003 - Chapter 12 - Question 8 - FSAR Change Package

1617 S00 PKG

SAR CHANGE REQUEST

SAR CHANGE PACKAGE NO. 1617

ORIGINATOR: Don Wilder DATE: 1/6/00
ORGANIZATION/ADDRESS SE-DE/EQB-2N PHONE: 1363

CHANGE REQUIRED DUE TO:

☐ DCN/MODIFICATION* JUSTIFICATION:
DATE IMPLEMENTED

☐ TECH SPEC CHANGE*: JUSTIFICATION:
DATE IMPLEMENTED

☒ OTHER* Remove excessive detail 3/30/2000 JUSTIFICATION: Information is contained in TS, ODCM, etc. This level of detail is inappropriate for the UFSAR.

☐ Nonsignificant* JUSTIFICATION:

*Attach a marked up copy of applicable SAR page, table, revised figures, table of contents, list of tables, etc.

NOTE A safety assessment/safety evaluation is required to accompany any technical SAR change. Nonsignificant changes do not require a safety assessment/evaluation. Contact Site Licensing organization if confusion or uncertainty exists over whether a change is nonsignificant.

PROPOSED CHANGES HAVE BEEN COORDINATED WITH AND ARE CONCURRED BY THE SUPPORTING ORGANIZATIONS, IF APPLICABLE.

NAME	SUPPORTING ORG	DATE
D3-23-00	SITE ENGINEERING-DESIGN/MNE	3/23/2000
	RADCON	1/13/2000
	CHEMISTRY	3/20/2000
Rob Rieger	SITE ENGINEERING-SYSTEMS	3-27-2000

Prepared By: Don Wilder Phone: 1363 Date: 1/7/00

Approved By**: D77 R.A. Sullivan for BGB 3/24/00 Phone: _____ Date: _____
3/24/00
Lead Org. Section Supervisor

References (base on design document, if possible):

**Lead organization approval is not required for typographical changes

Licensing Disposition
Approved ☒ Rejected ☐ Amendment No. 2

Licensing Approval***: Rebecca N Mays Date: 3/30/2001

Transmit to:
Site Licensing Manager
RIMS
Management Services Living FSAR (Issued by Site Licensing)
***Forward to Originator

1617 S00 PKG

12.3.4.1.2.3 Local Indicator-Alarm Panel

With the exception of the main control room and Reactor Building upper and lower compartment post accident monitors, each monitor has a locally mounted panel which contains an indicator, a visual and audible high radiation alarm, and a power-on light.

12.3.4.1.2.4 Multipoint Recorders (Main Control Room 0-M-12, 1-,2-M-31)

The area monitors are recorded on multipoint recorders on panels 0-M-12, or 1-,2-M-31 in the MCR.

12.3.4.1.2.5 Monitor Sensitivity and Range

The ranges of the instrumentation provided are given in Table 12.3-4. The area monitors set points, adjustable over the entire range, are determined by the radiation control group based on operating background levels. The setpoints for the Reactor Building upper and lower compartment post accident monitors are determined by engineering analysis.

12.3.4.1.3 Area Monitor Calibration and Maintenance

With the exception of the Reactor Building upper and lower compartment post accident monitors, periodic testing of each area monitor includes a channel calibration performed at least once per fuel cycle, and a channel operational test that is performed at least once per quarter. Testing of the Reactor Building upper and lower compartment post accident monitors is described by plant Technical Specifications.

The channel calibration is the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input from a radioactive calibration source. The channel calibration encompasses the entire channel, including the required sensor, alarm, interlock, display and trip functions. The channel calibration may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The channel operational test (COT) is the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the operability of required alarm, interlock, display and trip functions. The COT includes adjustments, as necessary, of the required alarm, interlock, and trip setpoints so that the setpoints are within the required range and accuracy.

The built-in checksource function exposes the channel detector to a radioactive source for all channels except those employing an ion chamber detector. The checksource function simulates a detector signal at the channel electronics in channels employing an ion chamber detector. The built-in checksource feature is used to verify functional response of the detector and/or electronics during the performance of the channel operational test. This function is also used by operations personnel at other times, such as after maintenance, to rapidly determine channel operability.

