ArevaEPRDCPEm Resource

From: WELLS Russell D (AREVA NP INC) [Russell.Wells@areva.com]
Sent: Tuesday, March 31, 2009 7:07 PM
To: Getachew Tesfaye
Cc: Pederson Ronda M (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 110, FSAR Ch 16, Supplement 2
Attachments: RAI 110 Supplement 2 Response US EPR DC.pdf

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 21 of the 33 questions of RAI No. 110 on December 1, 2008. AREVA NP provided responses to 9 of the 12 remaining questions on March 19, 2009. However, a page for the U.S. EPR Final Safety Analysis Report was inadvertently omitted (i.e., page B 3.3.2-1). Accordingly, the attached file, "RAI 110 Supplement 2 Response US EPR DC.pdf" provides the corrected response in its entirety.

This response supersedes the response to Question 16-212 that was provided in RAI 110, Supplement 1.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the amended response to RAI 110 Questions 16-212.

The following table indicates the respective pages in the response document, "RAI 110 Supplement 2 Response US EPR DC.pdf," that contain AREVA NP's response to the subject question.

Question #	Start Page	End Page
RAI 110 — 16-212	2	2

The schedule for technically correct and complete responses to the remaining questions is unchanged and provided below:

Question #	Response Date
RAI 110 — 16-215	June 30, 2009
RAI 110 — 16-217	June 30, 2009
RAI 110 — 16-226	June 30, 2009

Sincerely,

(Russ Wells on behalf of)

Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
New Plants Deployment
AREVA NP, Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
Cell: 434-841-8788

From: WELLS Russell D (AREVA NP INC)
Sent: Thursday, March 19, 2009 5:14 PM
To: 'Getachew Tesfaye'
Cc: Pederson Ronda M (AREVA NP INC); BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC)
Subject: Response to U.S. EPR Design Certification Application RAI No. 110, FSAR Ch 16, Supplement 1

Getachew,

AREVA NP Inc. (AREVA NP) provided responses to 21 of the 33 questions of RAI No. 110 on December 1, 2008. The attached file, "RAI 110 Supplement 1 Response US EPR DC.pdf" provides technically correct and complete responses to 9 of the remaining 12 questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 110 Questions 16-212, 16-222, 16-227, 16-228, 16-237, and 16-241.

The following table indicates the respective pages in the response document, "RAI 110 Supplement 1 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 110 — 16-212	2	2
RAI 110 — 16-213	3	3
RAI 110 — 16-222	4	4
RAI 110 — 16-223	5	5
RAI 110 — 16-227	6	7
RAI 110 — 16-228	8	8
RAI 110 — 16-236	9	9
RAI 110 — 16-237	10	11
RAI 110 — 16-241	12	12

The schedule for response to RAI 110 – 16-215 has been changed from March 19, 2009 to June 30, 2009. The schedule for technically correct and complete responses to the remaining questions is provided below:

Question #	Response Date
RAI 110 — 16-215	June 30, 2009
RAI 110 — 16-217	June 30, 2009
RAI 110 — 16-226	June 30, 2009

Sincerely,

(Russ Wells on behalf of)
Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR Design Certification
New Plants Deployment
AREVA NP, Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
Cell: 434-841-8788

From: Pederson Ronda M (AREVA NP INC)
Sent: Monday, December 01, 2008 3:39 PM

To: 'Getachew Tesfaye'
Cc: BENNETT Kathy A (OFR) (AREVA NP INC); DELANO Karen V (AREVA NP INC); PORTER Thomas (EXT)
Subject: Response to U.S. EPR Design Certification Application RAI No. 110 (1295, 1331),FSAR Ch. 16

Getachew,

Attached please find AREVA NP Inc.'s response to the subject request for additional information (RAI). The attached file, "RAI 110 Response US EPR DC.pdf," provides technically correct and complete responses to 21 of the 33 questions.

Appended to this file are affected pages of the U.S. EPR Final Safety Analysis Report in redline-strikeout format which support the response to RAI 110 Questions 16-214, 16-219, 16-220, 16-221, 16-224, 16-225, 16-231, 16-232, 16-234, and 16-242.

