1 hour~~ 24 hours
	AND		
	O.2	Restore channel to OPERABLE status.	During performance of the next required COT

(continued)

INSERT A

CONDITION	REQUIRED ACTION	COMPLETION TIME
M. ----------NOTE---------- Entry into Condition M is allowed only if there is no loss of the actuation function. ---------- One Main Feedwater Pumps trip channel inoperable. <u>OR</u> Two Main Feedwater Pumps trip channels inoperable with inoperable channels limited to the same separation group.	----------NOTE---------- One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels. ---------- M.1 Place channel(s) in trip. <u>OR</u> M.2 Be in MODE 3.	 24 hours 30 hours

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
P. One or more channel(s) inoperable.	P.1	Declare associated auxiliary feedwater pump(s) inoperable.	Immediately
	AND		
	P.2	Declare associated steam generator blowdown and sample line isolation valve(s) inoperable.	Immediately
Q. One train inoperable.	---------- NOTE ---------- One train may be bypassed for up to 2 hours for surveillance testing provided the other train is OPERABLE. ----------		
INSERT B →	~~Q.1~~ Q.2.1	Be in MODE 3.	~~6~~ 30 hours
	AND →		
	Q.2.2	Be in MODE 4.	~~12~~ 36 hours
R. One or both train(s) inoperable.	R.1	Restore train(s) to OPERABLE status.	48 hours
	OR		
	R.2.1	Be in MODE 3.	54 hours
	AND		
	R.2.2	Be in MODE 4.	60 hours

(continued)

INSERT B

REQUIRED ACTION	COMPLETION TIME
Q.1 Restore train to OPERABLE status. OR	24 hours

No changes – provided for context only

Table 3.3.2-1 (page 8 of 11)
Engineered Safety Feature Actuation System Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE[a]
6.	Auxiliary Feedwater					
	a. Manual Initiation	1, 2, 3	1/pump	P	SR 3.3.2.8	NA
	b. Automatic Actuation Logic and Actuation Relays (SSPS)	1,2,3	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.6	NA
	c. Automatic Actuation Logic and Actuation Relays (BOP ESFAS)	1,2,3	2 trains	Q	SR 3.3.2.3	NA
	d. SG Water Level Low-Low					
	(1) Steam Generator Water Level Low-Low (Adverse Containment Environment)	1, 2, 3	4 per SG	D	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	$\geq$ 20.6%[(s)] of Narrow Range Instrument Span
	(2) Steam Generator Water Level Low-Low (Normal Containment Environment)	1[(r)], 2[(r)], 3[(r)]	4 per SG	D	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	$\geq$ 16.6%[(s)] of Narrow Range Instrument Span

(a) The Allowable Value defines the limiting safety system setting except for Functions 1.e, 4.e.(1), 5.c, 5.e.(1), 5.e.(2), 6.d.(1), and 6.d.(2) (the Nominal Trip Setpoint defines the limiting safety system setting for these Functions). See the Bases for the Nominal Trip Setpoints.

(r) Except when the Containment Pressure – Environmental Allowance Modifier channels in the same protection sets are tripped.

(s) 1. If the as-found instrument channel setpoint is conservative with respect to the Allowable Value, but outside its as-found test acceptance criteria band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.
2. The instrument channel setpoint shall be reset to a value that is within the as-left setpoint tolerance band on either side of the Nominal Trip Setpoint, or to a value that is more conservative than the Nominal Trip Setpoint; otherwise, the channel shall be declared inoperable. The Nominal Trip Setpoints and the methodology used to determine the as-found test acceptance criteria band and the as-left setpoint tolerance band shall be specified in the Bases.

Table 3.3.2-1 (page 9 of 11)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE[a]
6. Auxiliary Feedwater					
d. SG Water Level Low-Low					
(3) Not used.					
(4) Containment Pressure - Environmental Allowance Modifier	1, 2, 3	4	N	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≤ 2.0 psig
e. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
f. Loss of Offsite Power	1,2,3	2 trains	R	SR 3.3.2.7 SR 3.3.2.10	NA
g. Trip of all Main Feedwater Pumps	1,2[n]	2 per pump	J, M	SR 3.3.2.8	NA
h. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low	1,2,3	3	O	SR 3.3.2.1 SR 3.3.2.9 SR 3.3.2.10 SR 3.3.2.12	≥ 20.64 psia

(a) The Allowable Value defines the limiting safety system setting except for Functions 1.e, 4.e.(1), 5.c, 5.e.(1), 5.e.(2), 6.d.(1), and 6.d.(2) (the Nominal Trip Setpoint defines the limiting safety system setting for these Functions). See the Bases for the Nominal Trip Setpoints.