22.5 months (18 months plus 25%), and a channel operational test is performed periodically as required by the Technical Specifications, the ODCM, or the TVA calibration program procedures.

1617 S00 PKG

12.3.4.2.5 Sensitivity, Range and Set Point

The permanently installed particulate monitors located in the Auxiliary Building have a required range of 1.99E-8 to 7.96E-6 μCi/cc. For the Reactor Building instrument room particulate monitor, the required range is 1.08E-8 to 4.32E-6 μCi/cc. This required range is sufficient to detect 10 DAC hours of airborne radionuclides expected in the area (i.e., Co-60, Cs-137, etc.).

12.3.4.2.6 Calibration and Maintenance

This section applies only to permanently installed monitors.

Periodic testing of each air particulate monitor includes a channel calibration performed at least once per fuel cycle, and a channel operational test that is performed at least once per quarter. Periodic maintenance is performed to replace filters, and ensure proper sampler operation. Testing of Containment Building lower and upper compartment air monitors are described in Chapter 11 and the Technical Specifications. Testing of the Auxiliary Building vent monitor is described in Chapter 11.

The channel calibration is the adjustment, as necessary, of the channel so that it responds within the required range and accuracy to known input from a radioactive calibration source. The channel calibration encompasses the entire channel, including the required sensor, alarm, interlock, display and trip functions. The channel calibration may be performed by means of any series of sequential, overlapping calibrations or total channel steps so that the entire channel is calibrated.

The channel operational test (COT) is the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify the operability of required alarm, interlock, display and trip functions. The COT includes adjustments, as necessary, of the required alarm, interlock, and trip setpoints so that the setpoints are within the required range and accuracy.

The built-in checksource function exposes the channel detector to a radioactive source. The built-in checksource feature is used to verify functional response of the detector and/or electronics during the performance of the channel operational test. This function is also used by operations personnel at other times, such as after maintenance, to rapidly determine channel operability.

Periodic maintenance to change filters and to ensure proper sampler operation is performed at a frequency based upon length of service time for filters and sample equipment as determined by operational experience and trending.

Maintenance is performed, as necessary, if abnormalities are detected during any of the above checks. Unscheduled maintenance is performed as required.

22.5 months (18 months plus 25%), and a channel operational test is performed periodically as required by the Technical Specifications, the ODCM, or the TVA calibration program procedures.

T71 000329 873

SAFETY ASSESSMENT/SCREENING REVIEW/SAFETY EVALUATION COVERSHEET

Document No: SAR Change Package No. 1617 Rev. 0

1617 S00 PKG

Screening Review Only ☐

Safety Assessment/Screening Review ☐

Safety Assessment/Screening Review/Safety Evaluation ☒

Procedure Exemption ☐

Procedure Change Evaluation ☐

Plant WBN

Affected Unit(s) 1

Preparing Group LEE-DFF

Preparer Don Wilder

Reviewer D. Faulkner

Activity	Number (Include Revision No.)
☐ Design Change	DCN No.
☐ Engineering Document Change	EDC No.
☐ Temporary Alteration	TACF No.
☐ Special Test/Experiment	Special Test No.
☐ Temporary Shielding Request	TSRF No.
☐ Procedure Change	Procedure No. and
☐ New Procedure	PCF No. (if applicable)
	Procedure No.
☐ Maintenance	WR/WO No.
☒ Other (Identify) SAR Change Request 1617	

Comments:

Remove excessive detail from sections 12.3.4.1.3 and 12.3.4.2.6 of the UFSAR.

WBP-LEE-00-004

Revision: (Provide a brief summary of the reason for the revision to the SR, SA, or SE)

Distribution:
cc: EDM
Preparer - Return original to originating document

I. SAFETY ASSESSMENT

A. Description

1. Brief synopsis of the change, special test, experiment or condition including the systems, structures, and components affected. Include the number of the activity proposed (e.g., ECN/DCN No., procedure No.).