The following table indicates the respective pages in the response document, "RAI 110 Response US EPR DC.pdf," that contain AREVA NP's response to the subject questions.

Question #	Start Page	End Page
RAI 110 — 16-210	2	2
RAI 110 — 16-211	3	4
RAI 110 — 16-212	5	5
RAI 110 — 16-213	6	6
RAI 110 — 16-214	7	7
RAI 110 — 16-215	8	8
RAI 110 — 16-216	9	9
RAI 110 — 16-217	10	10
RAI 110 — 16-218	11	11
RAI 110 — 16-219	12	12
RAI 110 — 16-220	13	13
RAI 110 — 16-221	14	14
RAI 110 — 16-222	15	15
RAI 110 — 16-223	16	16
RAI 110 — 16-224	17	17
RAI 110 — 16-225	18	18
RAI 110 — 16-226	19	19
RAI 110 — 16-227	20	20
RAI 110 — 16-228	21	21
RAI 110 — 16-229	22	22
RAI 110 — 16-230	23	24
RAI 110 — 16-231	25	25
RAI 110 — 16-232	26	26
RAI 110 — 16-233	27	27
RAI 110 — 16-234	28	28
RAI 110 — 16-235	29	30
RAI 110 — 16-236	31	31
RAI 110 — 16-237	32	32
RAI 110 — 16-238	33	33
RAI 110 — 16-239	34	34
RAI 110 — 16-240	35	35
RAI 110 — 16-241	36	36
RAI 110 — 16-242	37	37

A complete answer is not provided for 12 of the 33 questions. The schedule for a technically correct and complete response to these questions is provided below.

Question #	Response Date
RAI 110 — 16-212	March 19, 2009
RAI 110 — 16-213	March 19, 2009
RAI 110 — 16-215	March 19, 2009
RAI 110 — 16-217	June 30, 2009
RAI 110 — 16-222	March 31, 2009
RAI 110 — 16-223	March 31, 2009
RAI 110 — 16-226	June 30, 2009
RAI 110 — 16-227	March 31, 2009
RAI 110 — 16-228	March 31, 2009
RAI 110 — 16-236	March 31, 2009
RAI 110 — 16-237	June 30, 2009
RAI 110 — 16-241	March 31, 2009

Sincerely,

Ronda Pederson
ronda.pederson@areva.com
Licensing Manager, U.S. EPR(TM) Design Certification
AREVA NP Inc.
An AREVA and Siemens company
3315 Old Forest Road
Lynchburg, VA 24506-0935
Phone: 434-832-3694
Cell: 434-841-8788

From: Getachew Tesfaye [mailto:Getachew.Tesfaye@nrc.gov]
Sent: Tuesday, October 28, 2008 9:57 AM
To: ZZ-DL-A-USEPR-DL
Cc: Robert Prato; Michael Marshall; Peter Hearn; Joseph Colaccino; John Rycyna
Subject: U.S. EPR Design Certification Application RAI No. 110 (1295, 1331),FSAR Ch. 16

Attached please find the subject requests for additional information (RAI). A draft of the RAI was provided to you on October 20, 2008, and on October 28, 2008, you informed us that the RAI is clear and no further clarification is needed. As a result, no change is made to the draft RAI. The schedule we have established for review of your application assumes technically correct and complete responses within 30 days of receipt of RAIs. For any RAIs that cannot be answered within 30 days, it is expected that a date for receipt of this information will be provided to the staff within the 30 day period so that the staff can assess how this information will impact the published schedule.

Thanks,
Getachew Tesfaye
Sr. Project Manager
NRO/DNRL/NARP
(301) 415-3361

Hearing Identifier: AREVA_EPR_DC_RAIs
Email Number: 364

Mail Envelope Properties (1F1CC1BBDC66B842A46CAC03D6B1CD41014D6AEC)

Subject: Response to U.S. EPR Design Certification Application RAI No. 110, FSAR Ch 16, Supplement 2
Sent Date: 3/31/2009 7:07:29 PM
Received Date: 3/31/2009 7:07:31 PM
From: WELLS Russell D (AREVA NP INC)