(n) Trip function may be blocked just before shutdown of the last operating main feedwater pump and restored just after the first main feedwater pump is put into service following performance of its startup trip test.

ATTACHMENT 4

RETYPED TECHNICAL SPECIFICATIONS

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
I. One channel inoperable.	---------- NOTE ---------- The inoperable channel may be bypassed for up to 12 hours for surveillance testing of other channels. ----------		
	I.1	Place channel in trip.	72 hours
	OR		
	I.2	Be in MODE 3.	78 hours
J. More than one Main Feedwater Pumps trip channel inoperable with inoperable channels not in the same separation group.	---------- NOTE ---------- One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels. ----------		
	J.1	Place channels in trip.	1 hour
	OR		
	J.2	Be in MODE 3.	7 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
M. ---------- NOTE ---------- Entry into Condition M is allowed only if there is no loss of the actuation function. ---------- One Main Feedwater Pumps trip channel inoperable. OR Two Main Feedwater Pumps trip channels inoperable with inoperable channels limited to the same separation group.	---------- NOTE ---------- One inoperable channel may be bypassed for up to 2 hours for surveillance testing of other channels. ---------- M.1 OR M.2	Place channel(s) in trip. Be in MODE 3.	24 hours 30 hours
N. One or more Containment Pressure - Environmental Allowance Modifier channel(s) inoperable.	N.1 OR N.2.1 AND N.2.2	Place channel(s) in trip. Be in MODE 3. Be in MODE 4.	72 hours 78 hours 84 hours
O. One channel inoperable.	O.1 AND O.2	Place channel in trip. Restore channel to OPERABLE status.	24 hours During performance of the next required COT

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
P. One or more channel(s) inoperable.	P.1	Declare associated auxiliary feedwater pump(s) inoperable.	Immediately
	AND		
	P.2	Declare associated steam generator blowdown and sample line isolation valve(s) inoperable.	Immediately
Q. One train inoperable.	---------- NOTE ---------- One train may be bypassed for up to 2 hours for surveillance testing provided the other train is OPERABLE. ----------		
	Q.1	Restore train to OPERABLE status.	24 hours
	OR		
	Q.2.1	Be in MODE 3.	30 hours
	AND		
	Q.2.2	Be in MODE 4.	36 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
R. One or both train(s) inoperable.	R.1	Restore train(s) to OPERABLE status.	48 hours
	OR		
	R.2.1	Be in MODE 3.	54 hours
	AND		
	R.2.2	Be in MODE 4.	60 hours
S. One train inoperable	---------- NOTE ---------- One train may be bypassed for up to 4 hours for surveillance testing provided the other train is OPERABLE. ----------		
	S.1	Restore train to OPERABLE status.	6 hours
	OR		
	S.2.1	Be in MODE 3.	12 hours
	AND		
	S.2.2	Be in MODE 4.	18 hours

Table 3.3.2-1 (page 9 of 11)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE[a]
6. Auxiliary Feedwater					
d. SG Water Level Low-Low					
(3) Not used.					
(4) Containment Pressure - Environmental Allowance Modifier	1, 2, 3	4	N	SR 3.3.2.1 SR 3.3.2.5 SR 3.3.2.9 SR 3.3.2.10	≤ 2.0 psig
e. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
f. Loss of Offsite Power	1,2,3	2 trains	R	SR 3.3.2.7 SR 3.3.2.10	NA
g. Trip of all Main Feedwater Pumps	1,2[n]	2 per pump	J, M	SR 3.3.2.8	NA
h. Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low	1,2,3	3	O	SR 3.3.2.1 SR 3.3.2.9 SR 3.3.2.10 SR 3.3.2.12	≥ 20.64 psia

(a) The Allowable Value defines the limiting safety system setting except for Functions 1.e, 4.e.(1), 5.c, 5.e.(1), 5.e.(2), 6.d.(1), and 6.d.(2) (the Nominal Trip Setpoint defines the limiting safety system setting for these Functions). See the Bases for the Nominal Trip Setpoints.