UFSAR Sections 12.3.4.1.3 and 12.3.4.2.6 details specific channel operational test (COT) intervals for the area radiation monitors and the airborne particulate monitors, respectively. This level of detail is not appropriate for the UFSAR, as it is not important to the description of the plant or to the presentation of its safety analysis and design bases. The information concerning the COT intervals is given in the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure, SPP-6.7, and maintenance instructions.

This change, SAR Change Request 1617, removes the specific interval and instead refers to the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA calibration program procedures. This is consistent with the UFSAR treatment of calibration of other radiation monitors and instruments (e.g., sections 7.5.1.7.1, 7.6.7, and 11.4.4). The intent of this change is to allow an interval of 18 months between COTs for the radiation loops (radiation monitoring flow loops will continue to have a COT interval of three months). The interval is currently 3 months. The change substitutes a reference to the Technical Specifications, etc., for the numerical value of the COT interval. The COT will be performed at a frequency required by the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure and maintenance instructions.

The following are the affected monitors. According to the Radiation Monitoring Design Criteria, WB-DC-40-24, none of them perform a primary safety function, are required by the Technical Specifications, or are required by the ODCM. The calibration requirements for these monitors are contained in the TVA calibration program procedures.

Area Radiation Monitors

1-RE-90-1 Spent Fuel Pool Area - Continuously monitors ambient radiation levels in the spent fuel pool area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-2 Personnel Air Lock - This monitor is located to indirectly measure the airborne radioactivity in the primary containment under accident conditions. The monitor includes devices to transmit measured radiation exposure rate data to the Plant Computer System for display in the Technical Support Center.

0-RE-90-3 Waste Packaging Area - Continuously monitors ambient radiation levels in the waste packaging area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-4 Equipment Decontamination Area - Continuously monitors ambient radiation levels in the equipment decontamination room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early

warning of abnormal process system operations.

0-RE-90-5 Spent Fuel Pool Pump Area - Continuously monitors ambient radiation levels in the area of the spent fuel pool pump to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-6 Component Cooling Heat Exchanger Area - Continuously monitors ambient radiation levels in the area of the component cooling heat exchangers to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-7 Sample Room - Continuously monitors ambient radiation levels in the Unit 1 sample room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-8 Aux Feedwater Pumps Area - Continuously monitors ambient radiation levels in the area of the auxiliary feedwater pumps to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-9 Waste Evaporator Condensate Tank Area - Continuously monitors ambient radiation levels in the waste evaporator area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-10 CVCS Board Area - Continuously monitors ambient radiation levels in the CVCS Board area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-11 Containment Spray and RHR Pump Area - Continuously monitors ambient radiation levels in the spent area of the Containment Spray Pumps and the RHR pumps to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-59 Containment Refueling Floor - Continuously monitors ambient radiation levels in the area of the containment refueling floor to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-60 Containment Refueling Floor - Continuously monitors ambient radiation levels in the area of the containment refueling floor to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-61 Lower Compartment Instrument Room - Continuously monitors ambient radiation levels in the lower compartment instrument room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-135 Main Control Room Radiation Monitor - Continuously monitors ambient radiation levels in the main control room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-230 Condensate Demin Area - Continuously monitors ambient radiation

levels in the condensate demineralizer area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

0-RE-90-231 Condensate Demin Area - Continuously monitors ambient radiation levels in the condensate demineralizer area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

2-RE-90-1 Spent Fuel Pool Area - Continuously monitors ambient radiation levels in the spent fuel pool area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

2-RE-90-6 Component Cooling Heat Exchanger Area - Continuously monitors ambient radiation levels in the area of the component cooling heat exchangers to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

2-RE-90-7 Sample Room - Continuously monitors ambient radiation levels in the Unit 2 sample room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

2-RE-90-8 Aux Feedwater Pumps Area - Continuously monitors ambient radiation levels in the area of the Auxiliary Feedwater Pumps to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

2-RE-90-10 CVCS Board Area - Continuously monitors ambient radiation levels in the CVCS Board area to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

1-RE-90-280 Post Accident Sampling Room Unit 1 - Continuously monitors ambient radiation levels in the Post Accident Sampling Room to assure that exposure rates do not exceed the prescribed radiation zone limits, and to provide early warning of abnormal process system operations.