Created By: Russell.Wells@areva.com

Recipients:
"Pederson Ronda M (AREVA NP INC)" <Ronda.Pederson@areva.com>
Tracking Status: None
"BENNETT Kathy A (OFR) (AREVA NP INC)" <Kathy.Bennett@areva.com>
Tracking Status: None
"DELANO Karen V (AREVA NP INC)" <Karen.Delano@areva.com>
Tracking Status: None
"Getachew Tesfaye" <Getachew.Tesfaye@nrc.gov>
Tracking Status: None

Post Office: AUSLYNCMX02.adom.ad.corp

Files	**Size**	**Date & Time**
MESSAGE	7924	3/31/2009 7:07:31 PM
RAI 110 Supplement 2 Response US EPR DC.pdf	127759	

Options
Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

Response to

Request for Additional Information No. 110, Supplement 2

10/28/2008

U. S. EPR Standard Design Certification
AREVA NP Inc.
Docket No. 52-020
SRP Section: 16 - Technical Specifications
Application Section: FSAR Ch. 16

QUESTIONS for Technical Specification Branch (CTSB)

Question 16-212:

Provide a summary of the analysis or identify the summary of the anaylsis in the EPR FSAR.

In the EPR FSAR add a summary of the analysis (if needed) and identify in the EPR Bases, Section B 3.3.2 where the summary of the analysis can be found in the EPR FSAR to ensure that the EPR GTS, Table 3.3.2-1, Post Accident Monitoring Instrumentation includes the entire population of instruments required by GDC 13, 19 and 64 and the guidance included in IEEE 497-2002 and Regulatory Guide 1.97. that established the required instrumentation for post accident monitoring.

This additional information is needed to ensure the accuracy and completeness of the EPR GTS, Bases and FSAR.

Response to Question 16-212:

U.S. EPR FSAR Tier 2, Section 7.5.2.2.1 states:

> "The guidance of RG 1.97, Revision 4, will be used to select the accident monitoring variables during detailed design. With clarifying regulatory positions, RG 1.97, Revision 4, endorses Reference 1, which provides performance-based criteria for selecting variables and recommends determining the variable type according to its accident management function. The accident management function is to be identified by its use in the Emergency Procedure Guidelines (EPG), Emergency Operating Procedures (EOP), and Abnormal Operating Procedures (AOP). The development of these guidelines and procedures is discussed in Section 13.5. When these procedures are complete and verified, they will be used to develop a complete accident monitoring instrumentation list."

The development of these procedures is identified in U.S. EPR FSAR Tier 2, Table 1.8-2, "U.S. EPR Combined License Information Items," COL Item No. 13.5-1.

Since the list of Post Accident Monitoring Instrumentation is plant-specific, the current list and associated discussions will be removed from U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications Section 3.3.2 "Post Accident Monitoring (PAM) Instrumentation" and U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications Bases Section B 3.3.2 Post Accident Monitoring (PAM) Instrumentation." The development of this information is identified in U.S. EPR FSAR Tier 2, Table 1.8-2, "U.S. EPR Combined License Information Items," COL Item No. 16.0-1.

FSAR Impact:

U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications Section 3.3.2 "Post Accident Monitoring (PAM) Instrumentation" and U.S. EPR FSAR Tier 2, Chapter 16, Technical Specifications Bases Section B 3.3.2 "Post Accident Monitoring (PAM) Instrumentation" will be revised as described in the response and as indicated on the enclosed markup.

U.S. EPR Final Safety Analysis Report Markups

B 3.3 INSTRUMENTATION

B 3.3.2 Post Accident Monitoring (PAM) Instrumentation

BASES

BACKGROUND

The primary purpose of the PAM instrumentation is to provide operators with information that is needed during accidents.

The OPERABILITY of PAM instrumentation ensures that there is sufficient information available on selected plant parameters to monitor and assess plant status and behavior following accidents and transients when the use of the Emergency Operating Procedures (EOPs) is required.