(n) Trip function may be blocked just before shutdown of the last operating main feedwater pump and restored just after the first main feedwater pump is put into service following performance of its startup trip test.

ATTACHMENT 5

PROPOSED TECHNICAL SPECIFICATION BASES CHANGES
(for information only)

No changes - for context only

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

d. Auxiliary Feedwater - Steam Generator Water Level - Low Low (continued)

EAM function is used to monitor the presence of adverse containment conditions (elevated pressure) and enables the Steam Generator Water Level - Low Low (Adverse) trip setpoint to reflect the increased transmitter uncertainties due to this harsh environment. The EAM enables a lower Steam Generator Water Level - Low Low (Normal) trip setpoint when these conditions are not present, thus allowing more margin to trip for normal operating conditions. If the EAM trip function has inoperable required channels, it is acceptable to place the inoperable channels in the tripped condition and continue operation. Placing the inoperable channels in the trip mode enables the Steam Generator Water Level - Low Low (Adverse) Function, for the EAM. If the Steam Generator Water Level - Low Low (Normal) trip Function has an inoperable required channel, the inoperable channel must be tripped, subject to the LCO Applicability footnote.

The Trip Setpoint reflects the inclusion of both steady state and adverse environment instrument uncertainties. The Trip Setpoints for the SG Water Level - Low Low (Adverse Containment Environment) and (Normal Containment Environment) bistables are $\geq$ 21.0% and $\geq$ 17.0% of narrow range span, respectively. The Trip Setpoint for the Containment Pressure - Environmental Allowance Modifier bistables is $\leq$ 1.5 psig.

e. Auxiliary Feedwater - Safety Injection

An SI signal starts the motor driven AFW pumps. The AFW initiation functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.2-1. Instead, Function 1, SI, is referenced for all initiating functions and requirements.

f. Auxiliary Feedwater - Loss of Offsite Power

The loss of offsite power (LOP) is detected by a voltage drop on each ESF bus. The LOP is sensed and processed by the circuitry for LOP DG Start (Load Shedder and

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

f. Auxiliary Feedwater - Loss of Offsite Power (continued)

Emergency Load Sequencer) and fed to BOP ESFAS by relay actuation. Loss of power to either ESF bus will start the turbine - driven AFW pump, to ensure ~~that at least one SG contains~~ the intact SGs contain enough water to serve as the heat sink for reactor decay heat and sensible heat removal following the reactor trip, and automatically isolate the SG blowdown and sample lines. In addition, once the diesel generators are started and up to speed, the motor - driven AFW pumps will be sequentially loaded onto the diesel generator buses.

Functions 6.a through 6.f must be OPERABLE in MODES 1, 2, and 3 to ensure that the SGs remain the heat sink for the reactor. SG Water Level - Low Low in any operating SG will cause the motor - driven AFW pumps to start. The system is aligned so that upon a start of the pump, water immediately begins to flow to the SGs. SG Water Level - Low Low in any two operating SGs will cause the turbine - driven pump to start. The SG Water Level - Low Low (Normal Containment Environment) channels do not provide protection when the Containment Pressure – Environmental Allowance Modifier (EAM) channels in the same protection sets are tripped since that enables the SG Water Level - Low Low (Adverse Containment Environment) channels with a higher water level trip setpoint. As such, the SG Water Level - Low Low (Normal Containment Environment) channels need not be OPERABLE when the Containment Pressure – EAM channels in the same protection sets are tripped, as discussed in a footnote to Table 3.3.2-1. These Functions do not have to be OPERABLE in MODES 5 and 6 because there is not enough heat being generated in the reactor to require the SGs as a heat sink. In MODE 4, AFW actuation does not need to be OPERABLE because either AFW or residual heat removal (RHR) will be available to remove decay heat or sufficient time is available to manually place either system in operation.