Airborne Particulate Monitors

0-RE-90-12 Spent Fuel Pool Area - Continuously monitors the spent fuel area for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

1-RE-90-14 Sample Room Unit 1 - Continuously monitors the Unit 1 Sample Room for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

0-RE-90-15 Holdup Valve Gallery General Spaces - Continuously monitors the holdup valve gallery general spaces for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

0-RE-90-16 Decontamination Area - Continuously monitors the Decontamination Room for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

0-RE-90-17 Safety Injection Pump General Spaces - Continuously monitors the Safety Injection Pump area for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

1-RE-90-62 Lower Compartment Instrument Room - Continuously monitors the Containment Lower Compartment Instrument Room for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

0-RE-90-13 Shipping Bay - Continuously monitors the shipping bay for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

0-RE-90-138 Waste Packaging Room - Continuously monitors Waste Packaging Room for airborne particulate radioactivity and where normal occupancy is required either on a continuous basis or on an infrequent but routine basis.

2. References (SAR/Technical Specifications/etc.).

UFSAR Section 7.5.1.7.1 Post Accident Monitoring Instrumentation Programs

UFSAR Section 7.6.7 Loose Parts Monitoring System (LPMS) System Description

UFSAR Section 11.4.4 Process and Effluent Radiological Monitoring and Sampling System Calibration and Maintenance

UFSAR Section 12.3.4.1 Area Radiation Monitoring Instrumentation

UFSAR Section 12.3.4.2 Airborne Particulate Radioactivity Monitoring

Technical Specifications Section 3.3, Instrumentation

Safety Evaluation Report and Supplements 1 through 20

WB-DC-40-24 Rev. 8, Radiation Monitoring

SPP 6.7 Instrumentation Setpoint, Scaling, and Calibration Program, Rev. 0

0-RE-90-101, TVA Calculation: Demonstrated Accuracy Calculation for Auxiliary Building Vent Radiation Monitor

0-RE-90-135, TVA Calculation: Demonstrated Accuracy for Control Room Area Radiation Monitor

WBN-EEB-EDQ1090-99005, TVA Calculation: Extending Channel Operational Test Frequency for Radiation Monitors

Watts Bar Nuclear Data Evaluation of Channel Operational Test Data (RIMS 69000125497)

B. Safety Assessment Checklist (Form SPP-9.4-4) - (required for all changes)

6. Design Basis Document

The Design Criteria does not address the frequency of the channel operational tests. This change does not contradict any statements nor affect any requirements of the Radiation Monitoring Design Criteria. This change is safe from a design basis document standpoint.

15. Equipment Failure Modes

This change does not affect the manner in which any component functions, nor does it replace, add, or delete any equipment. No new equipment failure modes are created by this change. Therefore, this change is safe from an equipment failure mode perspective.

17. Equipment Reliability

The subject radiation loops are comprised of several components. The loops include ratemeters with local and/or main control room indication, recorders, local audible alarms, main control room alarms, etc. No part of these loops provide a primary safety function nor do they fulfill any requirement of the ODCM. The demonstrated accuracy calculation for these radiation loops has determined that in order to maintain the accuracy of the radiation monitors, they must be calibrated every eighteen months (plus 25%). There are no other calibrations or functional checks required by the calculation. Changing the COT interval is consistent with the conclusions of the demonstrated accuracy calculations. Corporate Engineering calculation WBN-EEB-EDQ 1090-99005 performed a review of radiation monitor loops to determine the reliability of the components. None of the components of the radiation loops were found to be outside the "as found" values (This indicates that the loop components were performing as required). In fact none of the components of the radiation loops were found outside the "as left" values (This indicates that the loop components were not even required to be recalibrated at their scheduled COT).