16-212

The PAM instruments ~~included in Table 3.3.2-1, Postaccident Monitoring Instrumentation,~~ are required for the following reasons:

1. Perform the diagnosis specified in the emergency operating procedures (these variables are restricted to preplanned actions for the primary success path of DBAs), e.g., loss of coolant accident (LOCA);

2. Take the specified, pre-planned, manually controlled actions, for which no automatic control is provided, and that are required for safety systems to accomplish their safety function;

3. Provide information to indicate whether plant safety functions are being accomplished for reactivity control, core cooling, maintaining reactor coolant system integrity, and maintaining containment integrity (including radioactive effluent control);

4. Provide information to indicate the potential for being breached or the actual breach of the barriers to fission product releases (i.e., fuel cladding, primary coolant pressure boundary, and containment); and

5. Enable the operator to recognize which heat transfer symptom is occurring: 1) loss of subcooling margin, 2) lack of heat transfer, 3) excessive heat transfer, and 4) Steam Generator Tube Rupture.

The PAM instrumentation is displayed through the Safety Information and Control Systems (SICS), which includes the Qualified Display System (QDS). The Safety Automation System (SAS) communication with the QDS (as part of SICS) is realized through the Monitoring and Service Interfaces (MSI), and the Panel Interfaces (PI). The PI's are part of the SICS, the MSI's are part of the SAS. The SAS also provides outputs for analog meters, illuminated buttons etc., and receives inputs from Conventional Instrumentation and Controls which is included in the SICS.

BASES

LCO (continued)

16-212

PAM variables are required to meet design and qualification requirements for seismic and environmental qualification, single failure criterion, utilization of emergency standby power, immediately accessible display, continuous readout, and recording of display.

---------- REVIEWER'S NOTE ----------
The Bases must contain a description of variables typical of those identified by the unit specific Regulatory Guide 1.97 analyses. The description in unit specific Technical Specifications (TS) shall list all required variables identified by the unit specific Regulatory Guide 1.97 analyses, as amended by the NRC's Safety Evaluation Report (SER).

Listed below are discussions of the specified instrument Functions; ~~listed in Table 3.3.2-1.~~[.]

~~1.Cold Leg Temperature (Wide Range)~~

~~The key variables for monitoring core cooling are Hot Leg Temperature, Core Exit Temperature, and Steam Generator Pressure. Cold Leg Temperature provides backup temperature monitoring to Hot Leg Temperature and Core Exit Temperature when forced or verified natural circulation exists. Cold Leg Temperature is used with Hot Leg Temperature and Core Exit Temperature to verify natural circulation. Cold Leg Temperature is compared to the saturation temperature for steam generator pressure (Tsat) to determine primary to secondary loop coupling.~~

~~2.Containment Isolation Valve Position Indication~~

~~Containment isolation valve position verifies Containment isolation and is required to ensure Containment integrity in event of a LOCA.~~

~~3.Containment Pressure~~

~~Containment pressure is a key measurement used for detection of a LOCA, verification of Engineered Safety Features mitigation, and detection of a potential breach of Containment.~~

BASES

LCO (continued)

~~4. Emergency Feedwater Storage Pool Level~~

~~Emergency feedwater pool level is a key variable to ensure adequate EFW pump net positive suction head (NPSH) is satisfied.~~

~~5.Emergency Feedwater System Flow~~

~~Emergency Feedwater flow indication is required when throttling feedwater flow to the steam generators. Control of flow is required to control the rate of steam generator heat removal to maintain Reactor Coolant temperature profiles within limits for cooldown.~~

~~6.Extra Boration System Flow~~

~~The Extra Boration System flow provides verification that the appropriate system alignment has been completed. The negative reactivity additions performed by this system require verfication of correct system operation.~~

~~7.Hot Leg Injection Flow~~

16-212

~~Hot Leg Injection flow provides verification that the appropriate system alignment has been completed. Hot leg injection is required to prevent the buildup of sufficient boron concentration in the core coolant channels to impede long term core cooling.~~

~~8.Hot Leg Pressure (Wide Range)~~

~~RCS pressure is required to monitor reactor coolant integrity and assess core cooling. RCS pressure and either RCS hot leg or incore temperature is used to determine subcooling margin if the calcuation is not available.~~

~~9.Hot Leg Temperature (Wide Range)~~

~~Hot Leg Temperature is required to monitor core cooling, to verify natural circulation, and to verify primary to secondary loop coupling along with steam generator pressure. Hot Leg temperature and RCS pressure are used to determine loop subcooling margin if the calculation is not available.~~