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

6. Auxiliary Feedwater (continued)

g. Auxiliary Feedwater - Trip of All Main Feedwater Pumps

A Trip of all MFW pumps (PAE01A and PAE01B) is an indication of a loss of MFW and the subsequent need for some method of decay heat and sensible heat removal to bring the reactor back to no load temperature and pressure. Each turbine driven MFW pump is equipped with two pressure switches (one in separation group 1 and one in separation group 4) on the oil line for the speed control system. A low pressure signal from either of these pressure switches indicates a trip of that pump. Two OPERABLE channels per pump satisfy redundancy requirements with one-out-of-two logic in the same separation group on both pumps required for signal actuation. A trip of all MFW pumps (PAE01A and PAE01B) starts the motor driven AFW pumps to ensure that the intact SGs are available with water to act as the heat sink for the reactor.

Function 6.g must be OPERABLE in MODES 1 and 2. This ensures that the intact SGs are provided with water to serve as the heat sink to remove reactor decay heat and sensible heat in the event of an accident. In MODES 3, 4, and 5, the turbine-driven MFW pumps may be normally shut down, and thus pump trip is not indicative of a condition requiring automatic AFW initiation. Note (n) of Table 3.3.2-1 allows the blocking of this ESFAS function in MODE 2 just before shutdown of the last operating turbine-driven main feedwater pump and the restoration of this trip function just after the first turbine-driven main feedwater pump is put into service following its startup trip test. This limits the potential for inadvertent AFW actuations during normal startups and shutdowns.

A turbine-driven MFW pump is in service when the pump's stop valves are open, the governor control valves are either in manual or automatic control, and feedwater is being supplied to the steam generators.

One cause of multiple channel inoperability which requires entry into Condition J occurs routinely during normal plant operation. A single turbine-driven MFW pump may be in service in MODE 1 at reduced power levels if the other

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

g. Auxiliary Feedwater - Trip of All Main Feedwater Pumps (Continued)

turbine-driven MFW pump has not yet been placed into service during power ascension or has been removed from service for maintenance. Prior to placing a turbine-driven MFW pump into service, the status of its turbine control circuitry is changed from "tripped" to "reset" via its Trip/ Reset handswitch (FCHIS0018 or FCHIS0118) such that the two oil pressure switch channels on that turbine-driven MFW pump experience the high oil pressures indicative of an operating pump prior to that turbine-driven MFW pump providing feedwater flow to the steam generators. In this status, the turbine-driven MFW pump that is not yet in service would not satisfy the AFW start function actuation logic if the operating turbine-driven MFW pump were to trip at this time since it takes one tripped channel on each turbine-driven MFW pump in the same separation group to initiate an auxiliary feedwater actuation signal. Therefore, with one turbine-driven MFW pump turbine in reset, Condition J must be entered for two inoperable oil pressure channels on that turbine-driven MFW pump. This Condition imposes a partial AFW actuation status (or partial trip) on the plant.

This ESFAS function is an anticipatory start signal for which no credit is taken in any accident or transient analysis. The safety analyses credit actuation of the ~~motor~~ motor-driven AFW pumps upon a low-low steam generator water level signal in any steam generator and after a safety injection signal.

h. Auxiliary Feedwater - Pump Suction Transfer on Suction Pressure - Low

A low pressure signal in the AFW pump suction line protects the AFW pumps against a loss of the normal supply of water for the pumps, the CST. Three pressure switches are located on the AFW pump suction line from the CST. A low pressure signal sensed by any two of the

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY

h. Auxiliary Feedwater - Pump Suction Transfer on Suction Pressure - Low (continued)

three switches coincident with an auxiliary feedwater actuation signal will cause the emergency supply of water for the pumps to be aligned. ESW (safety grade) is automatically lined up to supply the AFW pumps to ensure an adequate supply of water for the AFW System to maintain ~~at least one of the SGs~~ the intact SGs as the heat sink for reactor decay heat and sensible heat removal.

Since the detectors are located in an area not affected by HELBs or high radiation, they will not experience any adverse environmental conditions and the Trip Setpoint reflects only steady state instrument uncertainties. The Trip Setpoint is ≥ 21.71 psia.