WBN Site Engineering/Systems also performed an evaluation of the performance of the radiation monitor loop components. The results are documented in "Watts Bar Nuclear Data Evaluation of Channel Operational Test Data", (RIMS T6900125497). Of the components in the radiation loops that were found outside the "as found" values, a majority of them (11 of 18) were related to iodine detection channels. There are no iodine channels associated with the radiation monitors within the scope of this change. Of the remaining components that were outside the "as found" values, all were associated with the local indicators or the loop recorders. The local indicators are not typically used for determining radiation in an area, and the recorders are used for trending. The utilization of the recorders does not require a precise value in order to provide trending. For

these non-safety related radiation monitors the most important attribute is the ability to alarm for a high radiation signal. None of the alert or high radiation alarms were found outside the "as found" values. For the most important attribute of these non-safety related radiation loops, this evaluation demonstrates that the area monitors and airborne monitors within the scope of this change are and will perform reliably. There is no threat to nuclear safety with regards to equipment reliability from this change.

36. Radioactive Effluent (Liquid or Gaseous) Release Pathways

This change does not affect any radioactive effluent release pathways nor any equipment that monitors such a pathway. It only affects the area monitors and the airborne particulate monitors. The radiation monitoring system will function in the same manner as it did before this change. This change is safe from a Radioactive Effluent (Liquid or Gaseous) Release Pathway standpoint.

C. Acceptability from a Nuclear Safety Standpoint

A determination if the proposed activity is acceptable from a nuclear safety perspective. This includes a written justification for the acceptability.

This change does not revise any system or component functions or operational logic. The subject radiation monitors do not perform any primary safety function, nor do they contribute to the limitation or monitoring of effluent releases. Therefore, this change is acceptable from a nuclear safety perspective.

Document No: SAR Change Package No. 1617 Rev. 0

D. Review and Approvals

		Name	Signature	Date
Preparer:	Don Wilder			3/23/00
Reviewer:	DAN F. FAULKNER			3/23/00
Other: Reviewers (as appropriate)				3/23/00

SAFETY ASSESSMENT CHECKLIST

Document No. SAR Change Package No. 1617 Page 1 of 2

	Potential Impact On Nuclear Safety	N/A	
1.	☐	☒	ASME Section XI
2.	☐	☒	Chemistry Changes or Chemical Release Pathways
3.	☐	☒	Compensatory Measure
4.	☐	☒	Control Room Habitability
5.	☐	☒	Decay Heat Removal Capability
6.	☒	☐	Design Basis Document
7.	☐	☒	Digital Upgrade (NRC Generic Letter 95-02)
8.	☐	☒	Electrical Breaker Alignment Changes
9.	☐	☒	Electrical Loads
10.	☐	☒	Electrical Separation/Isolation
11.	☐	☒	EMI/RFI Potential
12.	☐	☒	Environmental Impact Statement (See SPP-5.5)
13.	☐	☒	Environmental Qualification Category
14.	☐	☒	Equipment Diversity
15.	☒	☐	Equipment Failure Modes
16.	☐	☒	Equipment Redundancy
17.	☒	☐	Equipment Reliability
18.	☐	☒	Erosion/Corrosion/MIC
19.	☐	☒	Fire Protection (Appendix R)
20.	☐	☒	Hazardous Material
21.	☐	☒	Heavy Load Lifts or Safe Load Paths (NUREG-0612)
22.	☐	☒	Human Factors
23.	☐	☒	Instrument Setpoints
24.	☐	☒	Instrument/Relay Settings
25.	☐	☒	Internal Flooding Protection (MELB)
26.	☐	☒	Internal/External Missiles
27.	☐	☒	Jet Impingement Effects
28.	☐	☒	Materials Compatibility
29.	☐	☒	Modification to Non-Seismic Areas in CB/AB