BASES

LCO (continued)

16-212

~~10.In-containment Refueling Water Storage Tank Level~~

~~In-Containment storage tank level is monitored during operation to ensure that adequate pump NPSH is maintained during the recirculation phase of LOCA mitigation for long term core cooling requirements. In addition, level instrumentation is used to assess level loss due to leakage on Safety Injection piping located outside of Containment and interfacing systems (Inter-system LOCA) as well as level rise due to dilution mechanisms.~~

~~11.Incore Temperature~~

~~Core cooling is monitored by RCS and incore thermocouple temperatures. Loss of subcooling margin (SCM) is identified by a combination of RCS pressure and either hot leg temperature or incore thermocouple temperature depending on plant conditions, (e.g., RCPs on/off). Incore Temperature is monitored for verification and surveillance of long term core cooling and to detect potential breach of fuel cladding.~~

~~12.Power Range Monitors~~

~~Power Range Neutron Flux is used to verify that reactor trip has resulted in "Reactor Shutdown". Once "Reactor Shutdown" is verified following reactor trip, all subsequent EOP action is based on a shutdown reactor. Power Range indication is used during a steam generator tube rupture to determine when core power is within the Main Steam bypass capability, at which point a reactor trip can be performed without challenge to the Main Steam relief capabilities.~~

~~13.Pressurizer Level~~

~~Pressurizer level provides information for the operator to maintain RCS pressure and inventory control, with the exception of a few accident situations, such as large break LOCA. Pressurizer level is a key variable required to ensure proper operation of the pressurizer heaters to maintain the pressurizer in a saturated state.~~

BASES

LCO (continued)

16-212

~~14.Radiation Monitor - Containment High Range Activity~~

~~Containment high range radiation instrumentation is used to assess the potential for significant radiation releases and to provide release assessment for determining the need to invoke site emergency plans.~~

~~15.Radiation Monitor - Main Steam Line Activity~~

~~Main Steam Line radiation levels are a key variable for detection of a breach between the primary to secondary loop boundary.~~

~~16.Source Range Monitors~~

~~Source Range instrumentation is used to ensure that the reactor remains subcritical. Once "Reactor Shutdown" is verified following reactor trip, all subsequent EOP action is based on a shutdown reactor. Source range can be used to assess if a return to critical condition is approached during plant cooldown and whether mitigation efforts are required to maintain the reactor in a shutdown condition.~~

~~17.Steam Generator Level (Wide Range)~~

~~Both steam generator level and pressure are monitored to assess primary to secondary heat transfer. An upper level limit is specified to prevent moisture carryover into the steam lines which could damage control components used for controlling RCS cooldown.~~

~~18.Steam Generator Pressure~~

~~Steam Generator pressure is a key parameter used to identify upsets in heat transfer and evaluate primary-to-secondary heat transfer.~~

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1, 2, and 3. These variables are related to the diagnosis and preplanned actions required to mitigate postulated accidents. The applicable postulated accidents are assumed to occur in MODES 1, 2, and 3. In MODES 4, 5, and 6, plant conditions are such that the likelihood of an event occurring that would require PAM instrumentation is low; therefore, PAM instrumentation is not required to be OPERABLE in these MODES.

16-212

BASES

ACTIONS

A Note has been added in the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function ~~listed in Table 3.3.2-1~~. The Completion Time(s) of the inoperable division(s) of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function.

A.1

When one or more Functions have one required division that is inoperable, the required inoperable division must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience and takes into account the remaining OPERABLE division (or in the case of a Function that has only one required division, other non-Regulatory Guide 1.97 instrument divisions to monitor the Function), the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

B.1

This Required Action specifies initiation of actions in accordance with Specification 5.6.5, which requires a written report to be submitted to the Nuclear Regulatory Commission. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative Required Actions. This Required Action is appropriate in lieu of a shutdown requirement, given the likelihood of plant conditions that would require information provided by this instrumentation. Also, alternative Required Actions are identified before a loss of functional capability condition occurs.