This Function must be OPERABLE in MODES 1, 2, and 3 to ensure a safety grade supply of water for the AFW System to maintain the SGs as the heat sink for the reactor. This Function does not have to be OPERABLE in MODES 5 and 6 because there is not enough heat being generated in the reactor to require the SGs as a heat sink. In MODE 4, AFW automatic suction transfer does not need to be OPERABLE because RHR will already be in operation, or sufficient time is available to place RHR in operation, to remove decay heat.

7. Automatic Switchover to Containment Sump

At the end of the injection phase of a LOCA, the RWST will be nearly empty. Continued cooling must be provided by the ECCS to remove decay heat. The source of water for the RHR pumps is automatically switched to the containment recirculation sumps. The low head residual heat removal (RHR) pumps and containment spray pumps draw the water from the containment recirculation sumps, the RHR pumps pump the water through the RHR heat exchanger, inject the water back into the RCS, and supply the cooled water to the other ECCS pumps. Switchover from the RWST to the containment sumps must occur before the RWST empties to prevent damage to the RHR pumps and a loss of core cooling capability. For similar reasons, switchover must not occur before there is sufficient water in the containment sumps to support ESF pump suction.

(continued)

BASES

ACTIONS

I.1 and I.2 (continued)

The Required Actions are modified by a Note that allows the inoperable channel to be bypassed for up to 12 hours for surveillance testing of other channels. The 72 hours allowed to place the inoperable channel in the tripped condition, and the 12 hours allowed for an inoperable channel to be in the bypassed condition for testing, are justified in Reference 18.

INSERT 3.3.2J (start new paragraph)

J.1 and J.2

Condition J applies to the AFW pump start on trip of all MFW pumps (PAE01A and PAE01B).

This action addresses the train orientation of the EOP ESFAS for the auto start function of the AFW System on loss of all MFW pumps (PAE01A and PAE01B). The OPERABILITY of the AFW System must be assured by providing automatic start of the AFW System pumps. ~~If one or more channel(s) are inoperable, 1 hour is allowed to place the inoperable channel(s) in the tripped condition.~~ If the channels cannot be tripped in 1 hour, 6 additional hours are allowed to place the unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, the unit does not have any analyzed transients or conditions that require the explicit use of the protection function noted above. The Required Actions are modified by a Note that allows one inoperable channel to be bypassed for up to 2 hours for surveillance testing of other channels.

(start new paragraph)

K.1, K.2.1, and K.2.2

Condition K applies to:

- RWST Level - Low Low Coincident with Safety Injection.

RWST Level - Low Low Coincident With SI provides actuation of switchover to the containment recirculation sumps. Note that this Function requires the bistables to energize to perform their required action. The failure of up to two channels will not prevent the operation of this Function. This Action Statement limits the duration that an RWST level channel could be inoperable in the tripped condition in order to limit the probability for automatic switchover to an empty containment sump upon receipt of an inadvertent safety injection signal (SIS), coincident with a single failure of another RWST level channel, or for premature

(continued)

INSERT 3.3.2.J

Condition J applies if the actuation function has been lost, i.e., if more than one channel is inoperable and the inoperable channels are not in the same separation group. If Condition J is entered, 1 hour is allowed to place the inoperable channels in the tripped condition. Since the Required Channels for Function 6.g are specified in Technical Specification Table 3.3.2-1 as 2 per main feedwater pump, Condition J may be entered separately, on a per pump basis, for the inoperability of more than one channel. If one or both channel(s) per main feedwater pump are inoperable in different separation groups, the actuation function is not available. As shown on FSAR Figure 7.3-1, sheet 2 (Ref. 2), satisfying the trip logic requires the presence of a low oil pressure signal in the same separation group on each main feedwater pump. For example, an inoperable separation group 1 channel on one pump coincident with an inoperable separation group 4 channel on the other pump would lead to the loss of the actuation function. Similarly, the loss of both channels on the same MFP would lead to the loss of the actuation function. Therefore, Condition J covers any of the following situations:

- Channels FCP-0025 and FCP-0026 inoperable;
- Channels FCP-0125 and FCP-0126 inoperable;
- Channels FCP-0025 and FCP-0126 inoperable;
- Channels FCP-0026 and FCP-0125 inoperable;
- Channels FCP-0025, FCP-0026, and FCP-0125 inoperable;
- Channels FCP-0025, FCP-0026, and FCP-0126 inoperable;
- Channels FCP-0125, FCP-0126, and FCP-0025 inoperable;
- Channels FCP-0125, FCP-0126, and FCP-0026 inoperable;
- Channels FCP-0025, FCP-0026, FCP-0125, and FCP-0126 inoperable.