SAFETY ASSESSMENT CHECKLIST			
Document No. SAR Change Package No. 1617			Page 2 of 2
	Potential Impact On Nuclear Safety	**N/A**	
30.	☐	☒	Physical Separation
31.	☐	☒	Pipe Breaks
32.	☐	☒	Pipe Vibration
33.	☐	☒	Pipe Whip
34.	☐	☒	Primary Containment Integrity/Isolation
35.	☐	☒	Protective Coatings Inside Containment
36	☒	☐	Radioactive Effluent (Liquid or Gaseous) Release Pathways
37.	☐	☒	Radwaste System Changes
38.	☐	☒	Reactor Coolant Pressure boundary
39.	☐	☒	Reactor Core Parameters
40.	☐	☒	Requires an increase in operator staffing to complete newly required actions
41.	☐	☒	Response Time of Emergency Safeguards Equipment
42.	☐	☒	Safety Injection/Core Cooling Capability
43.	☐	☒	Scaffolding
44.	☐	☒	Secondary Containment Integrity/Isolation
45.	☐	☒	Security System
46.	☐	☒	Seismic/Dead Weight
47.	☐	☒	Shield Building Integrity (SQN/WBN)
48.	☐	☒	Shutdown Reactivity Control
49.	☐	☒	Single Failure Criteria
50.	☐	☒	System Design Parameters
51.	☐	☒	Temporary Shielding
52.	☐	☒	Test and Retest Scoping Document (Post Modification Test)
53.	☐	☒	Tornado or External Flood Protection
54.	☐	☒	Toxic Gases
55.	☐	☒	Valve Alignment Changes
56.	☐	☒	Ventilation Cooling for Electronic Equipment
57.	☐	☒	Water Spray/Condensation

SCREENING REVIEW FORM

Document No: SAR Change Package No. 1617 Rev. 0

A. Potential Technical Specification (T/S) Impact (List TS sections reviewed)

Yes ☐ No ☒ Is a change to the T/S required for conducting or implementing the change (design or procedure), test, or experiment?

Justification: This change does not involve any radiation monitors that are subject of the Technical Specifications. Therefore, there is no change to the Technical Specifications.

If the answer is "Yes," a T/S change is required prior to implementation or the activity needs to be revised or canceled.

B. Potential Safety Analysis Impact (List FSAR sections reviewed)

Yes ☐ No ☒ Is this a special test, or experiment not described in the SAR?

Does the proposed activity affect (directly or indirectly) any information presented in the SAR or deviate from the description given in the SAR?

Yes ☒ No ☐ By changing: The system design or functional requirements; the technical content of text, tables, graphs, or figures? (For radwaste changes see Note in Appendix B for guidance.) If the answer is "Yes," process an FSAR change.

Justification: UFSAR Sections 12.3.4.1.3 and 12.3.4.2.6 are being revised by SAR Change Request 1617.

Does the proposed change involve new procedures or instructions or revisions thereof that:

Yes ☐ No ☒ N/A ☐ Differ with system operation characteristics from that described in the SAR?

Yes ☐ No ☒ N/A ☐ Conflict with or affect a process or procedure outlined, summarized, or described in the SAR?

Justification: This change does not conflict with or affect any processes or procedures nor does it differ with any system operational characteristics that are described in the UFSAR

If the questions are answered "No" or "N/A," the activity may be implemented without a safety evaluation. If any question is answered "Yes," an SE is required.

Document No: SAR Change Package No. 1617 Rev. 0

C. **Review and Approvals**

Preparer:	Don Wilder *Name*		*Signature*	3/23/00 *Date*
Reviewer:	DON F. FAULKNER *Name*		*Signature*	3/23/00 *Date*
Other: Reviewers (as appropriate)	*Name/Organization*	Dr. Fuchey	*Signature*	3/23/00 *Date*

A. **Description and Accident Evaluation:**

Detailed description of the change, test, or experiment, including the design basis accident, and credible failure modes of activity.