C.1

When one or more Functions have two required divisions inoperable (i.e., two divisions inoperable in the same Function), one division in the Function should be restored to OPERABLE status within 7 days. The Completion Time of 7 days is based on the relatively low probability of an event requiring PAM instrumentation operation and the availability of alternate means to obtain the required information. Continuous operation with two required divisions inoperable in a Function is not acceptable because the alternate indications may not fully meet all performance qualification requirements applied to the PAM instrumentation. Therefore, requiring restoration of one inoperable division of the Function limits the risk that the PAM Function will be in a degraded condition should an accident occur.

BASES

ACTIONS (continued)

D.1 and D.2

If the Required Action and associated Completion Time of Condition C are not met ~~and Table 3.3.2-1 directs entry into Condition E~~, the plant must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within 12 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

A Note at the beginning of the SR Table specifies that the following SR applies to each PAM instrumentation Function ~~found in Table 3.3.2-1~~.

16-212

SR 3.3.2.1

A CALIBRATION is performed every 24 months or approximately every refueling. CALIBRATION is a complete check of the instrument division including the sensor. The Surveillance verifies the function responds to the measured parameter within the necessary range and accuracy. ~~A Note allows exclusion of the neutron detectors from the CALIBRATION. The requirements for CALIBRATION of neutron detectors is Specified in Specification 3.3.1," Protection System and Safety Automation System".~~

The Frequency is based upon operating experience and consistency with the typical industry refueling cycle and is justified by the assumption of a 24 month CALIBRATION interval for the determination of the magnitude of equipment drift.

~~SR 3.3.2.2~~

~~A SOT on each Safety Information and Control System performing the PAM functions listed in Table 3.3.2-1 is performed every 24 months to ensure the entire division will perform its intended function when needed. A SOT shall be the injection of a simulated or actual signal into the division as close to the sensor as practicable to verify OPERABILITY of all devices in the division required for division OPERABILITY. The SOT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for division OPERABILITY such that the setpoints are within the necessary range and accuracy. The SOT may be performed by means of any series of sequential, overlapping, or total steps.~~

3.3 INSTRUMENTATION

3.3.2 Post Accident Monitoring (PAM) Instrumentation

16-212

LCO 3.3.2 The PAM instrumentation for each Function ~~in Table 3.3.2-1~~ shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required division inoperable.	A.1 Restore required division to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.5.	Immediately
C. One or more Functions with two required division inoperable.	C.1 Restore one division to OPERABLE status.	7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	6 hours 12 hours

16-212

~~Table 3.3.2-1 (page 1 of 1)~~
~~Post Accident Monitoring Instrumentation~~

~~FUNCTION~~	~~REQUIRED NUMBER OF DIVISIONS~~
~~1.Cold Leg Temperature (Wide Range)~~	~~1 per loop~~
~~2.Containment Isolation Valve Position Indication~~	~~2(a)(b)~~
~~3.Containment Pressure~~	~~2~~
~~4.Emergency Feedwater Storage Pool Level~~	~~1 per pool~~
~~5.Emergency Feedwater System Flow~~	~~1 per loop~~
~~6.Extra Boration System Flow~~	~~2~~
~~7.Hot Leg Injection Flow~~	~~1 per loop~~
~~8.Hot Leg Pressure (Wide Range)~~	~~1 per loop~~
~~9.Hot Leg Temperature (Wide Range)~~	~~1 per loop~~
~~10.In-containment Refueling Water Storage Tank Level~~	~~2~~
~~11.Incore Temperature~~	~~2 per quadrant~~
~~12.Power Range Monitors~~	~~2~~
~~13.Pressurizer Level~~	~~2~~
~~14.Radiation Monitor - Containment High Range~~	~~2~~
~~15.Radiation Monitor - Main Steam Line Activity~~	~~1 per line~~
~~16.Source Range Monitors~~	~~2~~
~~17.Steam Generator Level (Wide Range)~~	~~2 per SG~~
~~18.Steam Generator Pressure~~	~~2 per SG~~

~~(a) Not required for isolation valves whose associated penetration is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.~~

~~(b) Only one position indication division is required for penetration flow paths with only one installed control room indication division.~~