The wording of Condition J limits the duration of the loss of function consistent with Reference 23.

BASES

ACTIONS (continued)

M.1 and M.2

~~Not used.~~ INSERT 3.3.2.M

N.1, N.2.1, and N.2.2

Condition N applies to the Environmental Allowance Modifier (EAM) circuitry for the SG Water Level - Low Low trip Functions in MODES 1, 2, and 3. With one or more EAM channel(s) inoperable, they must be placed in the tripped condition within 72 hours. Placing an EAM channel in trip automatically enables the SG Water Level - Low Low (Adverse Containment Environment) bistable for that protection channel, with its higher SG level Trip Setpoint (a higher trip setpoint means a feedwater isolation or an AFW actuation would occur sooner). The Completion Time of 72 hours is based on Reference 18. If the inoperable channel cannot be placed in the tripped condition within the specified Completion Time, the unit must be placed in a MODE where this Function is not required to be OPERABLE. The unit must be placed in MODE 3 within an additional six hours and in MODE 4 within the following six hours.

O.1 and O.2

Condition O applies to the Auxiliary Feedwater Pump Suction Transfer on Suction Pressure - Low trip Function. The Condensate Storage Tank is the highly reliable and preferred suction source for the AFW pumps. This function has a two-out-of-three trip logic. Therefore, continued operation is allowed with one inoperable channel until the performance of the next monthly COT on one of the other channels, as long as the inoperable channel is placed in trip within ~~1 hour.~~ 24 hours.

P.1 and P.2

Condition P applies to the Auxiliary Feedwater Manual Initiation trip Function and the Steam Generator Blowdown and Sample Line Isolation Valve Actuation Function 10.a. The associated auxiliary feedwater pump(s) and the associated steam generator blowdown and sample line isolation valve(s) must be declared inoperable immediately when one or more channel(s) or train(s) is inoperable. Refer to LCO 3.7.5, "Auxiliary Feedwater (AFW) System," and to LCO 3.7.19, "Secondary Side Isolation Valves."

(continued)

INSERT 3.3.2.M

Condition M applies to the AFW pump start on trip of all MFW pumps (PAE01A and PAE01B).

This action addresses the train orientation of the BOP ESFAS for the auto start function of the AFW System on loss of all MFW pumps (PAE01A and PAE01B). The OPERABILITY of the AFW System must be assured by providing automatic start of the AFW System pumps.

Condition M applies if the actuation function has not been lost, i.e., if only one channel out of the four total channels is inoperable or if two channels out of the four total channels are inoperable but are in the same separation group. The Condition is modified by a Note that limits Condition entry to situations in which there has been no loss of the actuation function. If Condition M is entered, 24 hours are allowed to place the inoperable channel(s) in the tripped condition. Since the Required Channels for Function 6.g are specified in Technical Specification Table 3.3.2-1 as 2 per main feedwater pump, Condition M may be entered separately, on a per pump basis, for the inoperability of one channel per pump in the same separation group. If a single channel out of the total of four channels is inoperable or if one channel per main feedwater pump is inoperable but the Condition is limited to the same separation group, the actuation function remains available. As shown on FSAR Figure 7.3-1, sheet 2 (Ref. 2), satisfying the trip logic requires the presence of a low oil pressure signal in the same separation group on each main feedwater pump. For example, an inoperable separation group 1 channel on one pump coincident with an inoperable separation group 1 channel on the other pump would leave the separation group 4 channels available to perform the actuation function. Therefore, Condition J covers any of the following situations:

- A single channel out of four inoperable;
- Channels FCP-0025 and FCP-0125 inoperable;
- Channels FCP-0026 and FCP-0126 inoperable;

The wording of Condition M limits the Completion Time duration consistent with Reference 23.