UFSAR Sections 12.3.4.1.3 and 12.3.4.2.6 details specific channel operational test (COT) intervals for the non-safety related area radiation monitors and the airborne particulate monitors, respectively. This level of detail is not appropriate for the UFSAR, as it is not important to the description of the plant or to the presentation of its safety analysis and design bases. The information concerning the COT intervals is given in the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure and maintenance instructions. This change does impact the Safety Evaluation Report. Section 12.4 of Supplements 10 and 12 are affected. A search of docketed correspondence turned up no additional commitments to the NRC.

The following radiation monitors are affected:

Area Radiation Monitors

1-RE-90-1 Spent Fuel Pool Area

1-RE-90-2 Personnel Air Lock

0-RE-90-3 Waste Packaging Area

0-RE-90-4 Equipment Decontamination Area

0-RE-90-5 Spent Fuel Pool Pump Area

1-RE-90-6 Component Cooling Heat Exchanger Area

1-RE-90-7 Sample Room

1-RE-90-8 Aux Feedwater Pumps Area

0-RE-90-9 Waste Evaporator Condensate Tank Area

1-RE-90-10 CVCS Board Area

0-RE-90-11 Containment Spray and RHR Pump Area

1-RE-90-59 Containment Refueling Floor

1-RE-90-60 Containment Refueling Floor

1-RE-90-61 Lower Compartment Instrument Room

0-RE-90-135 Main Control Room Radiation Monitor

0-RE-90-230 Condensate Demin Area

0-RE-90-231 Condensate Demin Area

2-RE-90-1 Spent Fuel Pool Area

2-RE-90-6 Component Cooling Heat Exchanger Area

2-RE-90-7 Sample Room

2-RE-90-8 Aux Feedwater Pumps Area

2-RE-90-10 CVCS Board Area

1-RE-90-280 Post Accident Sampling Room Unit 1

Airborne Particulate Monitors

0-RE-90-12 Spent Fuel Pool Area

1-RE-90-14 Sample Room Unit 1

0-RE-90-15 Holdup Valve Gallery General Spaces

0-RE-90-16 Decontamination Area

0-RE-90-17 Safety Injection Pump General Spaces

1-RE-90-62 Lower Compartment Instrument Room

0-RE-90-13 Shipping Bay

0-RE-90-138 Waste Packaging Room

This change, SAR Change Request 1617, removes the specific interval and instead refers to the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), the TVA calibration program procedures. This is consistent with the UFSAR treatment of calibration of other radiation monitors and instruments (e.g., sections 7.5.1.7.1, 7.6.7, and 11.4.4). The intent of this change is to allow an interval of 18 months between COTs for the radiation loops (radiation monitoring flow loops will continue to have a COT interval of three months). The interval is currently 3 months. The change substitutes a reference to the Technical Specifications, etc., for the numerical value of the COT interval. The COT will be performed at a frequency required by the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure and maintenance instructions.

The affected monitors do not perform a primary safety function. They are utilized for personnel protection. If a monitor detects high radiation, an alarm is generated to warn personnel in the area. The monitors can also be used by the operators as an aid in diagnosing leaks of radioactive material in the plant. They are not required to mitigate a design basis accident. Their failure as a result of a design basis accident is acceptable and does not threaten nuclear safety.

B. Evaluation of Effects

B.1 May the proposed activity increase the probability of an accident previously evaluated in the SAR? Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function and are not required to mitigate an accident previously evaluated in the SAR. This change revises the COT frequency for these non-safety related radiation monitors. It does not change their function or failure modes. Their failure does not threaten nuclear safety. Therefore, there is no increase in the probability of an accident previously evaluated in the SAR.

B.2 May the proposed activity increase the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the SAR? Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function and are not required to mitigate an accident previously evaluated in the SAR. This change revises the COT frequency for these non-safety related radiation monitors. It does not change their function or failure modes. The demonstrated accuracy calculation for each of these radiation loops has determined that in order to maintain the accuracy of the radiation monitors, they must be calibrated every eighteen months (plus 25%). There are no other calibrations or functional checks required by the calculation. Changing the COT interval to eighteen months is consistent with the conclusions of the demonstrated accuracy calculations. The failure of a monitor does not threaten nuclear safety. Therefore, this change does not increase the probability of a malfunction of equipment important to safety previously evaluated in the SAR.

B.3 May the proposed activity increase the consequences of an accident previously evaluated in the SAR?
Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function and are not required to mitigate an accident previously evaluated in the SAR. This change revises the COT frequency for these non-safety related radiation monitors. It does not change their function or failure modes. Their failure does not threaten nuclear safety. Therefore, there is no increase in the consequences of an accident previously evaluated in the SAR.

B.4 May the proposed activity increase the consequences of a malfunction of equipment important to safety previously evaluated in the SAR? Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function and are not required to mitigate an accident previously evaluated in the SAR. This change revises the COT frequency for these non-safety related radiation monitors. It does not change their function or failure modes. Sufficient accuracy is maintained by calibrations within the revised frequency. The failure of a monitor does not threaten nuclear safety. Therefore, there is no increase in the consequences of a malfunction of equipment important to safety previously evaluated in the SAR.

B.5 May the proposed activity create a possibility for an accident of a different type than any evaluated previously in the SAR? Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function. This change revises the COT frequency for these non-safety related radiation monitors. The function and failure modes of the monitors have not changed. Therefore, there is no possibility for an accident of a different type than any evaluated previously in the SAR.

B.6 May the proposed activity create a possibility for a malfunction of a different type than any evaluated previously in the SAR? Yes ☐ No ☒
Justification:

The affected monitors do not perform a primary safety function. This change revises the COT frequency for these non-safety related radiation monitors. The function and failure modes of the monitors has not changed. Less frequent manipulations of the monitor electronics will reduce unavailability and the potential for human induced malfunctions. Therefore, there is no possibility for a malfunction of a different type than any evaluated previously in the SAR.

B.7 May the proposed activity reduce the margin of safety as defined in the basis for any Technical Specification?
Yes ☐ No ☒
Justification:

None of the affected components are required by the Technical Specifications. Therefore, the margin of safety as defined in the Technical Specifications bases has not been reduced.

C. **Unreviewed Safety Question Determination Conclusion**

The change, test, or experiment:
Does not involve an unreviewed safety question. ☒
Involves an unreviewed safety question and must be revised, canceled, or reviewed by the NRC prior to implementation. ☐
Summarize why the activity does or does not constitute a USQ.

UFSAR Sections 12.3.4.1.3 and 12.3.4.2.6 details specific channel operational test (COT) intervals for the area radiation monitors and the airborne particulate monitors, respectively. This level of detail is not appropriate for the UFSAR, as it is not important to the description of the plant or to the presentation of its safety analysis and design bases. The information concerning the COT intervals is given in the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure, SPP-6.7, and maintenance instructions.

This change, SAR Change Request 1617, removes the specific interval and instead refers to the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA calibration program procedures. This is consistent with the UFSAR treatment of calibration of other radiation monitors and instruments (e.g., sections 7.5.1.7.1, 7.6.7, and 11.4.4). The intent of this change is to allow an interval of 18 months between COTs for the radiation loops (radiation monitoring flow loops will continue to have a COT interval of three months). The interval is currently 3 months. The change substitutes a reference to the Technical Specifications, etc., for the numerical value of the COT interval. The COT will be performed at a frequency required by the Technical Specifications, the Offsite Dose Calculation Manual (ODCM), and the TVA Calibration Program Procedure and maintenance instructions.

The affected monitors do not perform a primary safety function. They are not required to mitigate a design basis accident. This change, therefore, does not constitute a USQ.

D. Reviews and Approvals

Preparer:	Don Wilder Name	 Signature	3/23/00 Date
Reviewer:	DAN F. FAULKNER Name	 Signature	3/23/00 Date
Reviewer: (PORC)[a]	WEST JH Name	 Signature	24 MAR 00 Date
Other: Reviewers (as appropriate)	D.G. FICKEY Name	 Signature	3/23/00 Date

[a] As required by Technical Specification