If the channel(s) can not be tripped in 24 hours, 6 additional hours are allowed to place the unit in MODE 3. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, the unit does not have any analyzed transients or conditions that require the explicit use of the protection function noted above. The Required Actions are modified by a Note that allows one inoperable channel to be bypassed for up to 2 hours for surveillance testing of other channels.

BASES

ACTIONS
(continued)

~~Q.1 and Q.2~~ Q.1, Q.2.1, and Q.2.2

INSERT 3.3.2.Q

Condition Q applies to the Auxiliary Feedwater and Steam Generator Blowdown and Sample Line Isolation Valve Actuation Function 10.b Balance of Plant ESFAS automatic actuation logic and actuation relays. ~~With one train inoperable,~~ the unit must be brought to MODE 3 within 30 ~~6~~ hours and MODE 4 within ~~12~~ 36 hours (Example 1.3-1 explains the independence of these Completion Times). The Required Actions are modified by a Note that allows one train to be bypassed for up to 2 hours for surveillance testing provided the other train is OPERABLE.

R.1, R.2.1, and R.2.2

Condition R applies to the Auxiliary Feedwater Loss of Offsite Power trip Function and the Steam Generator Blowdown and Sample Line Isolation Valve Actuation Function 10.d. With the inoperability of one or both train(s), 48 hours are allowed to return the train(s) to OPERABLE status. The specified Completion Time is reasonable considering this Function is associated with the turbine driven auxiliary feedwater pump (TDAFP) and the ESFAS Function 10 valves, the available redundancy provided by the motor driven auxiliary feedwater pumps and other isolation valves, and the low probability of an event occurring during this interval. If the Function cannot be returned to OPERABLE status, the unit must be placed in MODE 3 within 6 hours and in MODE 4 within 12 hours (Example 1.3-1 explains the independence of these Completion Times). The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power in an orderly manner and without challenging unit systems. In MODE 4, the unit does not have any analyzed transients or conditions that require this equipment for mitigation.

S.1, S.2.1, and S.2.2

Condition S applies to the MSFIS automatic logic and actuation relays.

The action addresses the train orientation of the actuation logic for these functions. If one train is inoperable, 6 hours are allowed to restore the train to OPERABLE status. The Completion Time for restoring a train to OPERABLE status is reasonable considering that there is another train OPERABLE, and the low probability of an event occurring during this interval. If the train cannot be returned to OPERABLE status, the unit must be brought to MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit

(continued)

INSERT 3.3.2.Q

If one train is inoperable, 24 hours are allowed to restore the train to OPERABLE status. The 24 hours allowed for restoring the inoperable train to OPERABLE status is justified in Reference 23. The specified Completion Time is reasonable considering that there is another train OPERABLE, and the low probability of an event occurring during this interval. If the inoperable train cannot be restored to OPERABLE status within 24 hours,

BASES

REFERENCES (continued)

10. WCAP-13632-P-A, Revision 2, "Elimination of Pressure Sensor Response Time Testing Requirements," January 1996.

11. Callaway OL Amendment No. 43 dated April 14, 1989.

12. SLNRC 84-0038 dated February 27, 1984.

13. Callaway OL Amendment No. 117 dated October 1, 1996.

14. WCAP-14036-P-A, Revision 1, "Elimination of Periodic Protection Channel Response Time Tests," October 1998.

15. FSAR, Section 15.5.1.

16. FSAR, Section 15.6.1.

17. Letter from Mel Gray (NRC) to Garry L. Randolph (UE), "Revision 20 of the Inservice Testing Program for Callaway Plant, Unit 1 (TAC No. MA4469)," dated March 19, 1999.

18. WCAP-14333-P-A, Revision 1, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," October 1998.

19. WCAP-15376-P-A, Revision 1, "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," March 2003.

20. Westinghouse letter SCP-04-90 dated August 27, 2004.

21. ULNRC-03748 dated February 27, 1998.

22. IDP-ZZ-00017.

23. Callaway License Amendment XXX dated MM DD, YY.